

Inductors

SMD inductors from TDK, cover a vast array of applications and include inductors for DC power lines, inductors for general purposes to inductors for high frequency applications. TDK offers the highest quality axial coils, chip inductors, radial coils, thin-film chip inductors, shielded coils, multilayer surface mount inductors, power inductors, high-frequency inductors, non-polarized inductors and multilayer chip inductors.

Shape/Type	Characteristics	Series
SURFACE MOUNT INDUCTORS	HIGH FREQUENCY	NLU Series
		MLK Series
		MLG Series
		NLH Series
	SIGNAL LINE	MLF Series
		NLV Series
		NL Series
	POWER LINE	NLCV25 Series
		NLC Series
		NLFC Series
		SLF Series
		LDR Series
LEADED INDUCTORS RADIAL	SIGNAL LINE	EL Series
		ELF Series
	POWER LINE	TSL Series
		SL Series
		ELC Series
LEADED INDUCTORS AXIAL	GENERAL APPLICATIONS	SP Series
	POWER APPLICATIONS	SP Series

Inductors

For General Applications SMD

MLF Series MLF1608 Type

FEATURES

- High-reliability monolithic structure.
- Ferrite core and magnetic shielding enables the design of compact circuits with high packing density.
- Excellent solderability and high heat resistance permits either flow or reflow soldering.

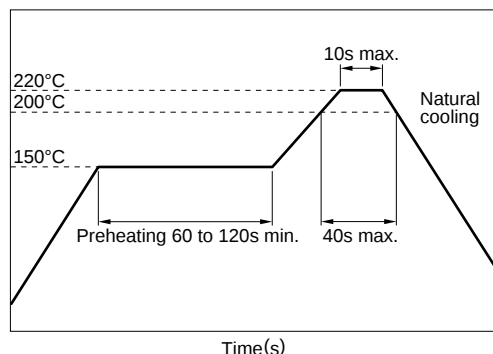
APPLICATIONS

Personal computers, HDDs, or other various electronic appliances.

SPECIFICATIONS

Operating temperature range	-25 to +85°C
Storage temperature range	-40 to +85°C[Unit of products]

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

MLF	1608	A	1R0	K	T
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions L×W

1608	1.6×0.8mm
2012	2.0×1.25mm

(3) Material code

(4) Inductance value

47N	47nH[0.047μH]
R15	0.15μH
1R0	1μH
100	10μH

(5) Inductance tolerance

K	±10%
M	±20%

(6) Packaging style

T	Taping [reel]
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PACKAGING STYLE AND QUANTITIES

Packaging style	Product's thickness	Quantity
Taping	0.8/0.85mm	4000 pieces/reel
	1.25mm	2000 pieces/reel

HANDLING AND PRECAUTIONS

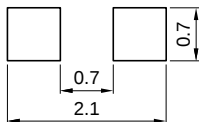
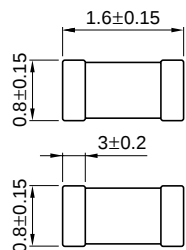
- Before soldering, be sure to preheat components.
The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- The inductance value may change due to magnetic saturation if the current exceeds the rated maximum.
- Do not expose the inductors to stray magnetic fields.
- Avoid static electricity discharge during handling.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 300°C. Soldering time should not exceed 3 seconds.

Inductors

For General Applications
SMD

MLF Series MLF1608 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



Weight: 4mg

Dimensions in mm

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q		Test frequency L, Q (MHz)	Self-resonant frequency (MHz)		DC resistance (Ω)		Rated current (mA)max.	Thickness T (mm)	Part No.
		min.	nom.		min.	nom.	max.	nom.			
0.047	±20%	10	20	50	260	350	0.3	0.2	50	0.8	MLF1608D47N ^{*1} X ^{*2} T
0.068	±20%	10	20	50	250	325	0.3	0.2	50	0.8	MLF1608D68NXT
0.082	±20%	10	20	50	245	310	0.3	0.2	50	0.8	MLF1608D82NXT
0.1	±20, ±10%	15	25	25	240	295	0.5	0.3	50	0.8	MLF1608DR10XT
0.12	±20, ±10%	15	25	25	205	280	0.5	0.3	50	0.8	MLF1608DR12XT
0.15	±20, ±10%	15	25	25	180	260	0.6	0.4	50	0.8	MLF1608DR15XT
0.18	±20, ±10%	15	25	25	165	245	0.6	0.4	50	0.8	MLF1608DR18XT
0.22	±20, ±10%	15	25	25	150	230	0.8	0.45	50	0.8	MLF1608DR22XT
0.27	±20, ±10%	15	25	25	136	210	0.8	0.5	50	0.8	MLF1608DR27XT
0.33	±20, ±10%	15	25	25	125	200	0.85	0.55	35	0.8	MLF1608DR33XT
0.39	±20, ±10%	15	25	25	110	185	1	0.65	35	0.8	MLF1608DR39XT
0.47	±20, ±10%	15	25	25	105	170	1.35	0.7	35	0.8	MLF1608DR47XT
0.56	±20, ±10%	15	25	25	95	155	1.55	0.75	35	0.8	MLF1608DR56XT
0.68	±20, ±10%	15	25	25	90	140	1.7	0.8	35	0.8	MLF1608DR68XT
0.82	±20, ±10%	15	25	25	85	125	2.1	0.85	35	0.8	MLF1608DR82XT
1	±20, ±10%	35	50	10	75	105	0.6	0.35	25	0.8	MLF1608A1R0XT
1.2	±20, ±10%	35	50	10	65	100	0.8	0.45	25	0.8	MLF1608A1R2XT
1.5	±20, ±10%	35	50	10	60	90	0.8	0.5	25	0.8	MLF1608A1R5XT
1.8	±20, ±10%	35	50	10	55	80	0.95	0.55	25	0.8	MLF1608A1R8XT
2.2	±20, ±10%	35	50	10	50	75	1.15	0.65	15	0.8	MLF1608A2R2XT
2.7	±20, ±10%	35	50	10	45	65	1.35	0.75	15	0.8	MLF1608A2R7XT
3.3	±20, ±10%	35	50	10	40	60	1.55	0.85	15	0.8	MLF1608A3R3XT
3.9	±20, ±10%	35	50	10	35	50	1.7	0.9	15	0.8	MLF1608A3R9XT
4.7	±20, ±10%	35	50	10	33	47	2.1	1	15	0.8	MLF1608A4R7XT
5.6	±20, ±10%	35	55	4	22	45	1.55	0.8	5	0.8	MLF1608E5R6XT
6.8	±20, ±10%	35	55	4	20	40	1.7	0.9	5	0.8	MLF1608E6R8XT
8.2	±20, ±10%	35	55	4	18	38	2.1	1	5	0.8	MLF1608E8R2XT
10	±20, ±10%	30	50	2	17	37	1.85	0.9	3	0.8	MLF1608E100XT
12	±20, ±10%	30	50	2	15	35	2.1	1	3	0.8	MLF1608E120XT
15	±20, ±10%	20	35	1	14	30	1.7	0.8	1	0.8	MLF1608C150XT
18	±20, ±10%	20	35	1	13	28	1.85	0.9	1	0.8	MLF1608C180XT
22	±20, ±10%	20	35	1	11	25	2.1	1	1	0.8	MLF1608C220XT
27	±20, ±10%	20	35	1	10	23	2.75	1.2	1	0.8	MLF1608C270XT
33	±20, ±10%	20	35	1	9	21	2.95	1.3	1	0.8	MLF1608C330XT

^{*1} 47N means for 47nH (0.047μH).

^{*2} X: Please specify inductance tolerance, M(±20%) or K(±10%).

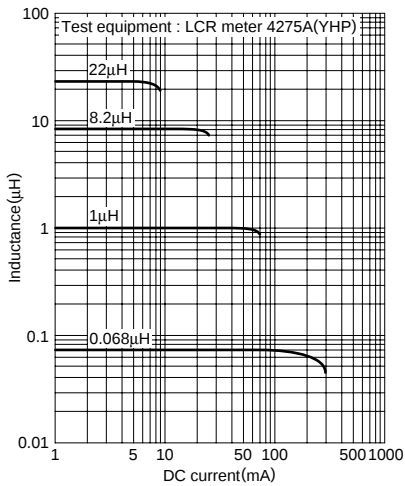
Inductors

For General Applications
SMD

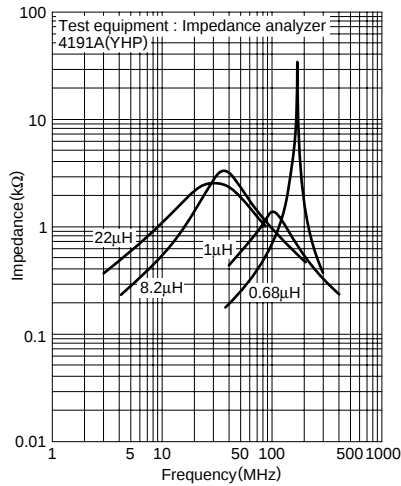
MLF Series MLF1608 Type

TYPICAL ELECTRICAL CHARACTERISTICS

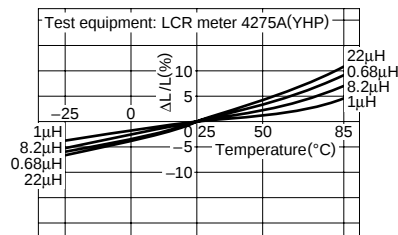
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



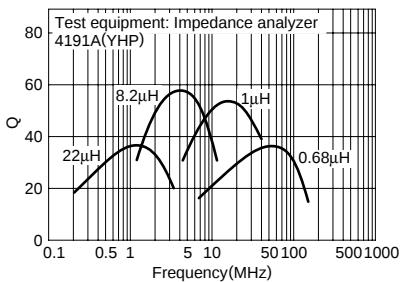
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications SMD

MLF Series MLF2012 Type

FEATURES

- High-reliability monolithic structure.
- Ferrite core and magnetic shielding enables the design of compact circuits with high packing density.
- Excellent solderability and high heat resistance permits either flow or reflow soldering.

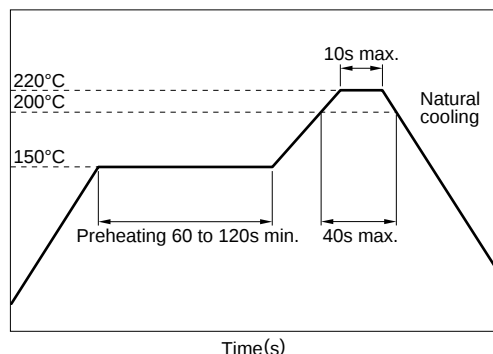
APPLICATIONS

Personal computers, HDDs, or other various electronic appliances.

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RECOMMENDED REFLOW SOLDERING CONDITIONS



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(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions L×W

1608	1.6×0.8mm
2012	2.0×1.25mm

(3) Material code

(4) Inductance value

47N	47nH[0.047μH]
R15	0.15μH
1R0	1μH
100	10μH

(5) Inductance tolerance

K	±10%
M	±20%

(6) Packaging style

T	Taping [reel]
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PACKAGING STYLE AND QUANTITIES

Packaging style	Product's thickness	Quantity
Taping	0.8/0.85mm	4000 pieces/reel
	1.25mm	2000 pieces/reel

HANDLING AND PRECAUTIONS

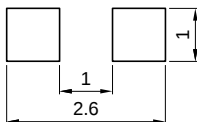
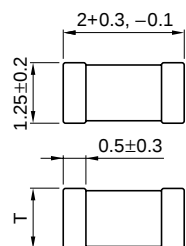
- Before soldering, be sure to preheat components.
The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- The inductance value may change due to magnetic saturation if the current exceeds the rated maximum.
- Do not expose the inductors to stray magnetic fields.
- Avoid static electricity discharge during handling.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 300°C. Soldering time should not exceed 3 seconds.

Inductors

For General Applications
SMD

MLF Series MLF2012 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



T	Weight(mg)
0.85±0.2	10
1.25±0.2	14

Dimensions in mm

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q		Test frequency L, Q (MHz)	Self-resonant frequency (MHz)		DC resistance (Ω)		Rated current (mA) max.	Thickness T (mm)	Part No.
		min.	nom.		min.	nom.	max.	nom.			
0.047	±20%	15	25	50	320	400	0.2	0.11	300	0.85	MLF2012D47N*1X*2T
0.068	±20%	15	25	50	280	350	0.2	0.11	300	0.85	MLF2012D68NXT
0.082	±20%	15	25	50	255	320	0.2	0.11	300	0.85	MLF2012D82NXT
0.1	±20, ±10%	20	30	25	235	300	0.3	0.16	250	0.85	MLF2012DR10XT
0.12	±20, ±10%	20	30	25	220	280	0.3	0.16	250	0.85	MLF2012DR12XT
0.15	±20, ±10%	20	30	25	200	250	0.4	0.21	250	0.85	MLF2012DR15XT
0.18	±20, ±10%	20	30	25	185	230	0.4	0.21	250	0.85	MLF2012DR18XT
0.22	±20, ±10%	20	30	25	170	220	0.5	0.26	250	0.85	MLF2012DR22XT
0.27	±20, ±10%	20	30	25	150	200	0.5	0.26	250	0.85	MLF2012DR27XT
0.33	±20, ±10%	20	30	25	145	180	0.55	0.31	250	0.85	MLF2012DR33XT
0.39	±20, ±10%	25	35	25	135	170	0.65	0.36	200	0.85	MLF2012DR39XT
0.47	±20, ±10%	25	35	25	125	160	0.65	0.36	200	1.25	MLF2012DR47XT
0.56	±20, ±10%	25	35	25	115	150	0.75	0.41	150	1.25	MLF2012DR56XT
0.68	±20, ±10%	25	35	25	105	135	0.8	0.46	150	1.25	MLF2012DR68XT
0.82	±20, ±10%	25	35	25	100	125	1	0.56	150	1.25	MLF2012DR82XT
1	±20, ±10%	45	55	10	75	105	0.4	0.21	50	0.85	MLF2012A1R0XT
1.2	±20, ±10%	45	55	10	65	95	0.5	0.26	50	0.85	MLF2012A1R2XT
1.5	±20, ±10%	45	55	10	60	85	0.5	0.26	50	0.85	MLF2012A1R5XT
1.8	±20, ±10%	45	55	10	55	78	0.6	0.31	50	0.85	MLF2012A1R8XT
2.2	±20, ±10%	45	60	10	50	70	0.65	0.36	30	0.85	MLF2012A2R2XT
2.7	±20, ±10%	45	60	10	45	64	0.75	0.41	30	1.25	MLF2012A2R7XT
3.3	±20, ±10%	45	60	10	41	58	0.8	0.46	30	1.25	MLF2012A3R3XT
3.9	±20, ±10%	45	60	10	38	53	0.9	0.51	30	1.25	MLF2012A3R9XT
4.7	±20, ±10%	45	60	10	35	48	1	0.56	30	1.25	MLF2012A4R7XT
5.6	±20, ±10%	50	60	4	32	44	0.9	0.51	15	1.25	MLF2012E5R6XT
6.8	±20, ±10%	50	60	4	29	40	1	0.56	15	1.25	MLF2012E6R8XT
8.2	±20, ±10%	50	60	4	26	36	1.1	0.61	15	1.25	MLF2012E8R2XT
10	±20, ±10%	50	60	2	24	33	1.15	0.66	15	1.25	MLF2012E100XT
12	±20, ±10%	50	60	2	22	30	1.25	0.71	15	1.25	MLF2012E120XT
15	±20, ±10%	30	40	1	19	27	0.8	0.46	5	1.25	MLF2012C150XT
18	±20, ±10%	30	40	1	18	25	0.9	0.51	5	1.25	MLF2012C180XT
22	±20, ±10%	30	40	1	16	22	1.1	0.61	5	1.25	MLF2012C220XT
27	±20, ±10%	30	40	1	14	20	1.15	0.66	5	1.25	MLF2012C270XT
33	±20, ±10%	30	40	0.4	13	18	1.25	0.71	5	1.25	MLF2012C330XT
39	±20, ±10%	35	55	2	8	15	2.9	2	4	1.25	MLF2012K390XT
47	±20, ±10%	35	55	2	7.5	14	3	2.1	4	1.25	MLF2012K470XT
56	±20, ±10%	35	55	2	7	13	3.1	2.2	4	1.25	MLF2012K560XT
68	±20, ±10%	25	40	1	6.5	12	2.9	2	2	1.25	MLF2012C680XT
82	±20, ±10%	25	40	1	6	11	3	2.1	2	1.25	MLF2012C820XT
100	±20, ±10%	25	40	1	5.5	10	3.1	2.2	2	1.25	MLF2012C101XT

*1 47N means for 47nH (0.047μH).

*2 X: Please specify inductance tolerance, M(±20%) or K(±10%)

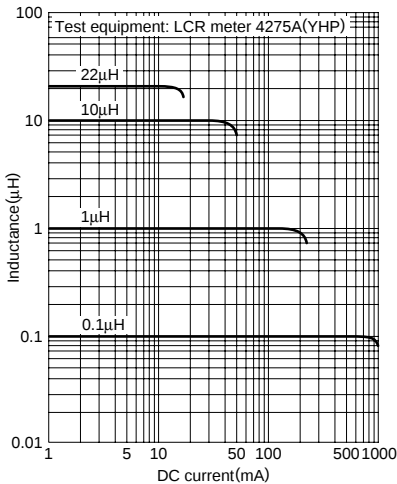
Inductors

For General Applications
SMD

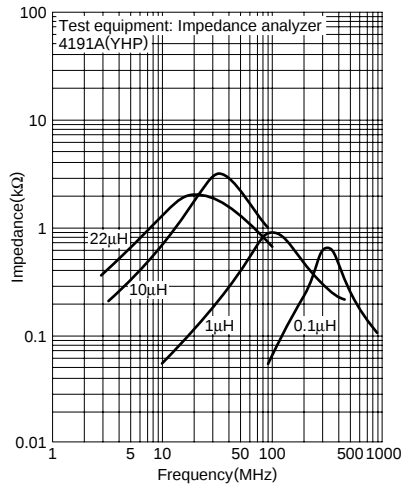
MLF Series MLF2012 Type

TYPICAL ELECTRICAL CHARACTERISTICS

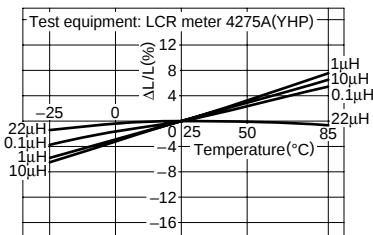
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



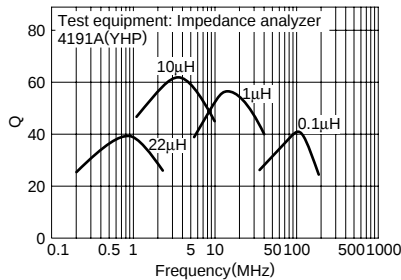
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications SMD

NL Series NL2016 Type

FEATURES

- The NL series are available in five form factors ranging from 2016 to 5650.
- Utilizing a miniaturized winding structure, these products provide high Q characteristics.
- Inductance tolerance is ± 5 percent.

APPLICATIONS

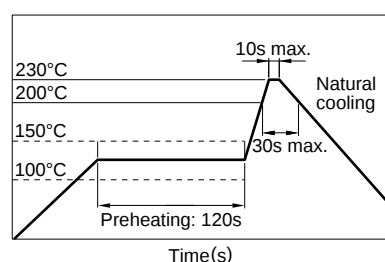
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

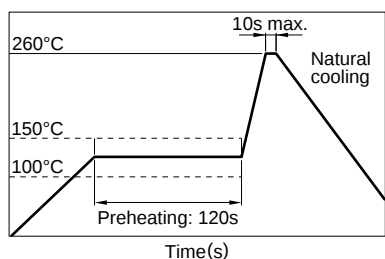
Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



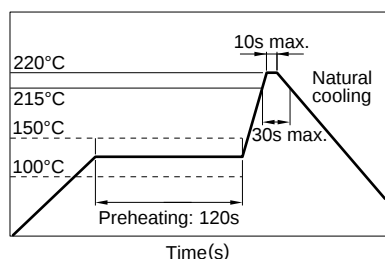
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NL	201614	T	2R2	J
(1)	(2)	(3)	(4)	(5)

(1)Series name

(2)Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm
565050	5.6×5.0×5.0mm

(3)Packaging style

T	Taping (reel)
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(4)Inductance value

1R0	1μH
330	33μH

(5)Inductance tolerance

J	$\pm 5\%$
K	$\pm 10\%$

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	NL201614T	2000 pieces/reel
	NL252018T	2000 pieces/reel
	NL322522T	2000 pieces/reel
	NL453232T	500 pieces/reel
	NL565050T	400 pieces/reel

Inductors

For General Applications
SMD

NL Series NL2016 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



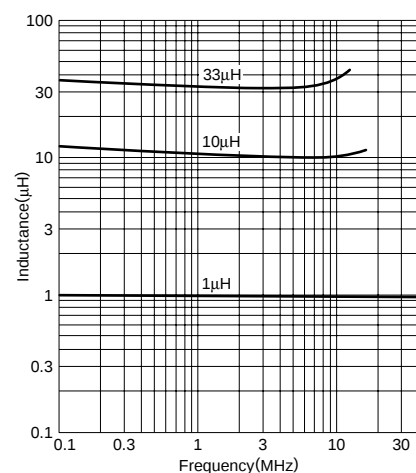
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
1	±5%	15	7.96	63	1.2	245	NL201614T-1R0J
1.5	±5%	15	7.96	60	1.45	225	NL201614T-1R5J
2.2	±5%	15	7.96	58	1.8	200	NL201614T-2R2J
3.3	±5%	15	7.96	50	2.3	175	NL201614T-3R3J
4.7	±5%	15	7.96	43	2.8	140	NL201614T-4R7J
6.8	±5%	15	7.96	36	3.4	115	NL201614T-6R8J
10	±5%	10	2.52	30	4.7	98	NL201614T-100J
15	±5%	10	2.52	23	6.5	80	NL201614T-150J
22	±5%	10	2.52	20	8	68	NL201614T-220J
33	±5%	10	2.52	17	10.7	60	NL201614T-330J

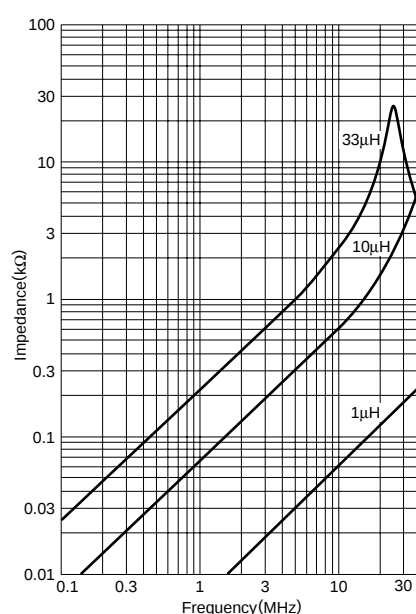
- Inductance tolerance is only standard.
- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER (16085A+16093B+TDK TF-1)
SRF: HP8753C NETWORK ANALYZER
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

TYPICAL ELECTRICAL CHARACTERISTICS

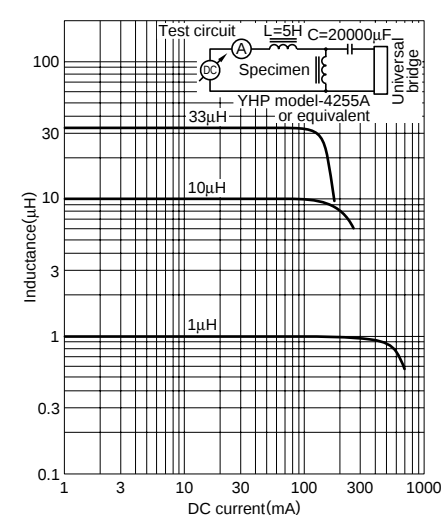
INDUCTANCE vs. FREQUENCY CHARACTERISTICS



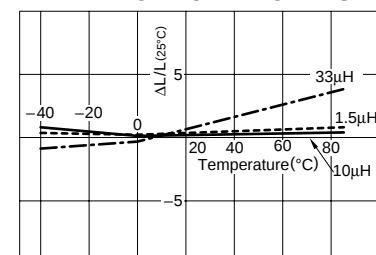
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



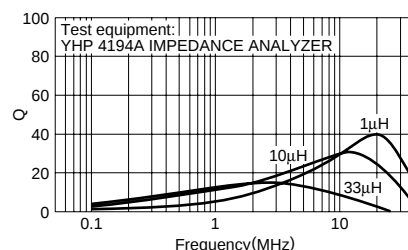
INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications SMD

NL Series NL2520 Type

FEATURES

- The NL series are available in five form factors ranging from 2016 to 5650.
- Utilizing a miniaturized winding structure, these products provide high Q characteristics.
- Inductance tolerance is ± 5 percent.

APPLICATIONS

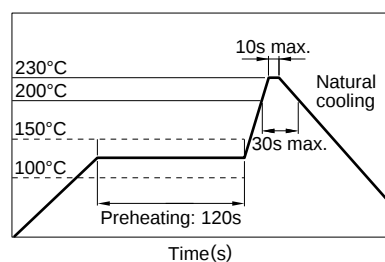
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

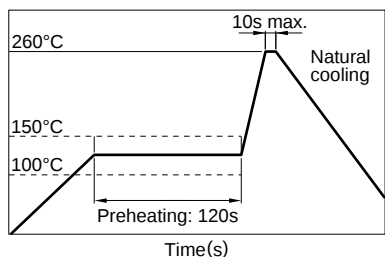
Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



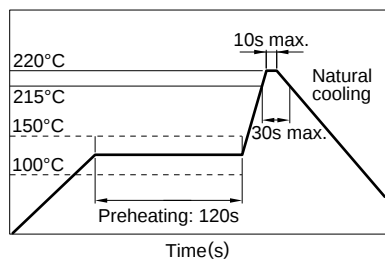
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NL	201614	T	2R2	J
(1)	(2)	(3)	(4)	(5)

(1)Series name

(2)Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm
565050	5.6×5.0×5.0mm

(3)Packaging style

T	Taping (reel)
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(4)Inductance value

1R0	1μH
330	33μH

(5)Inductance tolerance

J	$\pm 5\%$
K	$\pm 10\%$

PACKAGING STYLE AND QUANTITIES

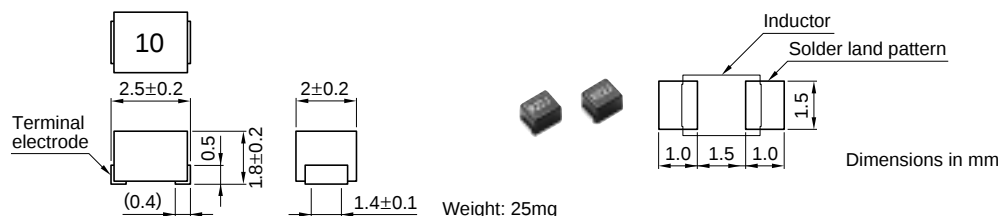
Packaging style	Type	Quantity
Taping	NL201614T	2000 pieces/reel
	NL252018T	2000 pieces/reel
	NL322522T	2000 pieces/reel
	NL453232T	500 pieces/reel
	NL565050T	400 pieces/reel

Inductors

For General Applications
SMD

NL Series NL2520 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.01	±10, ±5%	15	100	2150	0.26	530	NL252018T-010X*
0.012	±10, ±5%	15	100	2050	0.27	500	NL252018T-012X
0.015	±10, ±5%	15	100	2000	0.29	480	NL252018T-015X
0.018	±10, ±5%	15	100	1850	0.31	450	NL252018T-018X
0.022	±10, ±5%	15	100	1650	0.37	420	NL252018T-022X
0.027	±10, ±5%	15	100	1550	0.4	410	NL252018T-027X
0.033	±10, ±5%	20	100	1450	0.42	400	NL252018T-033X
0.039	±10, ±5%	20	100	1350	0.45	380	NL252018T-039X
0.047	±10, ±5%	20	100	1200	0.5	360	NL252018T-047X
0.056	±10, ±5%	20	100	1100	0.6	340	NL252018T-056X
0.068	±10, ±5%	20	100	1050	0.65	320	NL252018T-068X
0.082	±10, ±5%	20	100	900	0.75	300	NL252018T-082X
0.1	±10, ±5%	20	100	800	0.8	280	NL252018T-R10X
0.12	±10, ±5%	30	25.2	700	0.3	550	NL252018T-R12X
0.15	±10, ±5%	30	25.2	550	0.35	500	NL252018T-R15X
0.18	±10, ±5%	30	25.2	500	0.4	460	NL252018T-R18X
0.22	±10, ±5%	30	25.2	450	0.5	430	NL252018T-R22X
0.27	±10, ±5%	30	25.2	425	0.55	420	NL252018T-R27X
0.33	±10, ±5%	30	25.2	400	0.6	400	NL252018T-R33X
0.39	±10, ±5%	30	25.2	375	0.65	375	NL252018T-R39X
0.47	±10, ±5%	30	25.2	350	0.68	350	NL252018T-R47X
0.56	±10, ±5%	30	25.2	325	0.75	325	NL252018T-R56X
0.68	±10, ±5%	30	25.2	300	0.85	300	NL252018T-R68X
0.82	±10, ±5%	30	25.2	260	1	260	NL252018T-R82X
1	±5%	30	7.96	245	1.1	245	NL252018T-1R0J
1.2	±5%	30	7.96	230	1.2	230	NL252018T-1R2J
1.5	±5%	30	7.96	182	1.3	220	NL252018T-1R5J
1.8	±5%	30	7.96	135	1.45	210	NL252018T-1R8J
2.2	±5%	30	7.96	105	1.55	200	NL252018T-2R2J
2.7	±5%	30	7.96	70	1.7	195	NL252018T-2R7J
3.3	±5%	30	7.96	55	1.9	185	NL252018T-3R3J
3.9	±5%	30	7.96	48	2.1	180	NL252018T-3R9J
4.7	±5%	30	7.96	43	2.3	175	NL252018T-4R7J
5.6	±5%	25	7.96	42	2.5	170	NL252018T-5R6J
6.8	±5%	25	7.96	39	2.7	165	NL252018T-6R8J
8.2	±5%	25	7.96	36	3.05	160	NL252018T-8R2J
10	±5%	25	2.52	33	3.5	155	NL252018T-100J
12	±5%	25	2.52	30	3.8	150	NL252018T-120J
15	±5%	25	2.52	26	4.4	140	NL252018T-150J

* X: Please specify inductance tolerance, K(±10%) or J(±5%)

• Inductance tolerance is only standard.

• Test equipment L, Q: YHP4191A IMPEDANCE ANALYZER (16092A) [$L \leq 0.1\mu\text{H}$]
 YHP4194A IMPEDANCE ANALYZER (16085A+16093B+TDK TF-1) [$L \geq 0.12\mu\text{H}$]
 SRF:HP8753C NETWORK ANALYZER
 Rdc:MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

Inductors

For General Applications
SMD

NL Series NL2520 Type

ELECTRICAL CHARACTERISTICS

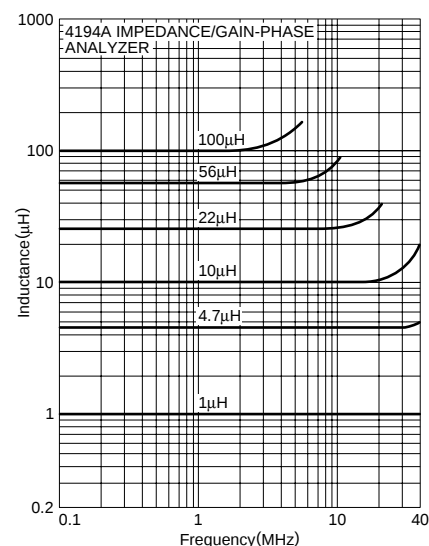
Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
18	$\pm 5\%$	25	2.52	24	4.8	130	NL252018T-180J
22	$\pm 5\%$	25	2.52	22	5.5	125	NL252018T-220J
27	$\pm 5\%$	25	2.52	21	6.3	115	NL252018T-270J
33	$\pm 5\%$	25	2.52	20	7.1	110	NL252018T-330J
39	$\pm 5\%$	20	2.52	18	9.5	90	NL252018T-390J
47	$\pm 5\%$	20	2.52	17	11.1	80	NL252018T-470J
56	$\pm 5\%$	20	2.52	16	12.1	75	NL252018T-560J
68	$\pm 5\%$	20	2.52	15	16.6	70	NL252018T-680J
82	$\pm 5\%$	20	2.52	13	19	66	NL252018T-820J
100	$\pm 5\%$	15	0.796	12	21	60	NL252018T-101J

• Inductance tolerance is only standard.

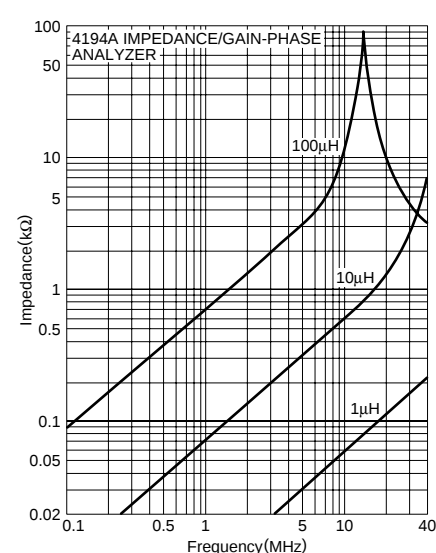
• Test equipment Inductance, Q: YHP4194A IMPEDANCE ANALYZER (16085A+16093B+TDK TF-1)
SRF: HP8753C NETWORK ANALYZER Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

TYPICAL ELECTRICAL CHARACTERISTICS

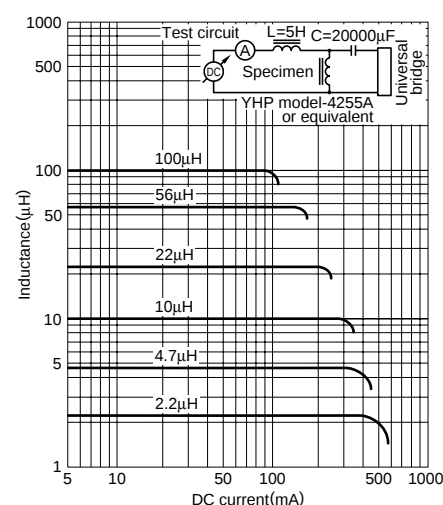
INDUCTANCE vs. FREQUENCY CHARACTERISTICS



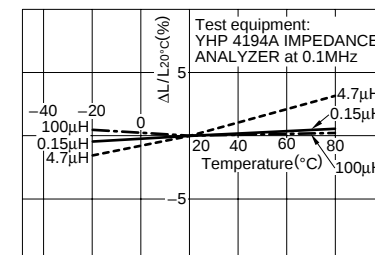
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



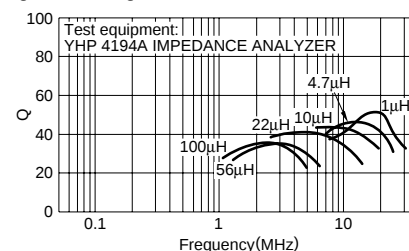
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications

SMD

NL Series NL3225 Type

FEATURES

- The NL series are available in 5 form factors ranging from 2016 to 5650.
- Utilizing a miniaturized winding structure, these products provide high Q characteristics.
- Inductance tolerance is ± 5 percent.

APPLICATIONS

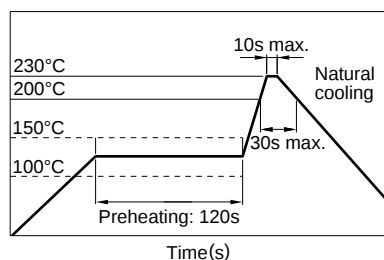
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

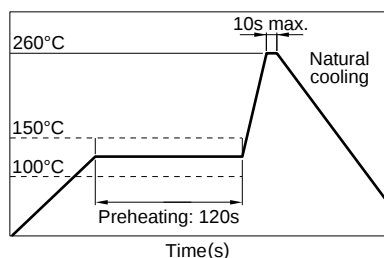
Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



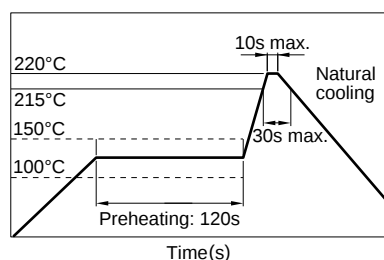
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NL	201614	T	2R2	J
(1)	(2)	(3)	(4)	(5)

(1)Series name

(2)Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm
565050	5.6×5.0×5.0mm

(3)Packaging style

T	Taping (reel)
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(4)Inductance value

1R0	1μH
330	33μH

(5)Inductance tolerance

J	$\pm 5\%$
K	$\pm 10\%$

PACKAGING STYLE AND QUANTITIES

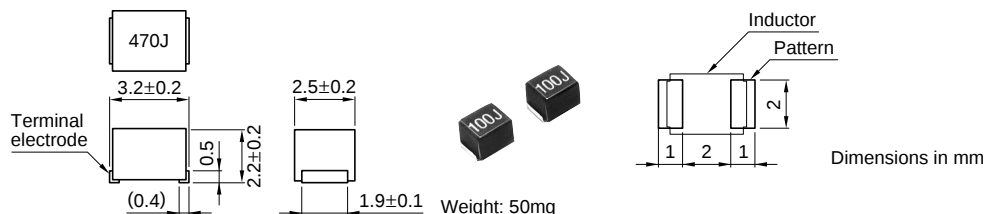
Packaging style	Type	Quantity
Taping	NL201614T	2000 pieces/reel
	NL252018T	2000 pieces/reel
	NL322522T	2000 pieces/reel
	NL453232T	500 pieces/reel
	NL565050T	400 pieces/reel

Inductors

For General Applications
SMD

NL Series NL3225 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.01	±10, ±5%	15	100	2500	0.13	450	NL322522T-010X*
0.012	±10, ±5%	17	100	2300	0.14	450	NL322522T-012X
0.015	±10, ±5%	19	100	2100	0.16	450	NL322522T-015X
0.018	±10, ±5%	21	100	1900	0.18	450	NL322522T-018X
0.022	±10, ±5%	23	100	1700	0.2	450	NL322522T-022X
0.027	±10, ±5%	23	100	1500	0.22	450	NL322522T-027X
0.033	±10, ±5%	25	100	1400	0.24	450	NL322522T-033X
0.039	±10, ±5%	25	100	1300	0.27	450	NL322522T-039X
0.047	±10, ±5%	26	100	1200	0.3	450	NL322522T-047X
0.056	±10, ±5%	26	100	1100	0.33	450	NL322522T-056X
0.068	±10, ±5%	27	100	1000	0.36	450	NL322522T-068X
0.082	±10, ±5%	27	100	900	0.4	450	NL322522T-082X
0.1	±10, ±5%	28	100	700	0.44	450	NL322522T-R10X
0.12	±10, ±5%	30	25.2	500	0.22	450	NL322522T-R12X
0.15	±10, ±5%	30	25.2	450	0.25	450	NL322522T-R15X
0.18	±10, ±5%	30	25.2	400	0.28	450	NL322522T-R18X
0.22	±10, ±5%	30	25.2	350	0.32	450	NL322522T-R22X
0.27	±10, ±5%	30	25.2	320	0.36	450	NL322522T-R27X
0.33	±10, ±5%	30	25.2	300	0.4	450	NL322522T-R33X
0.39	±10, ±5%	30	25.2	250	0.45	450	NL322522T-R39X
0.47	±10, ±5%	30	25.2	220	0.5	450	NL322522T-R47X
0.56	±10, ±5%	30	25.2	180	0.55	450	NL322522T-R56X
0.68	±10, ±5%	30	25.2	160	0.6	450	NL322522T-R68X
0.82	±10, ±5%	30	25.2	140	0.65	450	NL322522T-R82X
1	±5%	30	7.96	120	0.7	400	NL322522T-1R0J
1.2	±5%	30	7.96	100	0.75	390	NL322522T-1R2J
1.5	±5%	30	7.96	85	0.85	370	NL322522T-1R5J
1.8	±5%	30	7.96	80	0.9	350	NL322522T-1R8J
2.2	±5%	30	7.96	75	1	320	NL322522T-2R2J
2.7	±5%	30	7.96	70	1.1	290	NL322522T-2R7J
3.3	±5%	30	7.96	60	1.2	260	NL322522T-3R3J
3.9	±5%	30	7.96	55	1.3	250	NL322522T-3R9J
4.7	±5%	30	7.96	50	1.5	220	NL322522T-4R7J
5.6	±5%	30	7.96	45	1.6	200	NL322522T-5R6J
6.8	±5%	30	7.96	40	1.8	180	NL322522T-6R8J
8.2	±5%	30	7.96	35	2	170	NL322522T-8R2J
10	±5%	30	2.52	30	2.1	150	NL322522T-100J
12	±5%	30	2.52	20	2.5	140	NL322522T-120J

* X: Please specify the inductance tolerance, K(±10%) or J(±5%)

• Inductance tolerance is only standard.

• Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER (16085A+16093B+TDK TF-1) [$L \geq 0.12\mu\text{H}$]

SRF: HP8753C NETWORK ANALYZER

Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

Inductors

For General Applications
SMD

NL Series NL3225 Type

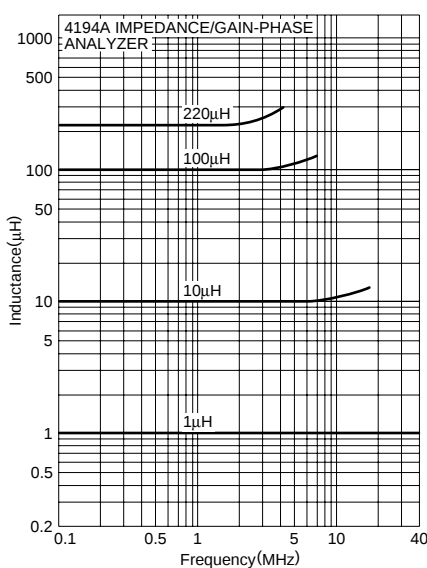
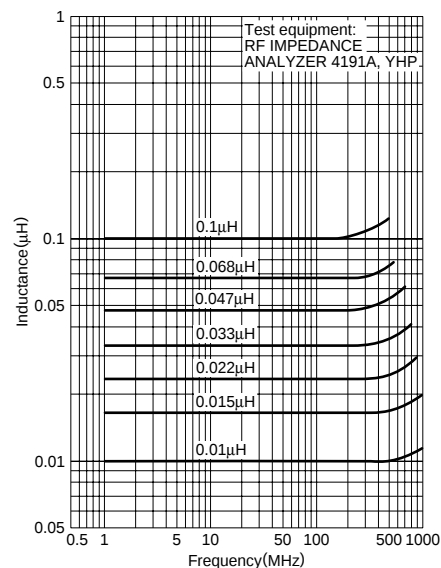
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
15	±5%	30	2.52	20	2.8	130	NL322522T-150J
18	±5%	30	2.52	20	3.3	120	NL322522T-180J
22	±5%	30	2.52	20	3.7	110	NL322522T-220J
27	±5%	30	2.52	20	5	80	NL322522T-270J
33	±5%	30	2.52	17	5.6	70	NL322522T-330J
39	±5%	30	2.52	16	6.4	65	NL322522T-390J
47	±5%	30	2.52	15	7	60	NL322522T-470J
56	±5%	30	2.52	13	8	55	NL322522T-560J
68	±5%	30	2.52	12	9	50	NL322522T-680J
82	±5%	30	2.52	11	10	45	NL322522T-820J
100	±5%	20	0.796	10	10	40	NL322522T-101J
120	±5%	20	0.796	10	11	70	NL322522T-121J
150	±5%	20	0.796	8	15	65	NL322522T-151J
180	±5%	20	0.796	7	17	60	NL322522T-181J
220	±5%	20	0.796	7	21	50	NL322522T-221J
270	±5%	20	0.796	6	28	45	NL322522T-271J
330	±5%	20	0.796	5	34	40	NL322522T-331J
390	±5%	20	0.796	5	42	35	NL322522T-391J
470	±5%	20	0.796	4	40	25	NL322522T-471J

- Inductance tolerance is only standard.
- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER (16085A+16093B+TDK TF-1) [$L \geq 0.12\mu\text{H}$]
SRF: HP8753C NETWORK ANALYZER
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

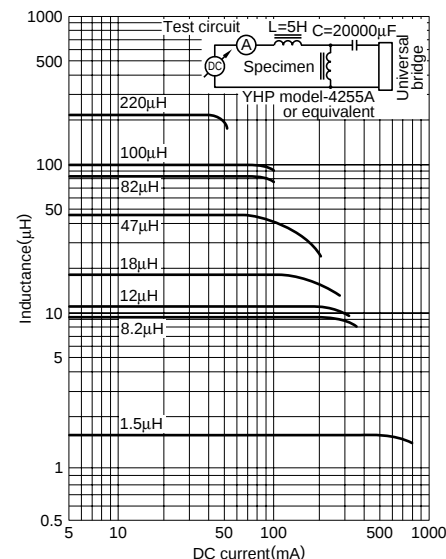
TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. DC

SUPERPOSITION CHARACTERISTICS



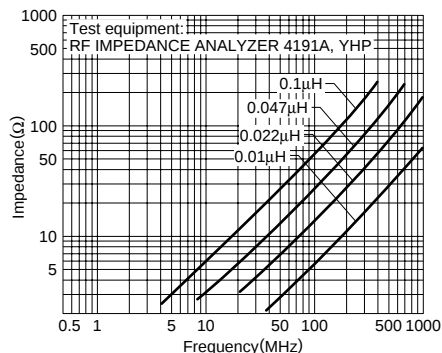
Inductors

For General Applications
SMD

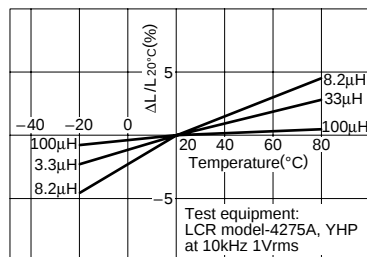
NL Series NL3225 Type

TYPICAL ELECTRICAL CHARACTERISTICS

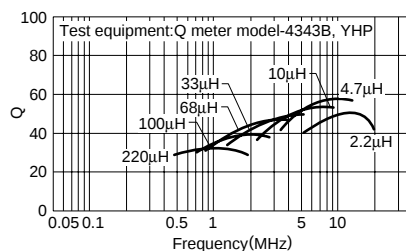
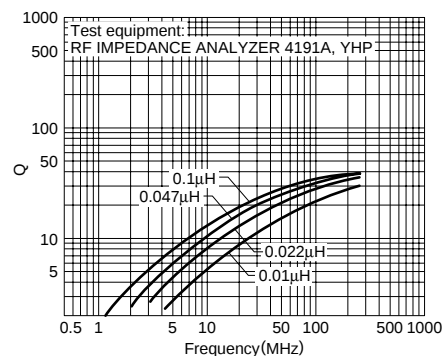
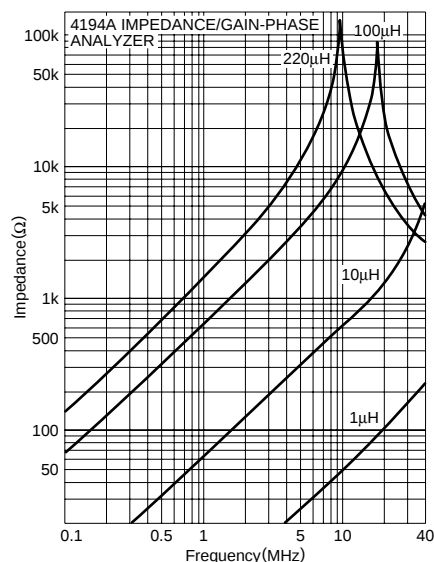
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications SMD

NL Series NL4532 Type

FEATURES

- The NL series are available in 5 form factors ranging from 2016 to 5650.
- Utilizing a miniaturized winding structure, these products provide high Q characteristics.
- Inductance tolerance is ± 5 percent.

APPLICATIONS

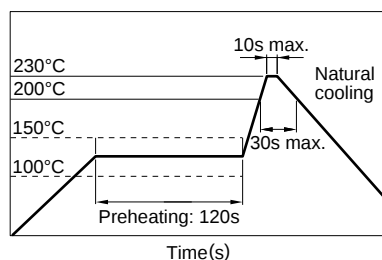
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

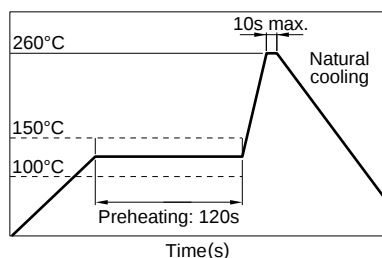
Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



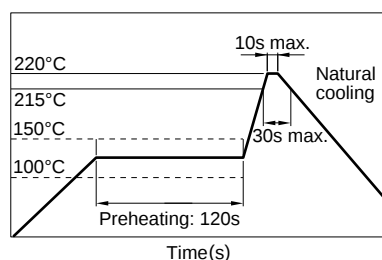
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NL	201614	T	2R2	J
(1)	(2)	(3)	(4)	(5)

(1)Series name

(2)Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm
565050	5.6×5.0×5.0mm

(3)Packaging style

T	Taping (reel)
---	---------------

(4)Inductance value

1R0	1μH
330	33μH

(5)Inductance tolerance

J	±5%
K	±10%

PACKAGING STYLE AND QUANTITIES

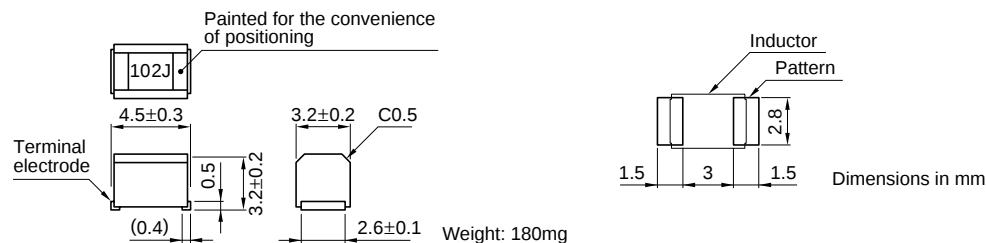
Packaging style	Type	Quantity
Taping	NL201614T	2000 pieces/reel
	NL252018T	2000 pieces/reel
	NL322522T	2000 pieces/reel
	NL453232T	500 pieces/reel
	NL565050T	400 pieces/reel

Inductors

For General Applications
SMD

NL Series NL4532 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



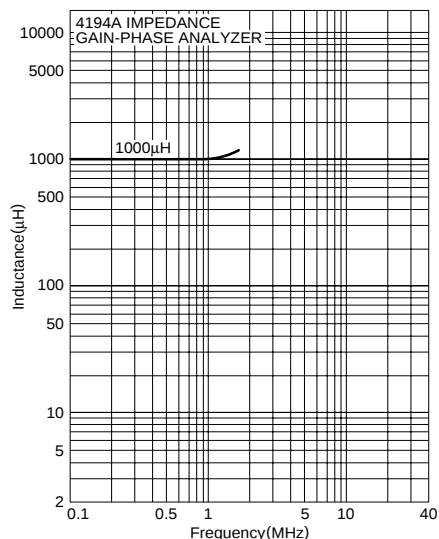
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
270	±5%	40	0.796	4	12	92	NL453232T-271J
330	±5%	40	0.796	3.5	14	85	NL453232T-331J
390	±5%	40	0.796	3	16	80	NL453232T-391J
470	±5%	40	0.796	3	26	62	NL453232T-471J
560	±5%	30	0.796	3	30	50	NL453232T-561J
680	±5%	30	0.796	3	30	50	NL453232T-681J
820	±5%	30	0.796	2.5	35	30	NL453232T-821J
1000	±5%	30	0.252	2.5	40	30	NL453232T-102J

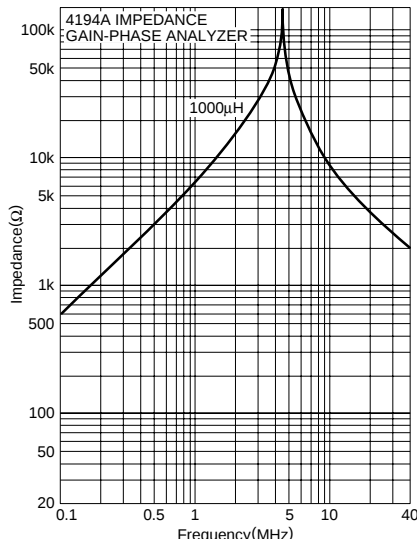
- Inductance tolerance is only standard.
- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER (16085A+16093B+TDK TF-1)
SRF: HP8753C NETWORK ANALYZER (Z_{in}=Z_{out}=50Ω)
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

TYPICAL ELECTRICAL CHARACTERISTICS

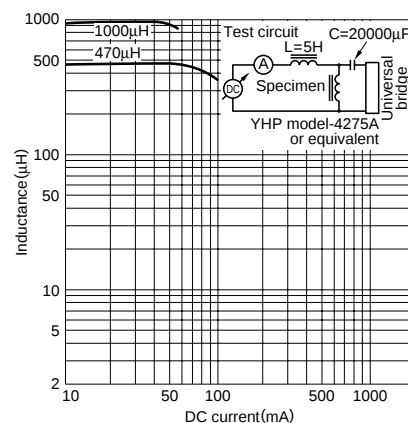
INDUCTANCE vs. FREQUENCY CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS

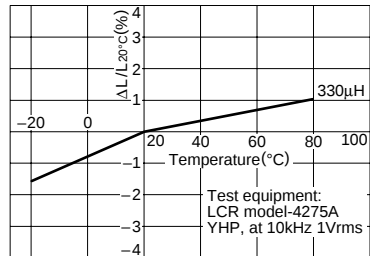


Inductors

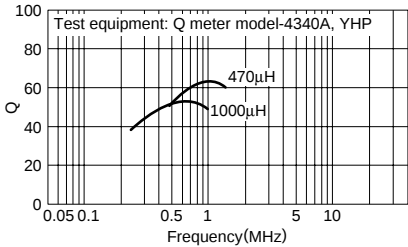
For General Applications
SMD

NL Series NL4532 Type

TYPICAL ELECTRICAL CHARACTERISTICS INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications

SMD

NL Series NL5650 Type

FEATURES

- The NL series are available in 5 form factors ranging from 2016 to 5650.
- Utilizing a miniaturized winding structure, these products provide high Q characteristics.
- Inductance tolerance is ± 5 percent.

APPLICATIONS

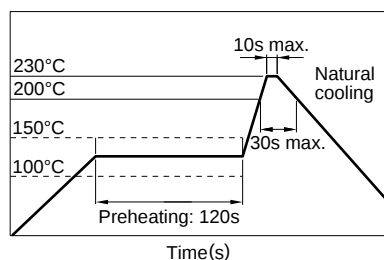
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

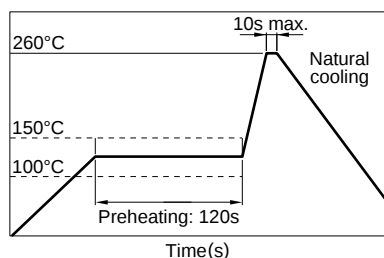
Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



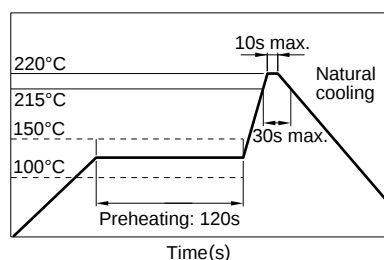
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NL	201614	T-	2R2	J
(1)	(2)	(3)	(4)	(5)

(1)Series name

(2)Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm
565050	5.6×5.0×5.0mm

(3)Packaging style

T	Taping (reel)
---	---------------

(4)Inductance value

1R0	1μH
330	33μH

(5)Inductance tolerance

J	$\pm 5\%$
K	$\pm 10\%$

PACKAGING STYLE AND QUANTITIES

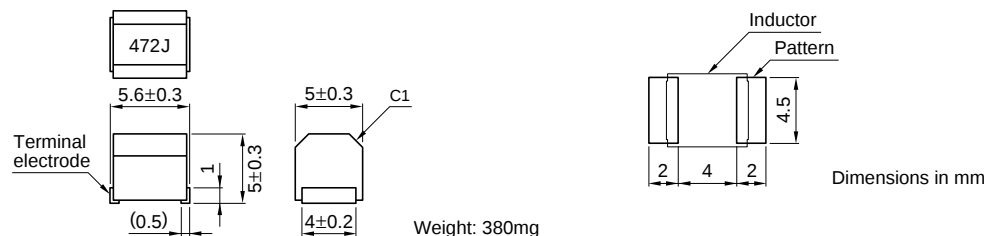
Packaging style	Type	Quantity
Taping	NL201614T	2000 pieces/reel
	NL252018T	2000 pieces/reel
	NL322522T	2000 pieces/reel
	NL453232T	500 pieces/reel
	NL565050T	400 pieces/reel

Inductors

For General Applications
SMD

NL Series NL5650 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



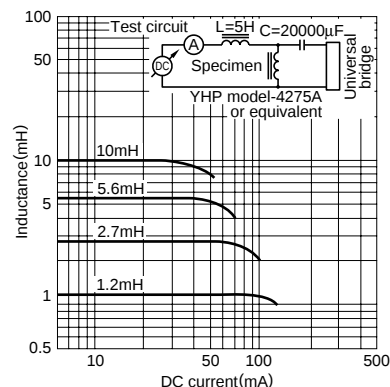
ELECTRICAL CHARACTERISTICS

Inductance (mH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
1.2	±5%	30	0.252	1.5	17	75	NL565050T-122J
1.5	±5%	30	0.252	1.4	20	70	NL565050T-152J
1.8	±5%	30	0.252	1.3	30	60	NL565050T-182J
2.2	±5%	30	0.252	1.2	35	55	NL565050T-222J
2.7	±5%	30	0.252	1.1	55	45	NL565050T-272J
3.3	±5%	30	0.252	1	60	40	NL565050T-332J
3.9	±5%	30	0.252	1	70	38	NL565050T-392J
4.7	±5%	30	0.252	0.9	78	36	NL565050T-472J
5.6	±5%	30	0.252	0.8	85	33	NL565050T-562J
6.8	±5%	30	0.252	0.7	110	30	NL565050T-682J
8.2	±5%	30	0.252	0.6	125	28	NL565050T-822J
10	±5%	20	0.0796	0.5	150	25	NL565050T-103J

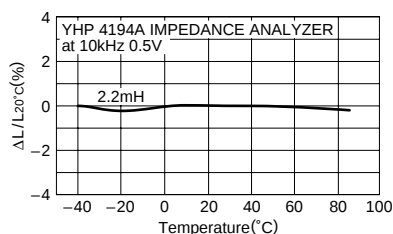
- Inductance tolerance is only standard.
- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER (16085A+16093B+TDK TF-1)
SRF: HP8753C NETWORK ANALYZER (Zin=Zout=50Ω)
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

TYPICAL ELECTRICAL CHARACTERISTICS

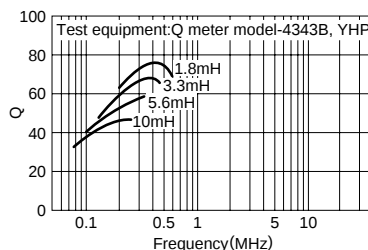
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications SMD

NLV Series NLV25 Type

FEATURES

- Provides high Q while using 252018 size winding construction.
- Environmentally friendly due to use of recyclable plastic (thermoplastic).
- Logo omitted to simplify production.
- Maintains interchangeability with earlier NL product series.
- NLV series are E-6 products, while NLCV and NLFV series are E-3 products.

APPLICATIONS

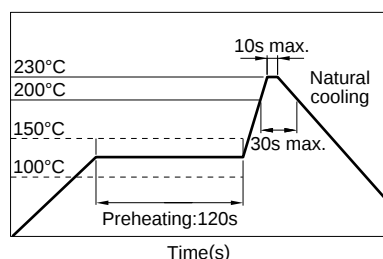
PCs, hard disk drives, and other types of electronics

SPECIFICATIONS

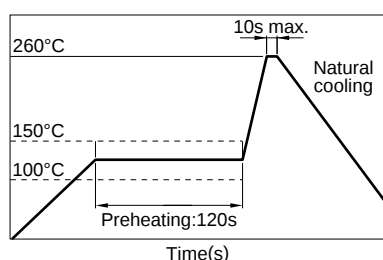
Type	Operating temperature range	Storage temperature range[Unit of products]
NLV25	-20 to +85°C	-40 to +85°C
NLCV25	-20 to +85°C	-40 to +85°C
NLFV25	-20 to +85°C	-40 to +85°C

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



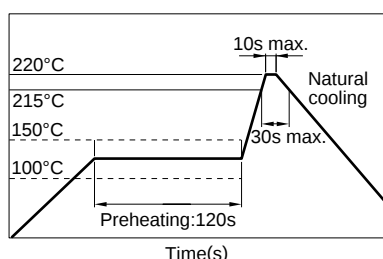
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



PRODUCT IDENTIFICATION

NLV	25	T-	2R2	J
(1)	(2)	(3)	(4)	(5)

(1) Series name

(2) Dimensions LxWxT

252018	2.5×2.0×1.8mm
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(3) Packaging style

T	Taping (reel)
---	---------------

(4) Inductance value

1R0	1μH
220	22μH

(5) Inductance tolerance

J	±5%
K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	NLV25T	2000 pieces/reel
	NLCV25T	2000 pieces/reel
	NLFV25T	2000 pieces/reel

PRECAUTIONS

- The exterior of this product can melt since due to thermoplastic construction. During mechanical contact while at the plastic softening temperature, deformation can occur at the contact location. Therefore caution is required when utilizing a soldering iron during the soldering operation.

FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

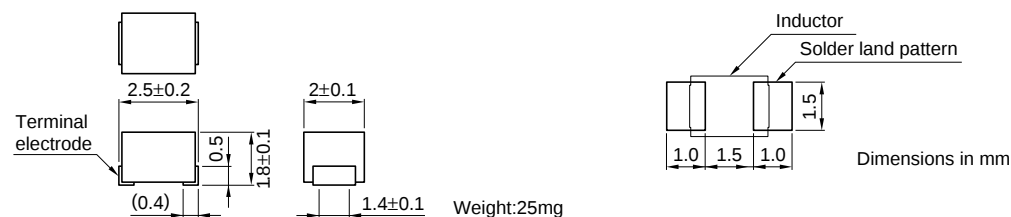
Inductors

For General Applications

SMD

NLV Series NLV25 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance(μ H)	Inductance tolerance	Q typ.	Test frequency L,Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
1	$\pm 5\%$	30	7.96	245	1.1	245	NLV25T-1R0J
1.5	$\pm 5\%$	30	7.96	182	1.3	220	NLV25T-1R5J
2.2	$\pm 5\%$	30	7.96	105	1.55	200	NLV25T-2R2J
3.3	$\pm 5\%$	30	7.96	55	1.9	185	NLV25T-3R3J
4.7	$\pm 5\%$	30	7.96	43	2.3	175	NLV25T-4R7J
6.8	$\pm 5\%$	25	7.96	39	2.7	165	NLV25T-6R8J
10	$\pm 5\%$	25	2.52	33	3.5	155	NLV25T-100J
15	$\pm 5\%$	25	2.52	26	4.4	140	NLV25T-150J
22	$\pm 5\%$	25	2.52	22	5.5	125	NLV25T-220J
33	$\pm 5\%$	20	2.52	20	7.1	110	NLV25T-330J
47	$\pm 5\%$	20	2.52	17	11.1	80	NLV25T-470J
68	$\pm 5\%$	20	2.52	15	16.6	70	NLV25T-680J
100	$\pm 5\%$	15	0.796	12	21	60	NLV25T-101J

• Test equipment L, Q: HP4191A IMPEDANCE/GAIN PHASE ANALYZER(16085A+16093B+TDK TF-1)

SRF: HP8753C NETWORK ANALYZER

Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

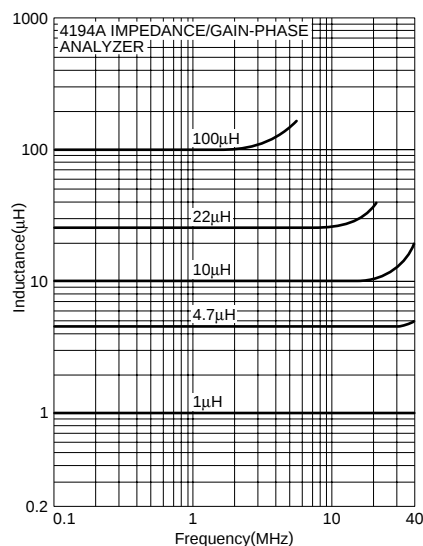
Inductors

For General Applications
SMD

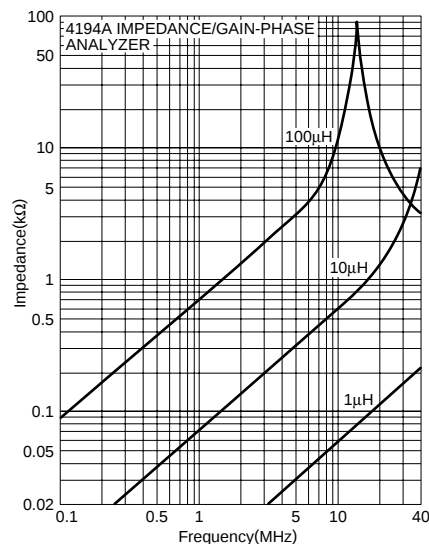
NLV Series NLV25 Type

TYPICAL ELECTRICAL CHARACTERISTICS

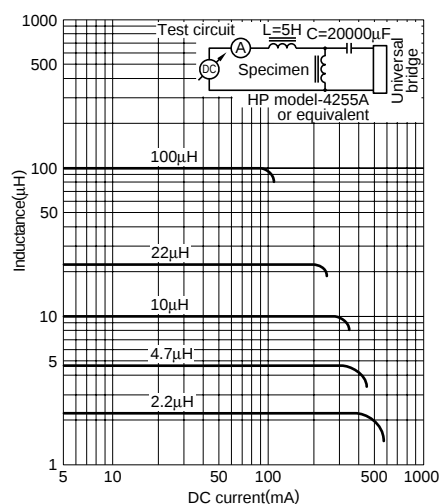
INDUCTANCE CHANGE vs. FREQUENCY CHARACTERISTICS



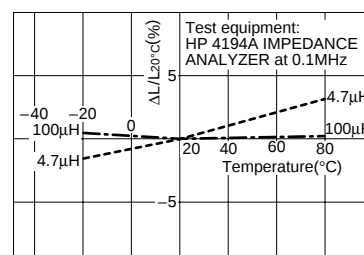
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



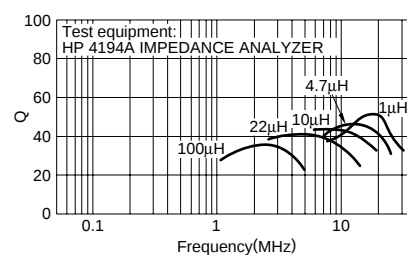
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Radial

EL Series EL0305 Type

FEATURES

- The EL series inductors are available in 6 form factors ranging from 0304 to 0909.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	EL0304: 4.9N min. EL0305: 7.84N min. EL0405: 7.84N min. EL0606: 14.7N min. EL0607: 14.7N min. EL0909: 14.7N min.

PRODUCT IDENTIFICATION

EL	0405	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions

0304	4×3×4mm (lead pitch 2.5mm)
0305	5×3.8×5mm (lead pitch 5mm)
0405	5.4×4.4×7mm (lead pitch 5mm)
0606	6.4×6×10mm (lead pitch 5mm)
0607	7.4×6.2×10mm (lead pitch 5mm)
0909	9.4×9×13.5mm (lead pitch 5mm)

(3) Packaging style

RA	Ammo-pack
RR	Reel

(4) Inductance value

R22	0.22μH
1R0	1μH

(5) Inductance tolerance

J	±5%
K	±10%
M	±20%

(6) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Ammo-pack	EL0304RA	3000 pieces
	EL0305RA	3000 pieces
	EL0405RA	3000 pieces
	EL0606RA	2000 pieces
	EL0607RA	2000 pieces
Taping	EL0909RR	500 pieces/reel

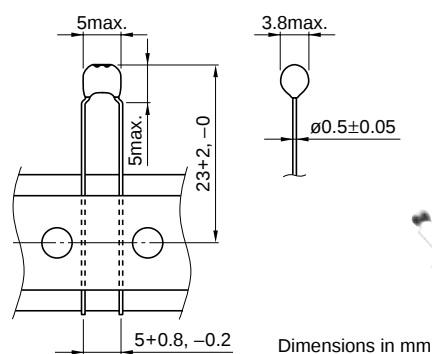
Inductors

For General Applications
Radial

EL Series EL0305 Type

AMMO-PACK TAPING STYLE

SHAPES AND DIMENSIONS



CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise, 20°Cmax.]
Withstand voltage Erms	250V
Rated current	Based on the inductance variation [-10% to the initial value]
Terminal tensile strength	7.84N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 25\%$

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q(MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max	Part No.
0.22	±10%	20	25.2	150	0.08	1400	EL0305RA-R22K
0.33	±10%	20	25.2	150	0.09	1300	EL0305RA-R33K
0.47	±10%	20	25.2	130	0.1	1200	EL0305RA-R47K
0.68	±10%	20	25.2	120	0.12	1100	EL0305RA-R68K
1	±10%	50	7.96	100	0.14	1000	EL0305RA-1R0K
1.5	±10%	50	7.96	70	0.2	800	EL0305RA-1R5K
2.2	±5%	50	7.96	55	0.21	750	EL0305RA-2R2J
3.3	±5%	50	7.96	45	0.24	670	EL0305RA-3R3J
4.7	±5%	50	7.96	35	0.29	560	EL0305RA-4R7J
6.8	±5%	50	7.96	27	0.36	420	EL0305RA-6R8J
10	±5%	15	2.52	20	0.4	400	EL0305RA-100J
15	±5%	15	2.52	17	0.51	320	EL0305RA-150J
22	±5%	15	2.52	13	0.65	300	EL0305RA-220J
33	±5%	15	2.52	10.5	1	240	EL0305RA-330J
47	±5%	15	2.52	9.5	1.4	180	EL0305RA-470J
68	±5%	15	2.52	8.5	1.8	170	EL0305RA-680J
100	±5%	40	0.796	6.8	3	140	EL0305RA-101J
150	±5%	40	0.796	5.7	4.8	120	EL0305RA-151J
220	±5%	40	0.796	4	7.8	90	EL0305RA-221J
330	±5%	40	0.796	3.3	11	80	EL0305RA-331J
470	±5%	40	0.796	2.8	17	60	EL0305RA-471J

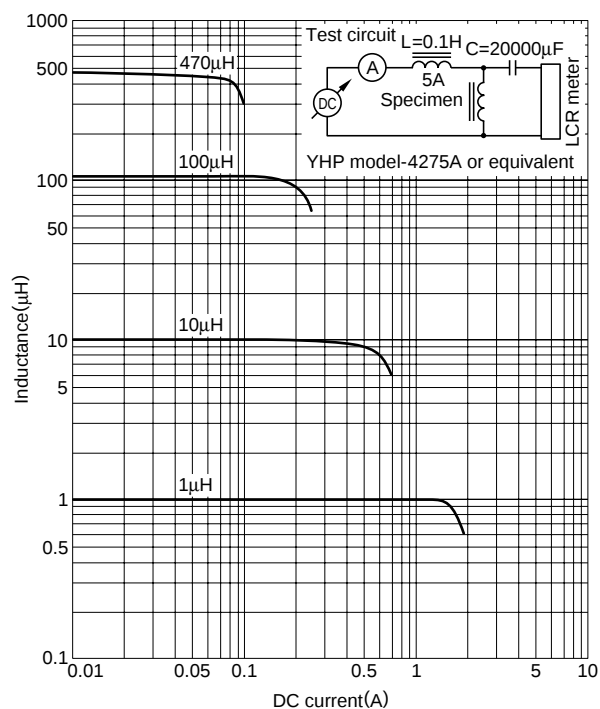
Inductors

For General Applications
Radial

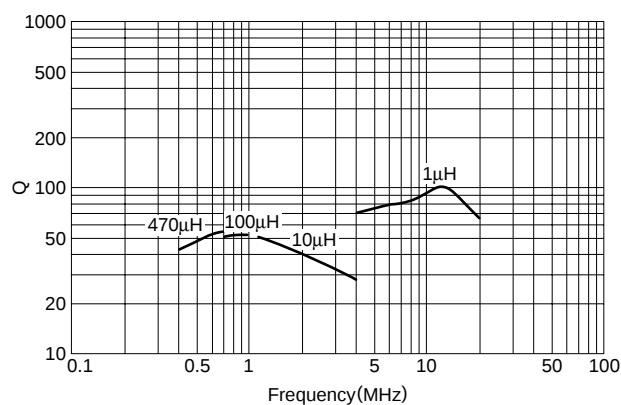
EL Series EL0305 Type

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Radial

EL Series EL0405 Type

FEATURES

- The EL series inductors are available in 6 form factors ranging from 0304 to 0909.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	EL0304: 4.9N min. EL0305: 7.84N min. EL0405: 7.84N min. EL0606: 14.7N min. EL0607: 14.7N min. EL0909: 14.7N min.

PRODUCT IDENTIFICATION

EL	0405	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0304	4×3×4mm (lead pitch 2.5mm)
0305	5×3.8×5mm (lead pitch 5mm)
0405	5.4×4.4×7mm (lead pitch 5mm)
0606	6.4×6×10mm (lead pitch 5mm)
0607	7.4×6.2×10mm (lead pitch 5mm)
0909	9.4×9×13.5mm (lead pitch 5mm)

(3)Packaging style

RA	Ammo-pack
RR	Reel

(4)Inductance value

R22	0.22μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Ammo-pack	EL0304RA	3000 pieces
	EL0305RA	3000 pieces
	EL0405RA	3000 pieces
	EL0606RA	2000 pieces
	EL0607RA	2000 pieces
Taping	EL0909RR	500 pieces/reel

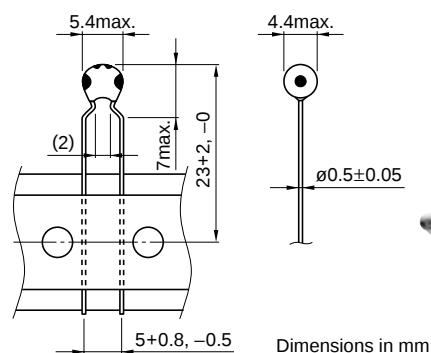
Inductors

For General Applications
Radial

EL Series EL0405 Type

AMMO-PACK TAPING STYLE

SHAPES AND DIMENSIONS



CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on inductance change [-10% to the initial value]
Terminal tensile strength	7.84N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 25\%$

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q(MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.22	±20, ±10%	50	25.2	150	0.15	800	EL0405RA-R22X*-3
0.27	±20, ±10%	50	25.2	150	0.15	800	EL0405RA-R27X-3
0.33	±20, ±10%	50	25.2	150	0.15	800	EL0405RA-R33X-3
0.39	±20, ±10%	50	25.2	130	0.15	800	EL0405RA-R39X-3
0.47	±20, ±10%	50	25.2	130	0.15	800	EL0405RA-R47X-3
0.56	±20, ±10%	50	25.2	130	0.2	700	EL0405RA-R56X-3
0.68	±20, ±10%	50	25.2	120	0.2	700	EL0405RA-R68X-3
0.82	±20, ±10%	50	25.2	120	0.2	700	EL0405RA-R82X-3
1	±10, ±5%	50	7.96	85	0.22	674	EL0405RA-1R0X-3
1.2	±10, ±5%	50	7.96	75	0.24	645	EL0405RA-1R2X-3
1.5	±10, ±5%	50	7.96	65	0.27	608	EL0405RA-1R5X-3
1.8	±10, ±5%	50	7.96	55	0.3	577	EL0405RA-1R8X-3
2.2	±10, ±5%	50	7.96	50	0.33	550	EL0405RA-2R2X-3
2.7	±10, ±5%	50	7.96	45	0.37	520	EL0405RA-2R7X-3
3.3	±10, ±5%	50	7.96	40	0.42	488	EL0405RA-3R3X-3
3.9	±10, ±5%	50	7.96	35	0.46	466	EL0405RA-3R9X-3
4.7	±10, ±5%	50	7.96	30	0.53	434	EL0405RA-4R7X-3
5.6	±10, ±5%	50	7.96	27	0.56	422	EL0405RA-5R6X-3
6.8	±10, ±5%	50	7.96	25	0.63	398	EL0405RA-6R8X-3
8.2	±10, ±5%	50	7.96	22	0.7	378	EL0405RA-8R2X-3
10	±10, ±5%	50	2.52	20	0.8	353	EL0405RA-100X-3
12	±10, ±5%	50	2.52	18	0.87	339	EL0405RA-120X-3
15	±10, ±5%	50	2.52	15	1	316	EL0405RA-150X-3
18	±10, ±5%	50	2.52	12	1.11	301	EL0405RA-180X-3
22	±10, ±5%	40	2.52	11	1.35	272	EL0405RA-220X-3
27	±10, ±5%	40	2.52	10	1.55	254	EL0405RA-270X-3
33	±10, ±5%	40	2.52	9.5	1.75	239	EL0405RA-330X-3
39	±10, ±5%	40	2.52	9	2	223	EL0405RA-390X-3
47	±10, ±5%	40	2.52	8.5	2.2	213	EL0405RA-470X-3
56	±10, ±5%	40	2.52	8	2.4	204	EL0405RA-560X-3
68	±10, ±5%	40	2.52	7.5	3.3	174	EL0405RA-680X-3
82	±10, ±5%	40	2.52	7	3.7	164	EL0405RA-820X-3

* X: Please specify inductance tolerance, M(±20%), K(±10%) or J (±5%)

Inductors

For General Applications
Radial

EL Series EL0405 Type

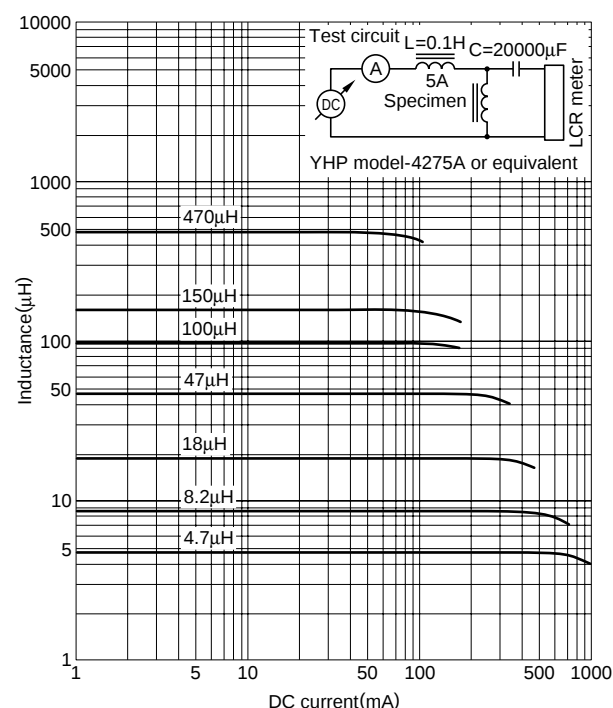
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q(MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
100	±10, ±5%	35	0.796	6.5	4.4	150	EL0405RA-101X*-3
120	±10, ±5%	35	0.796	6.2	5.1	140	EL0405RA-121X-3
150	±10, ±5%	35	0.796	5.7	5.95	130	EL0405RA-151X-3
180	±10, ±5%	35	0.796	5.3	7	120	EL0405RA-181X-3
220	±10, ±5%	35	0.796	4	8	112	EL0405RA-221X-3
270	±10, ±5%	35	0.796	3.6	12.4	90	EL0405RA-271X-3
330	±10, ±5%	35	0.796	3.3	13.2	87	EL0405RA-331X-3
390	±10, ±5%	35	0.796	3	15.4	80	EL0405RA-391X-3
470	±10, ±5%	35	0.796	2.8	17.3	76	EL0405RA-471X-3
560	±10, ±5%	30	0.796	2.4	21	69	EL0405RA-561X-3
680	±10, ±5%	30	0.796	2.2	23.5	65	EL0405RA-681X-3
820	±10, ±5%	30	0.796	2	26.5	61	EL0405RA-821X-3
1000	±10, ±5%	25	0.252	1.8	31.5	56	EL0405RA-102X-3

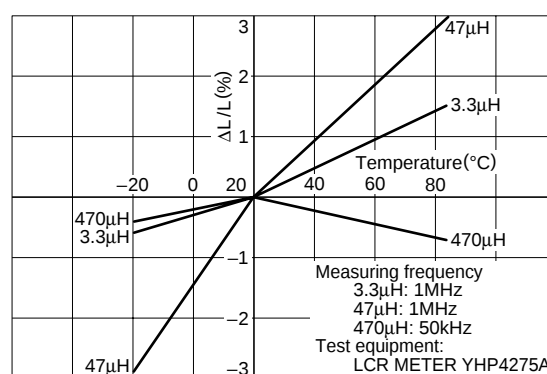
* X: Please specify inductance tolerance, K(±10%) or J (±5%)

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS

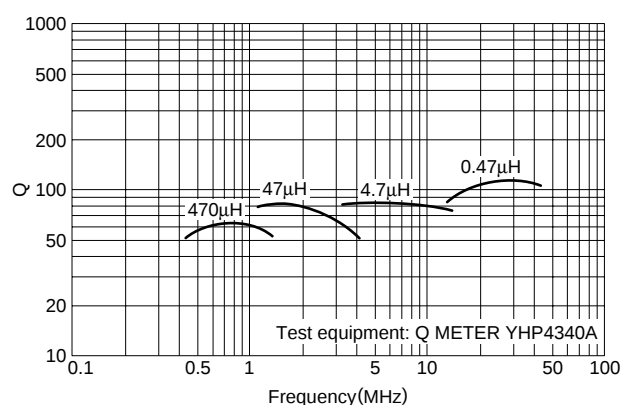


INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Test terminal: Measuring at after the correction
Cycle: +20°C → +80°C → +20°C → -20°C
Temperature: Kept stabilized for 30+5, -0min each

Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Radial

EL Series EL0606 Type

FEATURES

- The EL series inductors are available in 6 form factors ranging from 0304 to 0909.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	–20 to +80°C [Including self-temperature rise]
Storage temperature range	–40 to +80°C [Unit of products]
Terminal tensile strength	EL0304: 4.9N min. EL0305: 7.84N min. EL0405: 7.84N min. EL0606: 14.7N min. EL0607: 14.7N min. EL0909: 14.7N min.

PRODUCT IDENTIFICATION

EL	0405	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0304	4×3×4mm (lead pitch 2.5mm)
0305	5×3.8×5mm (lead pitch 5mm)
0405	5.4×4.4×7mm (lead pitch 5mm)
0606	6.4×6×10mm (lead pitch 5mm)
0607	7.4×6.2×10mm (lead pitch 5mm)
0909	9.4×9×13.5mm (lead pitch 5mm)

(3)Packaging style

RA	Ammo-pack
RR	Reel

(4)Inductance value

R22	0.22μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Ammo-pack	EL0304RA	3000 pieces
	EL0305RA	3000 pieces
	EL0405RA	3000 pieces
	EL0606RA	2000 pieces
	EL0607RA	2000 pieces
Taping	EL0909RR	500 pieces/reel

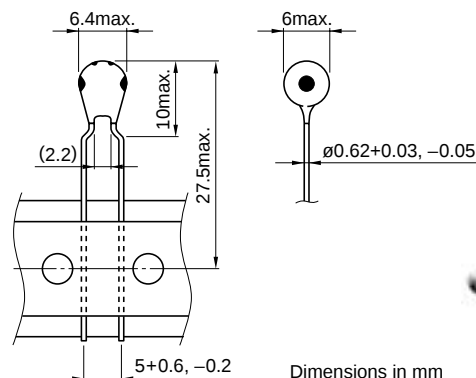
Inductors

For General Applications
Radial

EL Series EL0606 Type

AMMO-PACK TAPING STYLE

SHAPES AND DIMENSIONS



CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on inductance change [-10% to the initial value]
Terminal tensile strength	14.7N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 25\%$

ELECTRICAL CHARACTERISTICS

Inductance (μ H)	Inductance tolerance	Q min.	Test frequency L, Q(MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.22	$\pm 10\%$	50	25.2	150	0.15	816	EL0606RA-R22K
0.27	$\pm 10\%$	50	25.2	150	0.15	816	EL0606RA-R27K
0.33	$\pm 10\%$	50	25.2	150	0.15	816	EL0606RA-R33K
0.39	$\pm 10\%$	50	25.2	130	0.15	816	EL0606RA-R39K
0.47	$\pm 10\%$	50	25.2	130	0.15	816	EL0606RA-R47K
0.56	$\pm 10\%$	50	25.2	130	0.2	707	EL0606RA-R56K
0.68	$\pm 10\%$	50	25.2	120	0.2	707	EL0606RA-R68K
0.82	$\pm 10\%$	50	25.2	120	0.2	707	EL0606RA-R82K
1	$\pm 5\%$	50	7.96	100	0.2	707	EL0606RA-1R0J
1.2	$\pm 5\%$	50	7.96	85	0.2	707	EL0606RA-1R2J
1.5	$\pm 5\%$	50	7.96	70	0.22	674	EL0606RA-1R5J
1.8	$\pm 5\%$	50	7.96	60	0.22	674	EL0606RA-1R8J
2.2	$\pm 5\%$	50	7.96	55	0.25	632	EL0606RA-2R2J
2.7	$\pm 5\%$	50	7.96	50	0.27	608	EL0606RA-2R7J
3.3	$\pm 5\%$	50	7.96	45	0.3	577	EL0606RA-3R3J
3.9	$\pm 5\%$	50	7.96	40	0.32	559	EL0606RA-3R9J
4.7	$\pm 5\%$	50	7.96	35	0.35	534	EL0606RA-4R7J
5.6	$\pm 5\%$	50	7.96	33	0.37	519	EL0606RA-5R6J
6.8	$\pm 5\%$	50	7.96	27	0.4	500	EL0606RA-6R8J
8.2	$\pm 5\%$	50	7.96	25	0.45	471	EL0606RA-8R2J
10	$\pm 5\%$	50	2.52	20	0.8	353	EL0606RA-100J
12	$\pm 5\%$	50	2.52	18	0.9	333	EL0606RA-120J
15	$\pm 5\%$	50	2.52	17	1	316	EL0606RA-150J
18	$\pm 5\%$	50	2.52	15	1.2	288	EL0606RA-180J
22	$\pm 5\%$	50	2.52	13	1.4	267	EL0606RA-220J
27	$\pm 5\%$	50	2.52	11	1.7	242	EL0606RA-270J
33	$\pm 5\%$	50	2.52	10.5	2	223	EL0606RA-330J
39	$\pm 5\%$	50	2.52	10	2.4	204	EL0606RA-390J
47	$\pm 5\%$	50	2.52	9.5	2.7	192	EL0606RA-470J
56	$\pm 5\%$	50	2.52	9	2.9	185	EL0606RA-560J
68	$\pm 5\%$	50	2.52	8.5	3.1	179	EL0606RA-680J
82	$\pm 5\%$	50	2.52	7.5	3.3	174	EL0606RA-820J
100	$\pm 5\%$	45	0.796	6.8	3.3	174	EL0606RA-101J
120	$\pm 5\%$	45	0.796	6.2	3.5	169	EL0606RA-121J
150	$\pm 5\%$	45	0.796	5.7	3.7	164	EL0606RA-151J
180	$\pm 5\%$	45	0.796	5.3	4	158	EL0606RA-181J

Inductors

For General Applications
Radial

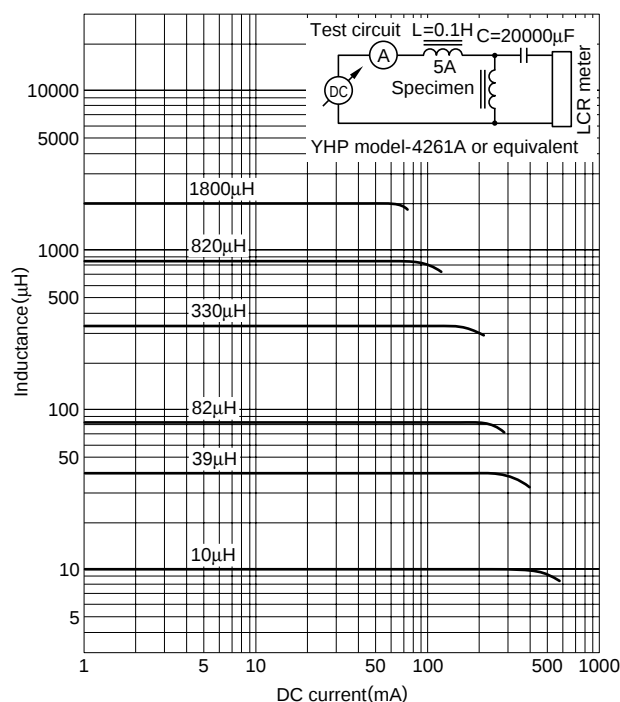
EL Series EL0606 Type

ELECTRICAL CHARACTERISTICS

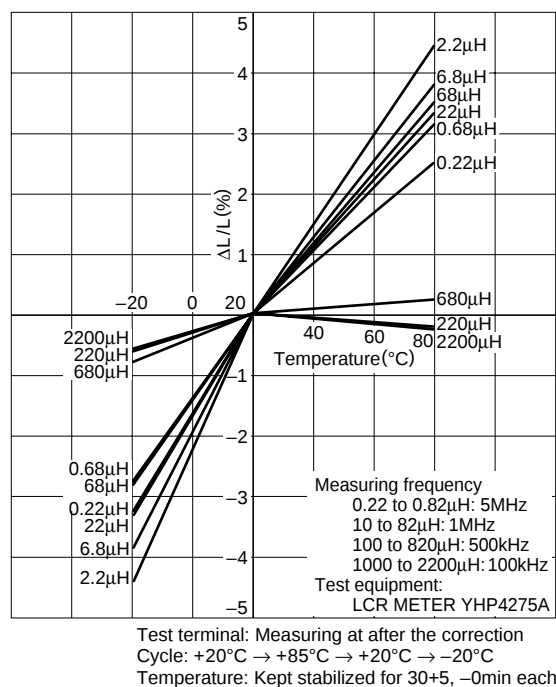
Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q(MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
220	±5%	45	0.796	4	5.2	138	EL0606RA-221J
270	±5%	45	0.796	3.6	5.8	131	EL0606RA-271J
330	±5%	45	0.796	3.3	6.5	124	EL0606RA-331J
390	±5%	45	0.796	3	7.5	115	EL0606RA-391J
470	±5%	45	0.796	2.8	8	111	EL0606RA-471J
560	±5%	45	0.796	2.4	12.5	89	EL0606RA-561J
680	±5%	45	0.796	2.2	14	84	EL0606RA-681J
820	±5%	45	0.796	2	15.5	80	EL0606RA-821J
1000	±5%	40	0.252	1.8	18.5	73	EL0606RA-102J
1200	±5%	30	0.252	1.7	29	58	EL0606RA-122J
1500	±5%	30	0.252	1.5	34	54	EL0606RA-152J
1800	±5%	30	0.252	1.4	37	51	EL0606RA-182J
2200	±5%	30	0.252	1.2	42	48	EL0606RA-222J

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



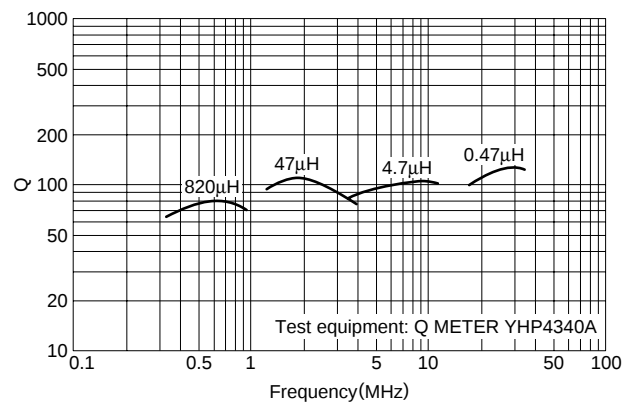
Inductors

For General Applications
Radial

EL Series EL0606 Type

TYPICAL ELECTRICAL CHARACTERISTICS

Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Radial

EL Series EL0607 Type

FEATURES

- The EL series inductors are available in 6 form factors ranging from 0304 to 0909.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	–20 to +80°C [Including self-temperature rise]
Storage temperature range	–40 to +80°C [Unit of products]
Terminal tensile strength	EL0304: 4.9N min. EL0305: 7.84N min. EL0405: 7.84N min. EL0606: 14.7N min. EL0607: 14.7N min. EL0909: 14.7N min.

PRODUCT IDENTIFICATION

EL	0405	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0304	4×3×4mm (lead pitch 2.5mm)
0305	5×3.8×5mm (lead pitch 5mm)
0405	5.4×4.4×7mm (lead pitch 5mm)
0606	6.4×6×10mm (lead pitch 5mm)
0607	7.4×6.2×10mm (lead pitch 5mm)
0909	9.4×9×13.5mm (lead pitch 5mm)

(3)Packaging style

RA	Ammo-pack
RR	Reel

(4)Inductance value

R22	0.22μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Ammo-pack	EL0304RA	3000 pieces
	EL0305RA	3000 pieces
	EL0405RA	3000 pieces
	EL0606RA	2000 pieces
	EL0607RA	2000 pieces
Taping	EL0909RR	500 pieces/reel

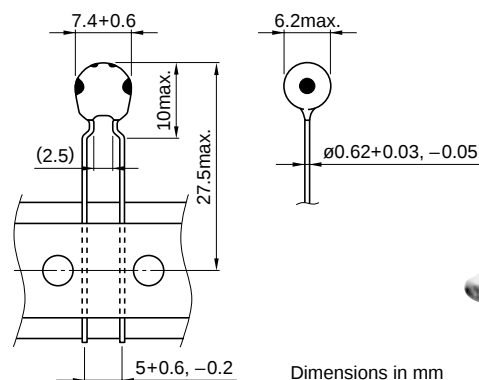
Inductors

For General Applications
Radial

EL Series EL0607 Type

AMMO-PACK TAPING STYLE

SHAPES AND DIMENSIONS



CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on inductance change [-10% to the initial value]
Terminal tensile strength	14.7N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 25\%$

ELECTRICAL CHARACTERISTICS

Inductance (μ H)	Inductance tolerance	Q min.	Test frequency L, Q(MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
10	$\pm 10, \pm 5\%$	20	2.52	17	0.19	780	EL0607RA-100X*
12	$\pm 10, \pm 5\%$	20	2.52	14	0.22	730	EL0607RA-120X
15	$\pm 10, \pm 5\%$	20	2.52	12	0.24	650	EL0607RA-150X
18	$\pm 10, \pm 5\%$	20	2.52	10.5	0.26	610	EL0607RA-180X
22	$\pm 10, \pm 5\%$	20	2.52	10	0.29	540	EL0607RA-220X
27	$\pm 10, \pm 5\%$	20	2.52	9.5	0.32	480	EL0607RA-270X
33	$\pm 10, \pm 5\%$	20	2.52	8.5	0.34	440	EL0607RA-330X
39	$\pm 10, \pm 5\%$	20	2.52	8	0.42	410	EL0607RA-390X
47	$\pm 10, \pm 5\%$	20	2.52	7	0.47	375	EL0607RA-470X
56	$\pm 10, \pm 5\%$	20	2.52	6.8	0.52	340	EL0607RA-560X
68	$\pm 10, \pm 5\%$	15	2.52	6.5	0.58	320	EL0607RA-680X
82	$\pm 10, \pm 5\%$	15	2.52	6.3	0.64	285	EL0607RA-820X
100	$\pm 10, \pm 5\%$	25	0.796	6	0.85	260	EL0607RA-101X
120	$\pm 10, \pm 5\%$	25	0.796	5.4	1	240	EL0607RA-121X
150	$\pm 10, \pm 5\%$	25	0.796	4.75	1.2	215	EL0607RA-151X
180	$\pm 10, \pm 5\%$	30	0.796	4	1.5	195	EL0607RA-181X
220	$\pm 10, \pm 5\%$	30	0.796	3.85	1.65	180	EL0607RA-221X
270	$\pm 10, \pm 5\%$	30	0.796	3.6	2.15	160	EL0607RA-271X
330	$\pm 10, \pm 5\%$	35	0.796	3.3	2.9	145	EL0607RA-331X
390	$\pm 10, \pm 5\%$	35	0.796	3	3.25	135	EL0607RA-391X
470	$\pm 10, \pm 5\%$	35	0.796	2.8	4.05	125	EL0607RA-471X
560	$\pm 10, \pm 5\%$	40	0.796	2.4	4.45	115	EL0607RA-561X
680	$\pm 10, \pm 5\%$	40	0.796	2.2	5.85	105	EL0607RA-681X
820	$\pm 10, \pm 5\%$	40	0.796	2	6.6	90	EL0607RA-821X
1000	$\pm 10, \pm 5\%$	45	0.252	1.8	8.9	85	EL0607RA-102X
1200	$\pm 10, \pm 5\%$	45	0.252	1.7	10.5	75	EL0607RA-122X
1500	$\pm 10, \pm 5\%$	45	0.252	1.5	11.9	70	EL0607RA-152X
1800	$\pm 10, \pm 5\%$	45	0.252	1.3	16.5	60	EL0607RA-182X
2200	$\pm 10, \pm 5\%$	45	0.252	1.2	19	58	EL0607RA-222X
2700	$\pm 10, \pm 5\%$	40	0.252	0.8	32	52	EL0607RA-272X

* X: Please specify inductance tolerance, K($\pm 10\%$) or J($\pm 5\%$)

Inductors

For General Applications
Radial

EL Series EL0607 Type

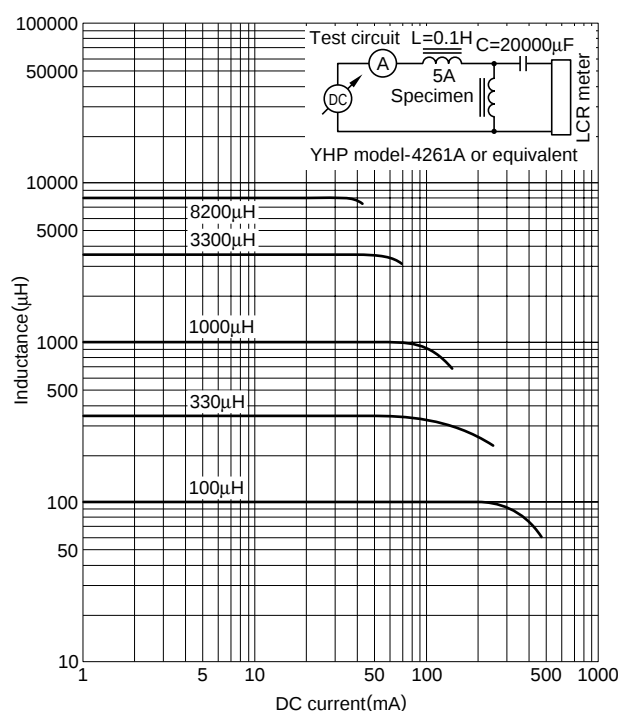
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q(MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
3300	±10, ±5%	40	0.252	0.7	34	48	EL0607RA-332X*
3900	±10, ±5%	40	0.252	0.7	38	45	EL0607RA-392X
4700	±10, ±5%	40	0.252	0.6	56	40	EL0607RA-472X
5600	±10, ±5%	40	0.252	0.5	63	37	EL0607RA-562X
6800	±10, ±5%	40	0.252	0.4	70	34	EL0607RA-682X
8200	±10, ±5%	40	0.252	0.4	77	31	EL0607RA-822X
10000	±10, ±5%	25	0.0796	0.3	95	28	EL0607RA-103X
12000	±10, ±5%	25	0.0796	0.2	110	25	EL0607RA-123X
15000	±10, ±5%	20	0.0796	0.1	160	21	EL0607RA-153X

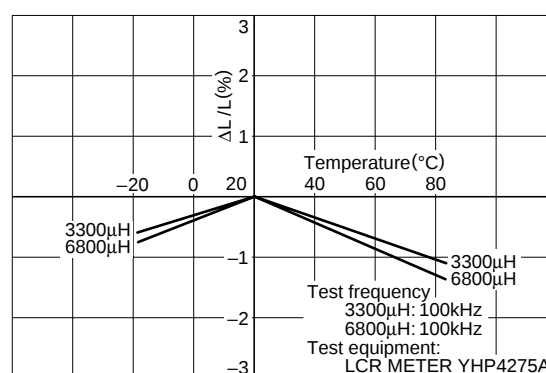
* X: Please specify inductance tolerance, K(±10%) or J(±5%)

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS

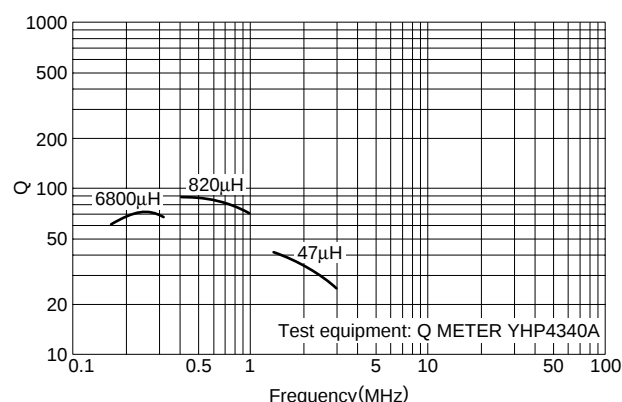


INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Test terminal: Measuring at after the correction
Cycle: +20°C → +85°C → +20°C → -20°C
Temperature: Kept stabilized for 30±5, -0min each

Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Radial

EL Series EL0909 Type

FEATURES

- The EL series inductors are available in 6 form factors ranging from 0304 to 0909.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	EL0304: 4.9N min. EL0305: 7.84N min. EL0405: 7.84N min. EL0606: 14.7N min. EL0607: 14.7N min. EL0909: 14.7N min.

PRODUCT IDENTIFICATION

EL	0405	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0304	4×3×4mm (lead pitch 2.5mm)
0305	5×3.8×5mm (lead pitch 5mm)
0405	5.4×4.4×7mm (lead pitch 5mm)
0606	6.4×6×10mm (lead pitch 5mm)
0607	7.4×6.2×10mm (lead pitch 5mm)
0909	9.4×9×13.5mm (lead pitch 5mm)

(3)Packaging style

RA	Ammo-pack
RR	Reel

(4)Inductance value

R22	0.22μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Ammo-pack	EL0304RA	3000 pieces
	EL0305RA	3000 pieces
	EL0405RA	3000 pieces
	EL0606RA	2000 pieces
	EL0607RA	2000 pieces
Taping	EL0909RR	500 pieces/reel

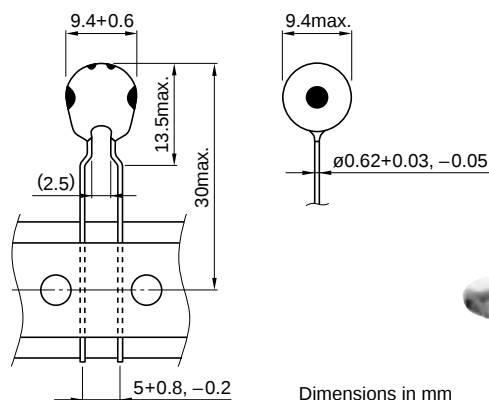
Inductors

For General Applications
Radial

EL Series EL0909 Type

REEL TAPING STYLE

SHAPES AND DIMENSIONS



Dimensions in mm

CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on inductance change [-10% to the initial value]
Terminal tensile strength	14.7N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 25\%$

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q(MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
100	±10, ±5%	55	796	4.3	0.85	343	EL0909RR-101X*1-2
120	±10, ±5%	55	796	4.1	0.95	324	EL0909RR-121X-2
150	±10, ±5%	55	796	3.7	1.05	309	EL0909RR-151X-2
180	±10, ±5%	55	796	3.3	1.15	295	EL0909RR-181X-2
220	±10, ±5%	50	796	2.3	1.3	277	EL0909RR-221X-2
270	±10, ±5%	50	796	2	1.5	258	EL0909RR-271X-2
330	±10, ±5%	50	796	1.95	1.7	243	EL0909RR-331X-2
390	±10, ±5%	50	796	1.85	1.85	232	EL0909RR-391X-2
470	±10, ±5%	50	796	1.57	2.3	209	EL0909RR-471X-2
560	±10, ±5%	45	796	1.5	2.55	198	EL0909RR-561X-2
680	±10, ±5%	40	796	1.4	2.85	187	EL0909RR-681X-2
820	±10, ±5%	35	796	1.32	3.1	180	EL0909RR-821X-2
1000	±10, ±5%	60	252	1.25	4.1	156	EL0909RR-102X-2
1200	±10, ±5%	60	252	1.2	4.7	146	EL0909RR-122X-2
1500	±10, ±5%	60	252	1	5.8	131	EL0909RR-152X-2
1800	±10, ±5%	60	252	0.95	7.4	116	EL0909RR-182X-2
2200	±10, ±5%	65	252	0.9	8.4	109	EL0909RR-222X-2
2700	±10, ±5%	65	252	0.84	11.2	94	EL0909RR-272X-2
3300	±10, ±5%	65	252	0.75	14.7	82	EL0909RR-332X-2
3900	±10, ±5%	65	252	0.67	19.5	72	EL0909RR-392X-2
4700	±10, ±5%	65	252	0.62	21.5	68	EL0909RR-472X-2
5600	±10, ±5%	60	252	0.57	24.5	64	EL0909RR-562X-2
6800	±10, ±5%	60	252	0.47	32.5	55	EL0909RR-682X-2
8200	±10, ±5%	55	252	0.43	38	51	EL0909RR-822X-2
10000	±10, ±5%	50	1*2/79.6*3	0.38	43	48	EL0909RR-103X-2
12000	±10, ±5%	50	1/79.6	0.37	62	40	EL0909RR-123X-2
15000	±10, ±5%	50	1/79.6	0.33	74	37	EL0909RR-153X-2
18000	±10, ±5%	50	1/79.6	0.29	103	31	EL0909RR-183X-2
22000	±10, ±5%	50	1/79.6	0.26	118	29	EL0909RR-223X-2
27000	±10, ±5%	50	1/79.6	0.25	131	28	EL0909RR-273X-2
33000	±10, ±5%	50	1/79.6	0.25	185	23	EL0909RR-333X-2
39000	±10, ±5%	40	1/79.6	0.23	205	22	EL0909RR-393X-2
47000	±10, ±5%	35	1/79.6	0.21	260	20	EL0909RR-473X-2
56000	±10, ±5%	35	1/79.6	0.2	295	18	EL0909RR-563X-2

*1 X: Please specify inductance tolerance, K(±10%) or J(±5%)

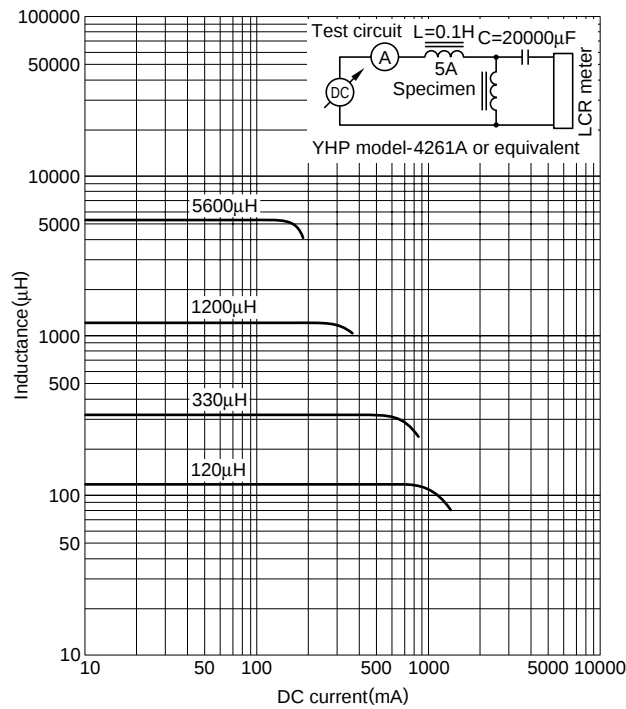
*2 for L

*3 for Q

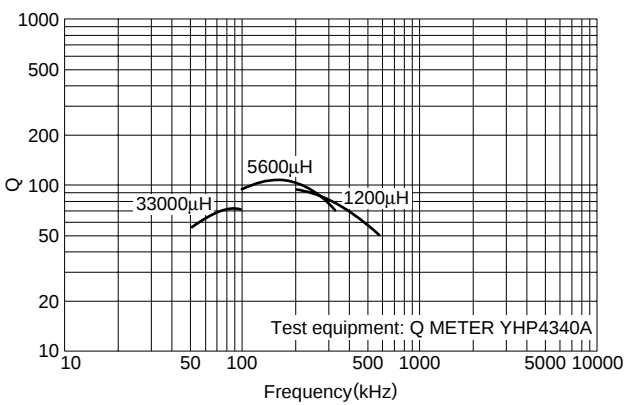
Inductors
For General Applications
Radial

EL Series EL0909 Type

TYPICAL ELECTRICAL CHARACTERISTICS
INDUCTANCE CHANGE vs. DC SUPERPOSITION
CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Radial

ELF Series ELF0505 Type

FEATURES

- The ELF series inductors are available in 4 form factors ranging from 0505 to 1010.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	24.5N min.

PRODUCT IDENTIFICATION

ELF	0505	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0505	ø5.5×5.5mm (lead pitch 5mm)
0607	ø6.6×7mm (lead pitch 5mm)
0708	ø7.7×8mm (lead pitch 5mm)
1010	ø10.5×10.5mm (lead pitch 5mm)

(3)Packaging style

RA	Ammo-pack
RR	Reel

(4)Inductance value

R22	0.22μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Ammo-pack	ELF0505RA	2000 pieces
	ELF0607RA	1000 pieces
	ELF0708RA	1000 pieces
Taping	ELF1010RR	300 pieces/reel

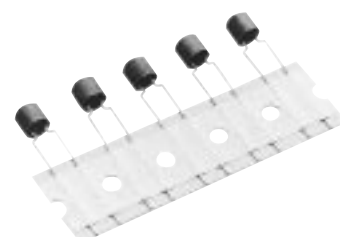
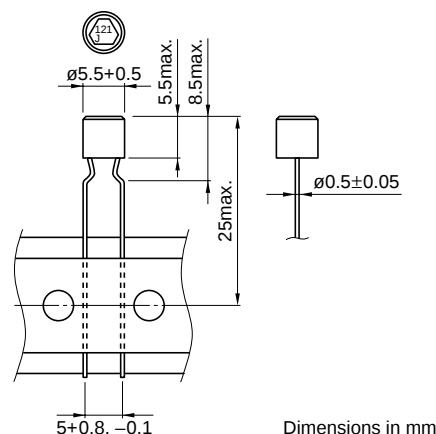
Inductors

For General Applications
Radial

ELF Series ELF0505 Type

AMMO-PACK TAPING STYLE

SHAPES AND DIMENSIONS



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current (mA)*1max.		Part No.
						Based on inductance change	Based on temperature rise	
0.22	±20, ±10%	45	25.2	500	0.15	600	895	ELF0505RA-R22X*2-3
0.27	±20, ±10%	45	25.2	470	0.15	600	895	ELF0505RA-R27X-3
0.33	±20, ±10%	45	25.2	340	0.15	600	895	ELF0505RA-R33X-3
0.39	±20, ±10%	45	25.2	290	0.15	600	895	ELF0505RA-R39X-3
0.47	±20, ±10%	45	25.2	250	0.15	600	895	ELF0505RA-R47X-3
0.56	±20, ±10%	45	25.2	210	0.15	600	895	ELF0505RA-R56X-3
0.68	±20, ±10%	45	25.2	180	0.15	600	895	ELF0505RA-R68X-3
0.82	±20, ±10%	45	25.2	135	0.15	600	895	ELF0505RA-R82X-3
1	±20, ±10%	50	7.96	125	0.15	600	895	ELF0505RA-1R0X-3
1.2	±20, ±10%	50	7.96	110	0.16	600	865	ELF0505RA-1R2X-3
1.5	±20, ±10%	50	7.96	99	0.19	600	795	ELF0505RA-1R5X-3
1.8	±20, ±10%	50	7.96	88	0.2	600	775	ELF0505RA-1R8X-3
2.2	±20, ±10%	50	7.96	79	0.23	600	720	ELF0505RA-2R2X-3
2.7	±20, ±10%	50	7.96	70	0.26	600	680	ELF0505RA-2R7X-3
3.3	±20, ±10%	50	7.96	63	0.29	600	645	ELF0505RA-3R3X-3
3.9	±20, ±10%	50	7.96	58	0.32	590	610	ELF0505RA-3R9X-3
4.7	±20, ±10%	50	7.96	53	0.36	540	575	ELF0505RA-4R7X-3
5.6	±20, ±10%	40	7.96	49	0.4	500	550	ELF0505RA-5R6X-3
6.8	±20, ±10%	40	7.96	45	0.44	455	520	ELF0505RA-6R8X-3
8.2	±20, ±10%	35	7.96	41	0.5	395	490	ELF0505RA-8R2X-3
10	±10, ±5%	50	2.52	37	0.8	380	385	ELF0505RA-100X-3
12	±10, ±5%	50	2.52	34	0.89	350	365	ELF0505RA-120X-3
15	±10, ±5%	50	2.52	31	1.02	320	345	ELF0505RA-150X-3
18	±10, ±5%	50	2.52	28	1.14	290	325	ELF0505RA-180X-3
22	±10, ±5%	50	2.52	25	1.3	265	305	ELF0505RA-220X-3
27	±10, ±5%	50	2.52	23	1.46	240	285	ELF0505RA-270X-3
33	±10, ±5%	50	2.52	21	1.65	220	270	ELF0505RA-330X-3
39	±10, ±5%	50	2.52	19	1.83	200	255	ELF0505RA-390X-3
47	±10, ±5%	45	2.52	17.5	2.05	185	240	ELF0505RA-470X-3
56	±10, ±5%	50	2.52	16	2.3	170	230	ELF0505RA-560X-3

*1 Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

*2 X: Please specify inductance tolerance, M(±20%) or K(±10%) or J(±5%)

• Test equipment L, Q: YHP4340A Q METER, or equivalent

Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

SRF: TAKEDA RIKEN TR-4100 TRACKING SCOPE, or equivalent

Inductors

For General Applications

Radial

ELF Series ELF0505 Type

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current (mA)*1max.		Part No.
						Based on inductance change	Based on temperature rise	
68	±10, ±5%	45	2.52	14.5	2.6	155	215	ELF0505RA-680X*23
82	±10, ±5%	45	2.52	13	3.1	145	195	ELF0505RA-820X-3
100	±10, ±5%	40	0.796	12	3.3	130	190	ELF0505RA-101X-3
120	±10, ±5%	40	0.796	11	4.7	120	160	ELF0505RA-121X-3
150	±10, ±5%	40	0.796	10	5.4	108	150	ELF0505RA-151X-3
180	±10, ±5%	40	0.796	9.2	5.6	99	145	ELF0505RA-181X-3
220	±10, ±5%	40	0.796	8.4	6.9	90	130	ELF0505RA-221X-3
270	±10, ±5%	40	0.796	7.6	7.8	82	125	ELF0505RA-271X-3
330	±10, ±5%	40	0.796	6.9	8.9	75	115	ELF0505RA-331X-3
390	±10, ±5%	40	0.796	6.4	13	69	96	ELF0505RA-391X-3
470	±10, ±5%	40	0.796	5.8	14.8	63	90	ELF0505RA-471X-3
560	±10, ±5%	40	0.796	5.3	16.5	58	85	ELF0505RA-561X-3
680	±10, ±5%	40	0.796	5	18.5	53	81	ELF0505RA-681X-3
820	±10, ±5%	40	0.796	4.7	26	48	68	ELF0505RA-821X-3
1000	±10, ±5%	30	0.252	4.4	31	44	62	ELF0505RA-102X-3
1200	±10, ±5%	30	0.252	4.1	37	40	57	ELF0505RA-122X-3

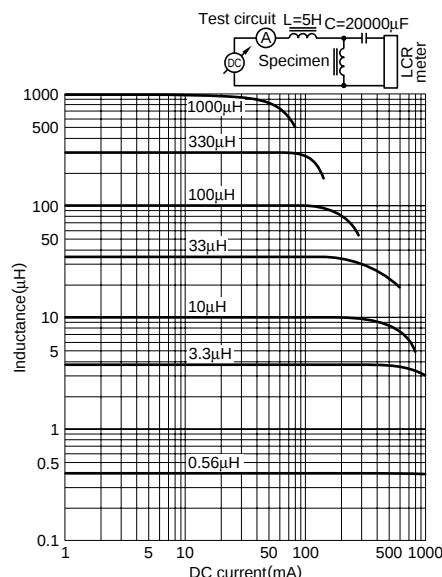
*1 Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

*2 X: Please specify inductance tolerance, K(±10%) or J(±5%)

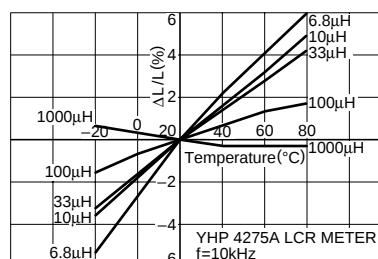
- Test equipment L, Q: YHP4340A Q METER, or equivalent
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent
SRF: TAKEDA RIKEN TR-4100 TRACKING SCOPE, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

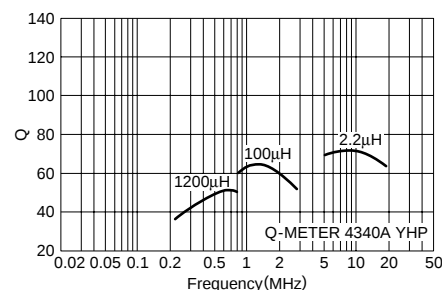
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Radial

ELF Series ELF0607 Type

FEATURES

- The ELF series inductors are available in 4 form factors ranging from 0505 to 1010.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	24.5N min.

PRODUCT IDENTIFICATION

ELF	0505	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0505	ø5.5×5.5mm (lead pitch 5mm)
0607	ø6.6×7mm (lead pitch 5mm)
0708	ø7.7×8mm (lead pitch 5mm)
1010	ø10.5×10.5mm (lead pitch 5mm)

(3)Packaging style

RA	Ammo-pack
RR	Reel

(4)Inductance value

R22	0.22μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Ammo-pack	ELF0505RA	2000 pieces
	ELF0607RA	1000 pieces
	ELF0708RA	1000 pieces
Taping	ELF1010RR	300 pieces/reel

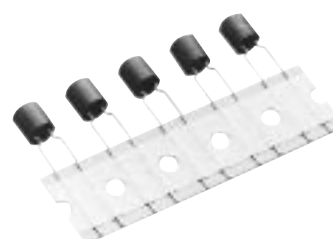
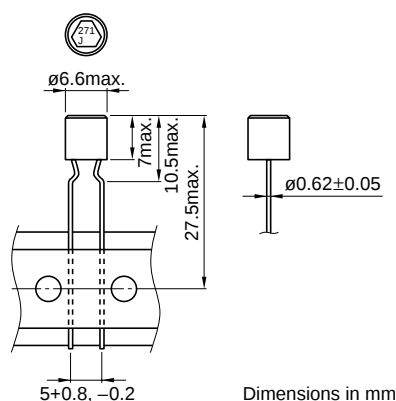
Inductors

For General Applications
Radial

ELF Series ELF0607 Type

AMMO-PACK TAPING STYLE

SHAPES AND DIMENSIONS



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current (mA)*1max.		Part No.
						Based on inductance change	Based on temperature rise	
0.22	±20, ±10%	40	25.2	390	0.15	3200	895	ELF0607RA-R22X*2
0.27	±20, ±10%	40	25.2	330	0.15	2900	895	ELF0607RA-R27X
0.33	±20, ±10%	40	25.2	280	0.15	2600	895	ELF0607RA-R33X
0.39	±20, ±10%	40	25.2	250	0.15	2400	895	ELF0607RA-R39X
0.47	±20, ±10%	40	25.2	220	0.15	2200	895	ELF0607RA-R47X
0.56	±20, ±10%	40	25.2	190	0.15	2100	895	ELF0607RA-R56X
0.68	±20, ±10%	40	25.2	170	0.15	1900	895	ELF0607RA-R68X
0.82	±20, ±10%	40	25.2	140	0.15	1700	895	ELF0607RA-R82X
1	±20, ±10%	45	7.96	120	0.17	1600	840	ELF0607RA-1R0X
1.2	±20, ±10%	50	7.96	110	0.18	1500	815	ELF0607RA-1R2X
1.5	±20, ±10%	50	7.96	90	0.2	1300	775	ELF0607RA-1R5X
1.8	±20, ±10%	50	7.96	80	0.22	1200	740	ELF0607RA-1R8X
2.2	±20, ±10%	50	7.96	68	0.25	1100	690	ELF0607RA-2R2X
2.7	±20, ±10%	50	7.96	58	0.28	1000	655	ELF0607RA-2R7X
3.3	±20, ±10%	50	7.96	50	0.31	930	622	ELF0607RA-3R3X
3.9	±20, ±10%	50	7.96	47	0.34	860	595	ELF0607RA-3R9X
4.7	±20, ±10%	50	7.96	42	0.37	790	570	ELF0607RA-4R7X
5.6	±20, ±10%	50	7.96	39	0.4	730	545	ELF0607RA-5R6X
6.8	±20, ±10%	50	7.96	35	0.45	660	515	ELF0607RA-6R8X
8.2	±20, ±10%	50	7.96	32	0.52	580	480	ELF0607RA-8R2X
10	±10, ±5%	50	2.52	29	0.55	560	465	ELF0607RA-100X
12	±10, ±5%	60	2.52	26	0.97	520	350	ELF0607RA-120X
15	±10, ±5%	60	2.52	23	1.1	470	330	ELF0607RA-150X
18	±10, ±5%	60	2.52	21	1.2	430	315	ELF0607RA-180X
22	±10, ±5%	60	2.52	19	1.3	390	300	ELF0607RA-220X
27	±10, ±5%	60	2.52	17	1.5	360	285	ELF0607RA-270X
33	±10, ±5%	60	2.52	16	1.7	330	265	ELF0607RA-330X
39	±10, ±5%	60	2.52	14	1.8	300	255	ELF0607RA-390X
47	±10, ±5%	60	2.52	13	2.1	270	240	ELF0607RA-470X
56	±10, ±5%	60	2.52	12	2.3	250	230	ELF0607RA-560X

*1 Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

*2 X: Please specify inductance tolerance, M(±20%), K(±10%) or J(±5%)

• Test equipment L, Q: YHP4340A Q METER, or equivalent

Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

SRF: TAKEDA RIKEN TR-4100 TRACKING SCOPE, or equivalent

Inductors

For General Applications

Radial

ELF Series ELF0607 Type

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current (mA)*1max.		Part No.
						Based on inductance change	Based on temperature rise	
68	$\pm 10, \pm 5\%$	60	2.52	11	2.5	230	220	ELF0607RA-680X
82	$\pm 10, \pm 5\%$	60	2.52	9.8	2.8	210	205	ELF0607RA-820X
100	$\pm 10, \pm 5\%$	55	0.796	8.9	3.1	200	195	ELF0607RA-101X
120	$\pm 10, \pm 5\%$	40	0.796	8	3.4	175	185	ELF0607RA-121X
150	$\pm 10, \pm 5\%$	40	0.796	7.2	3.9	165	175	ELF0607RA-151X
180	$\pm 10, \pm 5\%$	40	0.796	6.6	4.3	150	165	ELF0607RA-181X
220	$\pm 10, \pm 5\%$	40	0.796	6	4.7	140	160	ELF0607RA-221X
270	$\pm 10, \pm 5\%$	40	0.796	5.3	5.3	125	150	ELF0607RA-271X
330	$\pm 10, \pm 5\%$	40	0.796	4.8	6	115	140	ELF0607RA-331X
390	$\pm 10, \pm 5\%$	40	0.796	4.4	6.6	105	135	ELF0607RA-391X
470	$\pm 10, \pm 5\%$	40	0.796	4	7.4	97	125	ELF0607RA-471X
560	$\pm 10, \pm 5\%$	40	0.796	3.8	8.3	90	120	ELF0607RA-561X
680	$\pm 10, \pm 5\%$	40	0.796	3.5	13.5	82	94	ELF0607RA-681X
820	$\pm 10, \pm 5\%$	40	0.796	3.2	15.5	75	88	ELF0607RA-821X
1000	$\pm 10, \pm 5\%$	30	0.252	2.9	18	68	82	ELF0607RA-102X
1200	$\pm 10, \pm 5\%$	30	0.252	2.7	21	63	76	ELF0607RA-122X
1500	$\pm 10, \pm 5\%$	30	0.252	2.4	25	57	69	ELF0607RA-152X
1800	$\pm 10, \pm 5\%$	30	0.252	2.2	29	52	64	ELF0607RA-182X
2200	$\pm 10, \pm 5\%$	30	0.252	2	34	48	59	ELF0607RA-222X
2700	$\pm 10, \pm 5\%$	30	0.252	1.8	40	43	55	ELF0607RA-272X

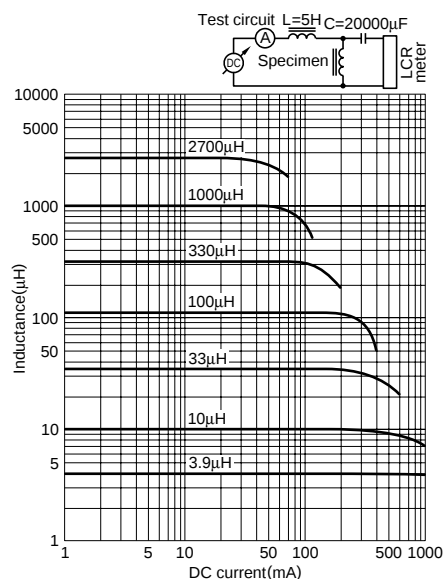
*1 Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

*2 X: Please specify inductance tolerance, K($\pm 10\%$) or J($\pm 5\%$)

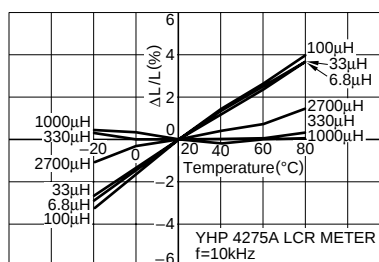
- Test equipment L, Q: YHP4340A Q METER, or equivalent
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent
SRF: TAKEDA RIKEN TR-4100 TRACKING SCOPE, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

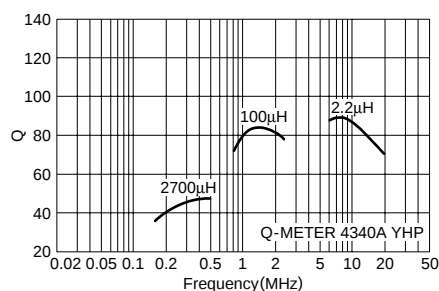
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Radial

ELF Series ELF0708 Type

FEATURES

- The ELF series inductors are available in 4 form factors ranging from 0505 to 1010.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	24.5N min.

PRODUCT IDENTIFICATION

ELF	0505	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0505	ø5.5×5.5mm (lead pitch 5mm)
0607	ø6.6×7mm (lead pitch 5mm)
0708	ø7.7×8mm (lead pitch 5mm)
1010	ø10.5×10.5mm (lead pitch 5mm)

(3)Packaging style

RA	Ammo-pack
RR	Reel

(4)Inductance value

R22	0.22μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Ammo-pack	ELF0505RA	2000 pieces
	ELF0607RA	1000 pieces
	ELF0708RA	1000 pieces
Taping	ELF1010RR	300 pieces/reel

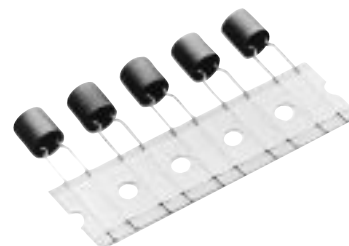
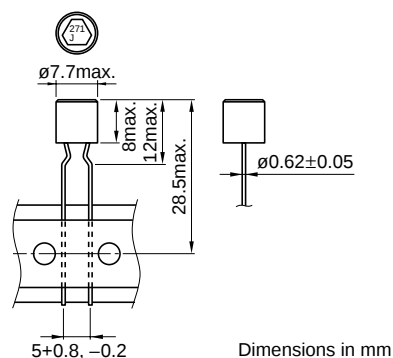
Inductors

For General Applications
Radial

ELF Series ELF0708 Type

AMMO-PACK TAPING STYLE

SHAPES AND DIMENSIONS



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self- resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current (mA)*1 max.		Part No.
						Based on inductance change	Based on temperature rise	
10	±10, ±5%	25[ref.]	2.52	23	0.19	550	795	ELF0708RA-100X*2
12	±10, ±5%	25[ref.]	2.52	19	0.2	500	775	ELF0708RA-120X
15	±10, ±5%	25[ref.]	2.52	16	0.22	450	740	ELF0708RA-150X
18	±10, ±5%	25[ref.]	2.52	14	0.24	410	705	ELF0708RA-180X
22	±10, ±5%	25[ref.]	2.52	13	0.26	380	680	ELF0708RA-220X
27	±10, ±5%	25[ref.]	2.52	12	0.28	340	655	ELF0708RA-270X
33	±10, ±5%	25[ref.]	2.52	11	0.3	310	630	ELF0708RA-330X
39	±10, ±5%	25[ref.]	2.52	10	0.33	280	605	ELF0708RA-390X
47	±10, ±5%	25[ref.]	2.52	9.4	0.35	260	585	ELF0708RA-470X
56	±10, ±5%	25[ref.]	2.52	8.7	0.48	240	500	ELF0708RA-560X
68	±10, ±5%	25[ref.]	2.52	8	0.52	215	480	ELF0708RA-680X
82	±10, ±5%	25[ref.]	2.52	7.3	0.57	200	460	ELF0708RA-820X
100	±10, ±5%	30	0.796	6.7	0.66	180	425	ELF0708RA-101X
120	±10, ±5%	30	0.796	6.2	0.75	165	400	ELF0708RA-121X
150	±10, ±5%	30	0.796	5.6	0.89	145	365	ELF0708RA-151X
180	±10, ±5%	30	0.796	5.2	1	135	345	ELF0708RA-181X
220	±10, ±5%	30	0.796	4.7	1.2	120	315	ELF0708RA-221X
270	±10, ±5%	30	0.796	4.3	1.5	110	285	ELF0708RA-271X
330	±10, ±5%	35	0.796	4	1.8	100	260	ELF0708RA-331X
390	±10, ±5%	35	0.796	3.7	2.1	92	240	ELF0708RA-391X
470	±10, ±5%	35	0.796	3.4	2.5	84	220	ELF0708RA-471X
560	±10, ±5%	35	0.796	3.1	3	76	200	ELF0708RA-561X
680	±10, ±5%	35	0.796	2.9	3.7	70	180	ELF0708RA-681X
820	±10, ±5%	35	0.796	2.7	4.4	63	165	ELF0708RA-821X
1000	±10, ±5%	40	0.252	2.4	5.6	58	145	ELF0708RA-102X
1200	±10, ±5%	40	0.252	2.2	6.8	53	135	ELF0708RA-122X
1500	±10, ±5%	40	0.252	2	9.8	47	110	ELF0708RA-152X
1800	±10, ±5%	40	0.252	1.9	11	43	105	ELF0708RA-182X
2200	±10, ±5%	40	0.252	1.7	13	40	100	ELF0708RA-222X
2700	±10, ±5%	40	0.252	1.6	17	35	85	ELF0708RA-272X
3300	±10, ±5%	30	0.252	1.4	34	33	59	ELF0708RA-332X
3900	±10, ±5%	30	0.252	1.3	38	30	56	ELF0708RA-392X

*1 Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

*2 X: Please specify inductance tolerance, K(±10%) or J(±5%)

• Test equipment L, Q: YHP4340A Q METER, or equivalent

L (Measurement frequency 1kHz): YHP4261A LCR METER or equivalent

Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

SRF: TAKEDA RIKEN TR-4100 TRACKING SCOPE, or equivalent

Inductors

For General Applications
Radial

ELF Series ELF0708 Type

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self- resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current (mA) *1max.		Part No.
						Based on inductance change	Based on temperature rise	
4700	$\pm 10, \pm 5\%$	30	0.252	1.2	44	28	52	ELF0708RA-472X*2
5600	$\pm 10, \pm 5\%$	30	0.252	1.1	51	25	49	ELF0708RA-562X
6800	$\pm 10, \pm 5\%$	30	0.252	0.97	59	23	45	ELF0708RA-682X
8200	$\pm 10, \pm 5\%$	30	0.252	0.9	68	21	42	ELF0708RA-822X
10000	$\pm 10, \pm 5\%$	25	0.001*3/ 0.0796*4	0.8	80	19	39	ELF0708RA-103X
12000	$\pm 10, \pm 5\%$	25	0.001/0.0796	0.75	92	17	36	ELF0708RA-123X
15000	$\pm 10, \pm 5\%$	25	0.001/0.0796	0.68	110	15	33	ELF0708RA-153X
18000	$\pm 10, \pm 5\%$	20	0.001/0.0796	0.6	120	14	30	ELF0708RA-183X
22000	$\pm 10, \pm 5\%$	20	0.001/0.0796	0.54	130	12	25	ELF0708RA-223X
27000	$\pm 10, \pm 5\%$	20	0.001/0.0796	0.48	160	11	20	ELF0708RA-273X
33000	$\pm 10, \pm 5\%$	20	0.001/0.0796	0.42	180	10	17	ELF0708RA-333X

*1 Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

*2 X: Please specify inductance tolerance, K($\pm 10\%$) or J($\pm 5\%$)

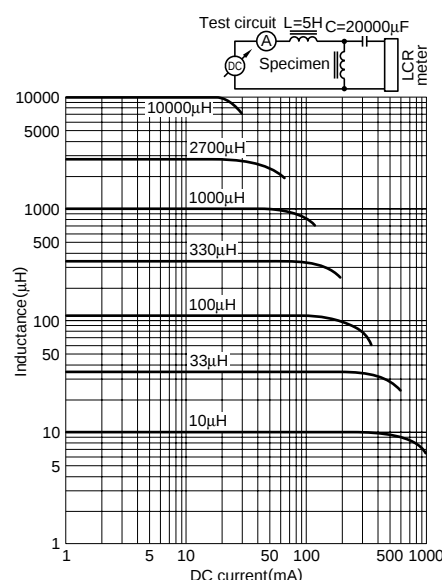
*3 for L

*4 for Q

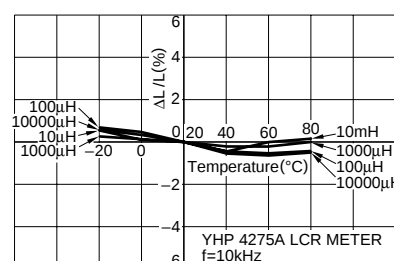
- Test equipment L (Measurement frequency 1kHz): LCR METER YHP4261A or equivalent
Q: YHP4340A Q METER, or equivalent
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent
SRF: TAKEDA RIKEN TR-4100 TRACKING SCOPE, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

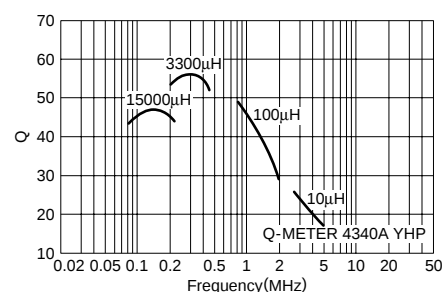
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Radial

ELF Series ELF1010 Type

FEATURES

- The ELF series inductors are available in 4 form factors ranging from 0505 to 1010.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- With a miniature winding construction, these inductors nonetheless achieve high Q characteristics.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	24.5N min.

PRODUCT IDENTIFICATION

ELF	0505	RA-	1R0	K	-3
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0505	ø5.5×5.5mm (lead pitch 5mm)
0607	ø6.6×7mm (lead pitch 5mm)
0708	ø7.7×8mm (lead pitch 5mm)
1010	ø10.5×10.5mm (lead pitch 5mm)

(3)Packaging style

RA	Ammo-pack
RR	Reel

(4)Inductance value

R22	0.22μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Ammo-pack	ELF0505RA	2000 pieces
	ELF0607RA	1000 pieces
	ELF0708RA	1000 pieces
Taping	ELF1010RR	300 pieces/reel

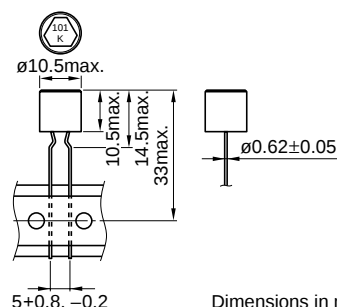
Inductors

For General Applications
Radial

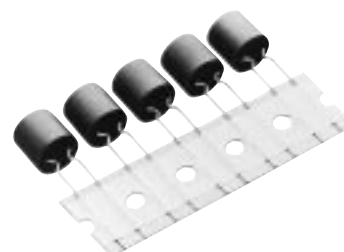
ELF Series ELF1010 Type

REEL TAPING STYLE

SHAPES AND DIMENSIONS



Dimensions in mm



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (kHz)	Self- resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current (mA)*1max.		Part No.
						Based on inductance change	Based on temperature rise	
100	±10, ±5%	50	796	4.7	0.66	580	425	ELF1010RR-101X*2
120	±10, ±5%	50	796	4.2	0.73	530	405	ELF1010RR-121X
150	±10, ±5%	50	796	3.8	0.81	470	430	ELF1010RR-151X
180	±10, ±5%	50	796	3.5	0.89	430	365	ELF1010RR-181X
220	±10, ±5%	50	796	3.1	0.98	390	350	ELF1010RR-221X
270	±10, ±5%	50	796	2.8	1.05	350	340	ELF1010RR-271X
330	±10, ±5%	50	796	2.6	1.15	320	325	ELF1010RR-331X
390	±10, ±5%	50	796	2.4	1.5	290	285	ELF1010RR-391X
470	±10, ±5%	50	796	2.2	1.65	270	270	ELF1010RR-471X
560	±10, ±5%	40	796	2	1.9	245	250	ELF1010RR-561X
680	±10, ±5%	40	796	1.8	2.2	220	235	ELF1010RR-681X
820	±10, ±5%	40	796	1.6	2.6	200	215	ELF1010RR-821X
1000	±10, ±5%	60	252	1.5	3	180	200	ELF1010RR-102X
1200	±10, ±5%	60	252	1.4	3.4	170	190	ELF1010RR-122X
1500	±10, ±5%	60	252	1.2	4	150	175	ELF1010RR-152X
1800	±10, ±5%	60	252	1.1	4.6	135	160	ELF1010RR-182X
2200	±10, ±5%	60	252	1	5.4	125	150	ELF1010RR-222X
2700	±10, ±5%	60	252	0.9	6.9	110	130	ELF1010RR-272X
3300	±10, ±5%	60	1*3/252*4	0.81	8.2	100	120	ELF1010RR-332X
3900	±10, ±5%	60	1/252	0.75	11	92	105	ELF1010RR-392X
4700	±10, ±5%	60	1/252	0.68	14	84	93	ELF1010RR-472X
5600	±10, ±5%	60	1/252	0.63	19	77	79	ELF1010RR-562X
6800	±10, ±5%	60	1/252	0.57	22	70	74	ELF1010RR-682X
8200	±10, ±5%	60	1/252	0.52	25	63	69	ELF1010RR-822X
10000	±10, ±5%	40	1/79.6	0.47	34	57	59	ELF1010RR-103X
12000	±10, ±5%	40	1/79.6	0.43	38	53	56	ELF1010RR-123X
15000	±10, ±5%	40	1/79.6	0.38	43	47	53	ELF1010RR-153X
18000	±10, ±5%	40	1/79.6	0.34	47	43	51	ELF1010RR-183X
22000	±10, ±5%	40	1/79.6	0.31	65	39	43	ELF1010RR-223X
27000	±10, ±5%	40	1/79.6	0.28	74	35	40	ELF1010RR-273X
33000	±10, ±5%	40	1/79.6	0.25	115	32	32	ELF1010RR-333X
39000	±10, ±5%	40	1/79.6	0.23	125	29	31	ELF1010RR-393X
47000	±10, ±5%	40	1/79.6	0.22	145	26	29	ELF1010RR-473X

*1 Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

*2 X: Please specify inductance tolerance, K(±10%) or J(±5%)

*3 for L

*4 for Q

- ELF1010(100μH to 2.7mH) L, Q, Rdc, SRF: are the same as ELF0505, 0607 and 0708
- ELF1010(3.3 to 100mH) L: LCR METER MODEL 4261A YHP, or equivalent Q, Rdc, SRF: are the same as ELF0505, 0607 and 0708
- L measuring instrument differs from others, because measurement frequency is 1kHz.

Inductors

For General Applications

Radial

ELF Series ELF1010 Type

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (kHz)	Self-resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current (mA)*1max.		Part No.
						Based on inductance change	Based on temperature rise	
56000	±10, ±5%	40	1*3/79.6*4	0.2	190	24	25	ELF1010RR-563X*2
68000	±10, ±5%	30	1/79.6	0.18	215	22	24	ELF1010RR-683X
82000	±10, ±5%	30	1/79.6	0.17	290	20	20	ELF1010RR-823X
100000	±10, ±5%	30	1/79.6	0.15	330	18	19	ELF1010RR-104X

*1 Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

*2 X: Please specify inductance tolerance, K(±10%) or J(±5%)

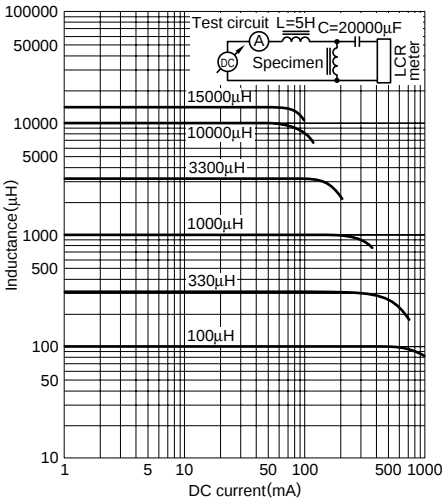
*3 for L

*4 for Q

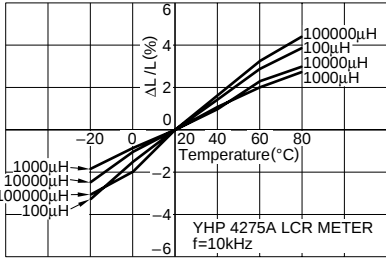
- ELF1010(100μH to 2.7mH) L, Q, Rdc, SRF: are the same as ELF0505, 0607 and 0708
- ELF1010(3.3 to 100mH) L:LCR METER MODEL 4261A YHP, or equivalent Q, Rdc, SRF:are the same as ELF0505, 0607 and 0708
- L measuring instrument differs from others, because measurement frequency is 1kHz.

TYPICAL ELECTRICAL CHARACTERISTICS

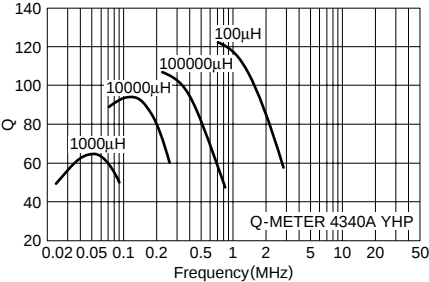
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications

Axial

SP Series SP0203 Type

FEATURES

- The SP series inductors are available in 3 form factors ranging from 0203 to 0406.
- These are coaxial horizontal types, highly miniaturized and light-weight.
- Epoxy resin construction assures high reliability.
- Available in ammo-pack style tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	SP0203: 9.8N min. SP0305: 9.8N min. SP0406: 24.5N min.

PRODUCT IDENTIFICATION

SP					
SPT	0203	SA-	1R0	J	-7
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

SP	Bulk
SPT	Taping (ammo-pack)

(2)Dimensions

0203	ø2.4×3.4mm
0305	ø2.8×7mm
0406	ø4.2×9.5mm

(3)Packaging style

SA	Dimensions in between tapes 26mm (Standard products)
A	Dimensions in between tapes 52mm

(4)Inductance value

R10	0.1μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

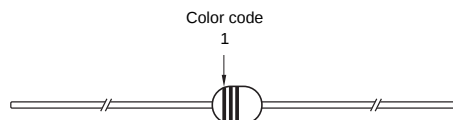
PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SPT0203	2000 pieces/box
(Ammo-pack)	SPT0305	2000 pieces/box
	SPT0406	1000 pieces/box

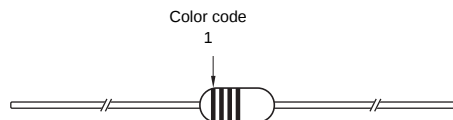
COLOR CODE MARKINGS (from left)

- 1: The first effective number
- 2: The second effective number
- 3: Multiplier
- 4: Inductance tolerance(SP0203 is omitted)

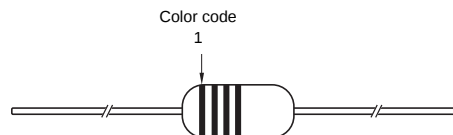
SP0203



SP0305



SP0406



Color code table

Color	Effective number	Multiplier	Inductance tolerance
Black	0	1	±20%
Brown	1	10	—
Red	2	100	—
Orange	3	1000	—
Yellow	4	—	—
Green	5	—	—
Blue	5	—	—
Purple	7	—	—
Gray	8	—	—
White	9	—	—
Silver	—	0.01	±10%
Gold	—	0.1	±5%

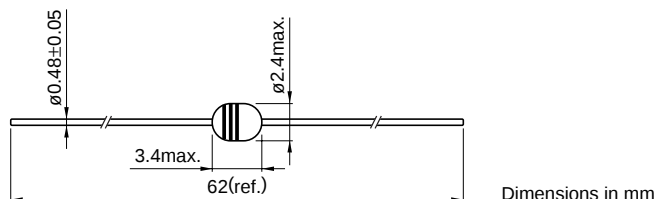
- According to JIS-C-0801

Inductors

For General Applications
Axial

SP Series SP0203 Type

SHAPES AND DIMENSIONS



CHARACTERISTICS

Operating temperature range	–20 to +80°C [Including self-temperature rise, 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on temperature rise
Terminal tensile strength	9.8N min.
Terminal bending strength	2.94N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 20\%$

ELECTRICAL CHARACTERISTICS

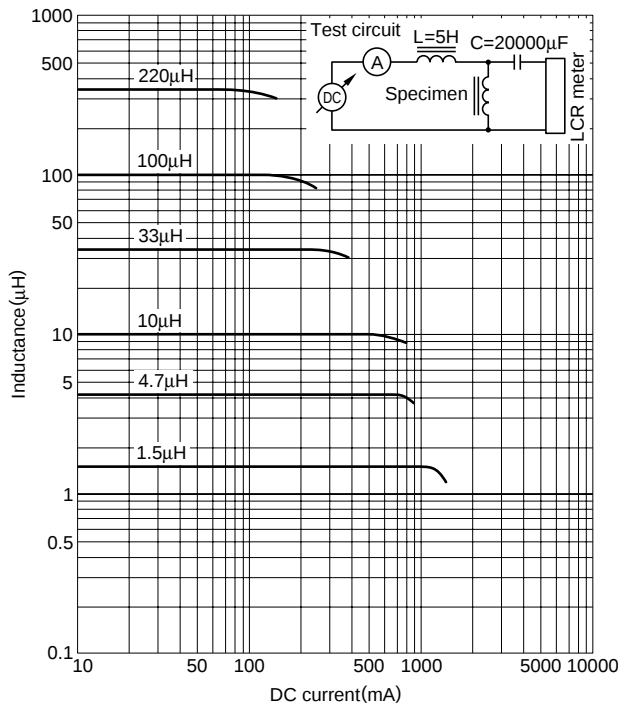
Inductance (μ H)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.1	$\pm 10\%$	40	25.2	600	0.16	800	SP0203-R10K-7
0.12	$\pm 10\%$	40	25.2	520	0.16	800	SP0203-R12K-7
0.15	$\pm 10\%$	40	25.2	500	0.16	790	SP0203-R15K-7
0.18	$\pm 10\%$	40	25.2	480	0.18	745	SP0203-R18K-7
0.22	$\pm 10\%$	40	25.2	420	0.2	705	SP0203-R22K-7
0.27	$\pm 10\%$	40	25.2	390	0.22	670	SP0203-R27K-7
0.33	$\pm 10\%$	40	25.2	350	0.24	645	SP0203-R33K-7
0.39	$\pm 10\%$	50	25.2	320	0.27	605	SP0203-R39K-7
0.47	$\pm 10\%$	50	25.2	300	0.3	575	SP0203-R47K-7
0.56	$\pm 10\%$	50	25.2	280	0.34	540	SP0203-R56K-7
0.68	$\pm 10\%$	50	25.2	240	0.38	510	SP0203-R68K-7
0.82	$\pm 10\%$	50	25.2	210	0.43	480	SP0203-R82K-7
1	$\pm 10\%$	50	25.2	190	0.46	465	SP0203-1R0K-7
1.2	$\pm 5\%$	50	7.96	110	0.52	435	SP0203-1R2J-7
1.5	$\pm 5\%$	50	7.96	80	0.57	415	SP0203-1R5J-7
1.8	$\pm 5\%$	50	7.96	66	0.6	405	SP0203-1R8J-7
2.2	$\pm 5\%$	50	7.96	60	0.65	390	SP0203-2R2J-7
2.7	$\pm 5\%$	50	7.96	54	0.73	370	SP0203-2R7J-7
3.3	$\pm 5\%$	50	7.96	48	0.82	345	SP0203-3R3J-7
3.9	$\pm 5\%$	50	7.96	44	0.9	330	SP0203-3R9J-7
4.7	$\pm 5\%$	50	7.96	38	1	315	SP0203-4R7J-7
5.6	$\pm 5\%$	50	7.96	34	1.1	300	SP0203-5R6J-7
6.8	$\pm 5\%$	50	7.96	30	1.2	285	SP0203-6R8J-7
8.2	$\pm 5\%$	50	7.96	26	1.3	275	SP0203-8R2J-7
10	$\pm 5\%$	50	7.96	24	1.4	265	SP0203-100J-7
12	$\pm 5\%$	50	2.52	22	1.5	255	SP0203-120J-7
15	$\pm 5\%$	50	2.52	20	1.65	245	SP0203-150J-7
18	$\pm 5\%$	50	2.52	18	1.9	225	SP0203-180J-7
22	$\pm 5\%$	50	2.52	17	2.2	210	SP0203-220J-7
27	$\pm 5\%$	50	2.52	16	2.5	200	SP0203-270J-7
33	$\pm 5\%$	50	2.52	14	3.8	160	SP0203-330J-7
39	$\pm 5\%$	50	2.52	13	4.2	150	SP0203-390J-7
47	$\pm 5\%$	50	2.52	12	4.6	145	SP0203-470J-7
56	$\pm 5\%$	40	2.52	11	5.1	140	SP0203-560J-7
68	$\pm 5\%$	40	2.52	10	5.6	130	SP0203-680J-7
82	$\pm 5\%$	40	2.52	9.5	9.6	100	SP0203-820J-7
100	$\pm 5\%$	40	2.52	8	10.8	95	SP0203-101J-7
120	$\pm 5\%$	40	0.796	6.5	12.5	85	SP0203-121J-7
150	$\pm 5\%$	40	0.796	6	14.5	80	SP0203-151J-7
180	$\pm 5\%$	40	0.796	5.5	16.3	75	SP0203-181J-7
220	$\pm 5\%$	40	0.796	5	20	70	SP0203-221J-7

Inductors

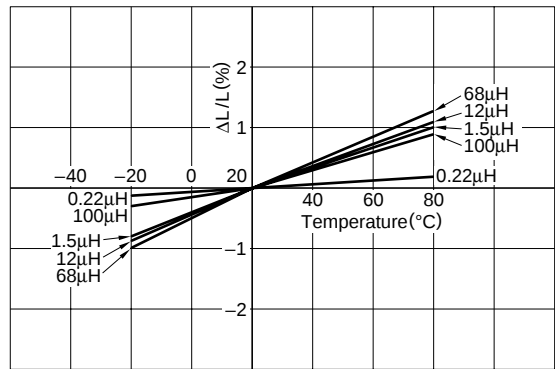
For General Applications
Axial

SP Series SP0203 Type

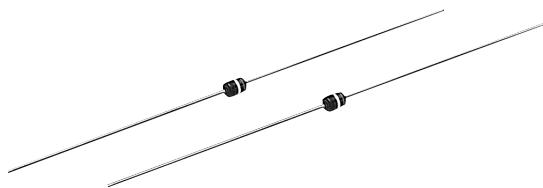
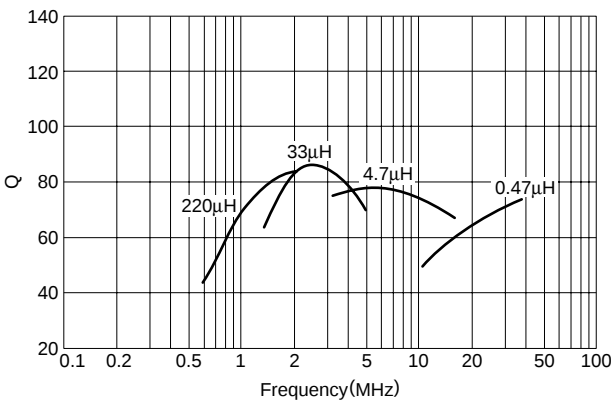
TYPICAL ELECTRICAL CHARACTERISTICS INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications Axial

SP Series SP0305 Type

FEATURES

- The SP series inductors are available in 3 form factors ranging from 0203 to 0406.
- These are coaxial horizontal types, highly miniaturized and light-weight.
- Epoxy resin construction assures high reliability.
- Available in ammo-pack style tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	SP0203: 9.8N min. SP0305: 9.8N min. SP0406: 24.5N min.

PRODUCT IDENTIFICATION

SP						
SPT	0203	SA-	1R0	J	-7	
(1)	(2)	(3)	(4)	(5)	(6)	

(1)Series name

SP	Bulk
SPT	Taping (ammo-pack)

(2)Dimensions

0203	ø2.4×3.4mm
0305	ø2.8×7mm
0406	ø4.2×9.5mm

(3)Packaging style

SA	Dimensions in between tapes 26mm (Standard products)
A	Dimensions in between tapes 52mm

(4)Inductance value

R10	0.1μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

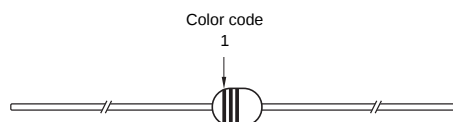
PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SPT0203	2000 pieces/box
(Ammo-pack)	SPT0305	2000 pieces/box
	SPT0406	1000 pieces/box

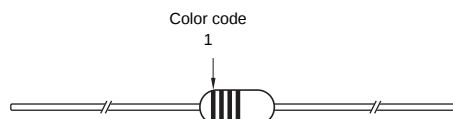
COLOR CODE MARKINGS (from left)

- 1: The first effective number
- 2: The second effective number
- 3: Multiplier
- 4: Inductance tolerance(SP0203 is omitted)

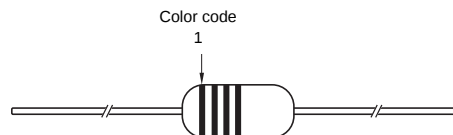
SP0203



SP0305



SP0406



Color code table

Color	Effective number	Multiplier	Inductance tolerance
Black	0	1	±20%
Brown	1	10	—
Red	2	100	—
Orange	3	1000	—
Yellow	4	—	—
Green	5	—	—
Blue	5	—	—
Purple	7	—	—
Gray	8	—	—
White	9	—	—
Silver	—	0.01	±10%
Gold	—	0.1	±5%

- According to JIS-C-0801

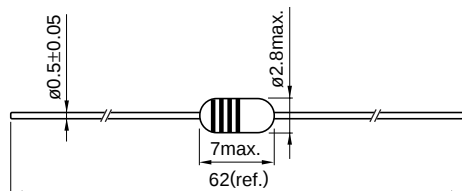
Inductors

For General Applications

Axial

SP Series SP0305 Type

SHAPES AND DIMENSIONS



Dimensions in mm

CHARACTERISTICS

Operating temperature range	−20 to +80°C [Including self-temperature rise, 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on temperature rise
Terminal tensile strength	9.8N min.
Terminal bending strength	2.94N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 20\%$

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.22	±10%	40	25.2	380	0.075	1150	SP0305-R22K-2
0.27	±10%	40	25.2	360	0.08	1110	SP0305-R27K-2
0.33	±10%	40	25.2	350	0.08	1110	SP0305-R33K-2
0.39	±10%	40	25.2	320	0.09	1000	SP0305-R39K-2
0.47	±10%	40	25.2	300	0.1	1000	SP0305-R47K-2
0.56	±10%	40	25.2	280	0.11	950	SP0305-R56K-2
0.68	±10%	40	25.2	250	0.12	900	SP0305-R68K-2
0.82	±10%	40	25.2	200	0.13	875	SP0305-R82K-2
1	±10%	40	25.2	180	0.15	815	SP0305-1R0K-2
1.2	±10%	40	7.96	165	0.18	740	SP0305-1R2K-2
1.5	±10%	45	7.96	150	0.2	700	SP0305-1R5K-2
1.8	±10%	50	7.96	125	0.23	655	SP0305-1R8K-2
2.2	±10%	50	7.96	110	0.25	630	SP0305-2R2K-2
2.7	±10%	50	7.96	95	0.28	595	SP0305-2R7K-2
3.3	±10%	50	7.96	70	0.3	575	SP0305-3R3K-2
3.9	±10%	45	7.96	65	0.32	555	SP0305-3R9K-2
4.7	±10%	45	7.96	50	0.35	530	SP0305-4R7K-2
5.6	±10%	45	7.96	40	0.4	500	SP0305-5R6K-2
6.8	±10%	40	7.96	30	0.45	470	SP0305-6R8K-2
8.2	±10%	40	7.96	28	0.55	425	SP0305-8R2K-2
10	±10%	40	7.96	22	0.72	370	SP0305-100K-2
12	±10%	45	2.52	20	0.8	350	SP0305-120K-2
15	±10%	50	2.52	16	0.88	335	SP0305-150K-2
18	±10%	50	2.52	15	1	315	SP0305-180K-2
22	±10%	50	2.52	13	1.2	285	SP0305-220K-2
27	±10%	50	2.52	11	1.35	270	SP0305-270K-2
33	±10%	50	2.52	10	1.5	255	SP0305-330K-2
39	±10%	50	2.52	9.5	1.7	240	SP0305-390K-2
47	±10%	60	2.52	8.5	2.3	205	SP0305-470K-2
56	±10%	60	2.52	7.5	2.6	195	SP0305-560K-2
68	±10%	60	2.52	6.5	2.9	185	SP0305-680K-2
82	±10%	60	2.52	6	3.2	175	SP0305-820K-2
100	±10%	60	2.52	5.5	3.5	165	SP0305-101K-2
120	±10%	60	0.796	5.4	3.8	160	SP0305-121K-2
150	±10%	60	0.796	4.75	4.4	150	SP0305-151K-2
180	±10%	60	0.796	4.35	5	140	SP0305-181K-2
220	±10%	60	0.796	4	5.7	130	SP0305-221K-2
270	±10%	60	0.796	3.7	6.5	120	SP0305-271K-2
330	±10%	60	0.796	3.4	9.5	100	SP0305-331K-2
390	±10%	60	0.796	2.8	10.5	95	SP0305-391K-2
470	±10%	60	0.796	2.55	11.6	90	SP0305-471K-2
560	±10%	60	0.796	2.35	13	85	SP0305-561K-2
680	±10%	60	0.796	2	18	75	SP0305-681K-2
820	±10%	60	0.796	1.5	23	65	SP0305-821K-2
1000	±10%	60	0.796	1.2	26	60	SP0305-102K-2

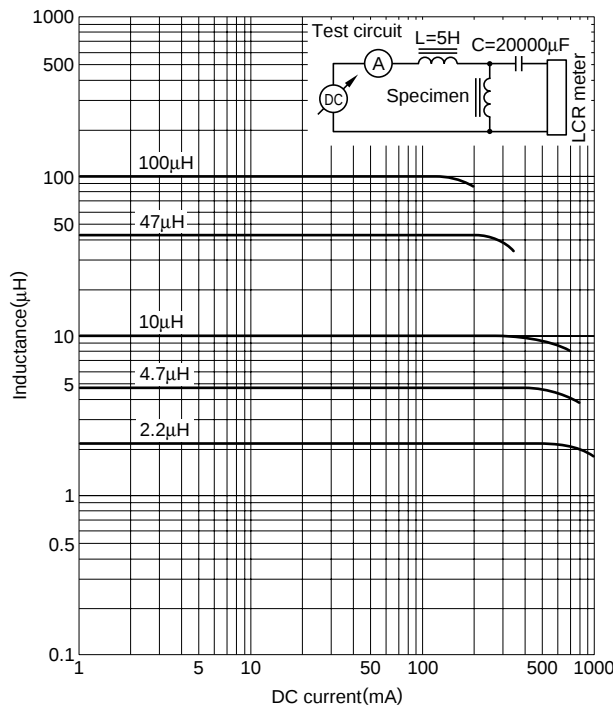
Inductors

For General Applications
Axial

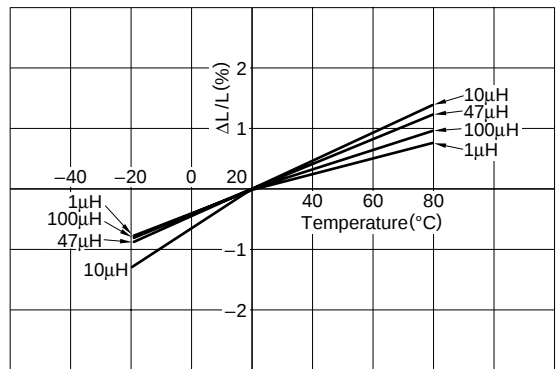
SP Series SP0305 Type

TYPICAL ELECTRICAL CHARACTERISTICS

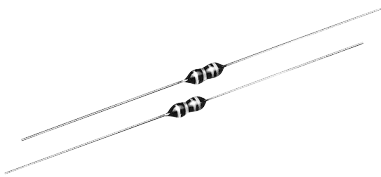
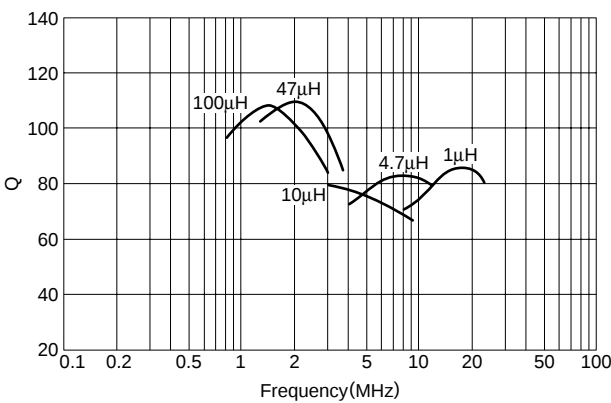
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For General Applications

Axial

SP Series SP0406 Type

FEATURES

- The SP series inductors are available in 3 form factors ranging from 0203 to 0406.
- These are coaxial horizontal types, highly miniaturized and light-weight.
- Epoxy resin construction assures high reliability.
- Available in ammo-pack style tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	SP0203: 9.8N min. SP0305: 9.8N min. SP0406: 24.5N min.

PRODUCT IDENTIFICATION

SP					
SPT	0203	SA-	1R0	J	-7
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

SP	Bulk
SPT	Taping (ammo-pack)

(2)Dimensions

0203	ø2.4×3.4mm
0305	ø2.8×7mm
0406	ø4.2×9.5mm

(3)Packaging style

SA	Dimensions in between tapes 26mm (Standard products)
A	Dimensions in between tapes 52mm

(4)Inductance value

R10	0.1μH
1R0	1μH

(5)Inductance tolerance

J	±5%
K	±10%

(6)TDK internal code

(Some products may not have this number. See the main body for details.)

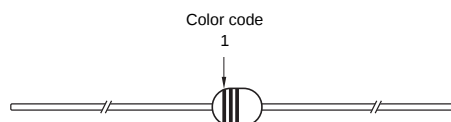
PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SPT0203	2000 pieces/box
(Ammo-pack)	SPT0305	2000 pieces/box
	SPT0406	1000 pieces/box

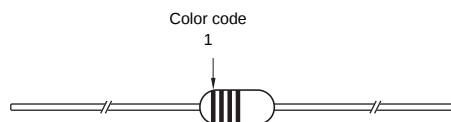
COLOR CODE MARKINGS (from left)

- 1: The first effective number
- 2: The second effective number
- 3: Multiplier
- 4: Inductance tolerance(SP0203 is omitted)

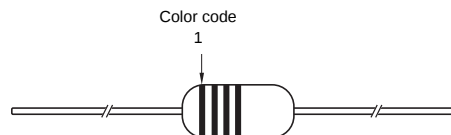
SP0203



SP0305



SP0406



Color code table

Color	Effective number	Multiplier	Inductance tolerance
Black	0	1	±20%
Brown	1	10	—
Red	2	100	—
Orange	3	1000	—
Yellow	4	—	—
Green	5	—	—
Blue	5	—	—
Purple	7	—	—
Gray	8	—	—
White	9	—	—
Silver	—	0.01	±10%
Gold	—	0.1	±5%

- According to JIS-C-0801

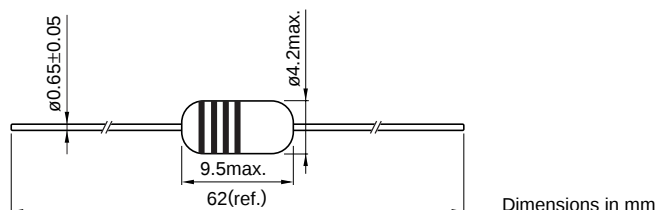
Inductors

For General Applications

Axial

SP Series SP0406 Type

SHAPES AND DIMENSIONS



CHARACTERISTICS

Operating temperature range	−20 to +80°C [Including self-temperature rise, 20°C max.]
Withstand voltage Erms	250V
Rated current	Based on temperature rise
Terminal tensile strength	24.5N min.
Terminal bending strength	4.9N min.
Moisture resistance	$\Delta L/L \leq 5\%$ $\Delta Q/Q \leq 20\%$

ELECTRICAL CHARACTERISTICS

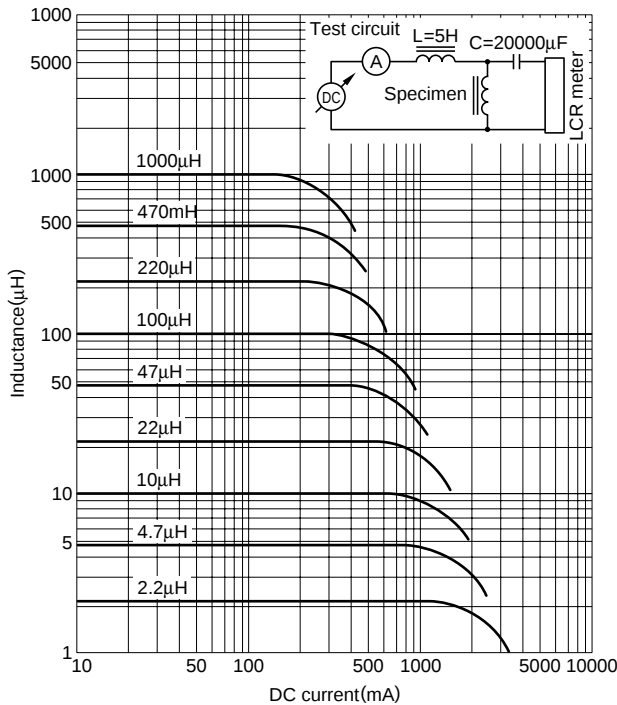
Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
0.22	±10%	25	25.2	380	0.21	880	SP0406-R22K-6Z
0.27	±10%	25	25.2	340	0.24	800	SP0406-R27K-6Z
0.33	±10%	25	25.2	300	0.28	750	SP0406-R33K-6Z
0.39	±10%	25	25.2	280	0.32	680	SP0406-R39K-6Z
0.47	±10%	25	25.2	250	0.36	650	SP0406-R47K-6Z
0.56	±10%	25	25.2	230	0.41	600	SP0406-R56K-6Z
0.68	±10%	25	25.2	210	0.47	550	SP0406-R68K-6Z
0.82	±10%	45	25.2	172	0.17	980	SP0406-R82K-6
1	±10%	45	25.2	157	0.19	920	SP0406-1R0K-6
1.2	±10%	50	7.96	144	0.21	880	SP0406-1R2K-6
1.5	±10%	50	7.96	131	0.23	830	SP0406-1R5K-6
1.8	±10%	55	7.96	121	0.25	790	SP0406-1R8K-6
2.2	±10%	55	7.96	110	0.28	750	SP0406-2R2K-6
2.7	±10%	60	7.96	100	0.3	720	SP0406-2R7K-6
3.3	±10%	65	7.96	94	0.34	670	SP0406-3R3K-6
3.9	±10%	65	7.96	86	0.37	640	SP0406-3R9K-6
4.7	±10%	70	7.96	80	0.39	620	SP0406-4R7K-6
5.6	±10%	70	7.96	74	0.43	590	SP0406-5R6K-6
6.8	±10%	75	7.96	68	0.48	550	SP0406-6R8K-6
8.2	±10%	80	7.96	53	0.52	530	SP0406-8R2K-6
10	±10%	85	7.96	45	0.58	500	SP0406-100K-6
12	±10%	75	2.52	34	0.63	480	SP0406-120K-6
15	±10%	70	2.52	20	0.72	460	SP0406-150K-6
18	±10%	65	2.52	14	0.77	430	SP0406-180K-6
22	±10%	60	2.52	9.9	0.84	410	SP0406-220K-6
27	±10%	55	2.52	7.6	0.94	390	SP0406-270K-6
33	±10%	55	2.52	6.3	1.03	370	SP0406-330K-6
39	±10%	50	2.52	6.3	1.12	350	SP0406-390K-6
47	±10%	45	2.52	6.3	1.22	340	SP0406-470K-6
56	±10%	40	2.52	6.2	1.34	320	SP0406-560K-6
68	±10%	40	2.52	5.7	1.47	305	SP0406-680K-6
82	±10%	35	2.52	5.3	1.62	290	SP0406-820K-6
100	±10%	30	2.52	4.8	1.8	275	SP0406-101K-6
120	±10%	70	0.796	3.8	3.7	185	SP0406-121K-6
150	±10%	70	0.796	3.5	4.2	175	SP0406-151K-6
180	±10%	70	0.796	3.3	4.6	165	SP0406-181K-6
220	±10%	70	0.796	3	5.1	155	SP0406-221K-6
270	±10%	65	0.796	2.8	5.8	145	SP0406-271K-6
330	±10%	65	0.796	2.6	6.4	137	SP0406-331K-6
390	±10%	65	0.796	2.4	7	133	SP0406-391K-6
470	±10%	60	0.796	2.25	7.7	126	SP0406-471K-6
560	±10%	60	0.796	2.1	8.5	120	SP0406-561K-6
680	±10%	55	0.796	1.95	9.4	113	SP0406-681K-6
820	±10%	55	0.796	1.85	10.5	100	SP0406-821K-6
1000	±10%	50	0.796	1.7	12	100	SP0406-102K-6

Inductors

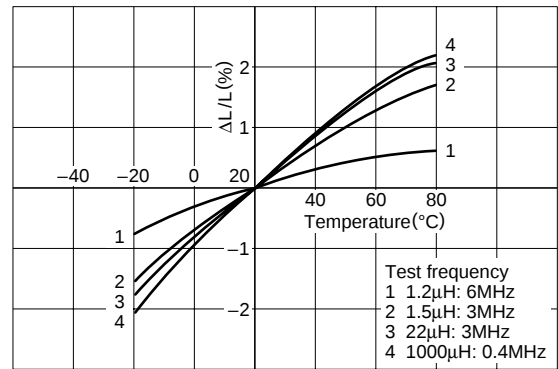
For General Applications
Axial

SP Series SP0406 Type

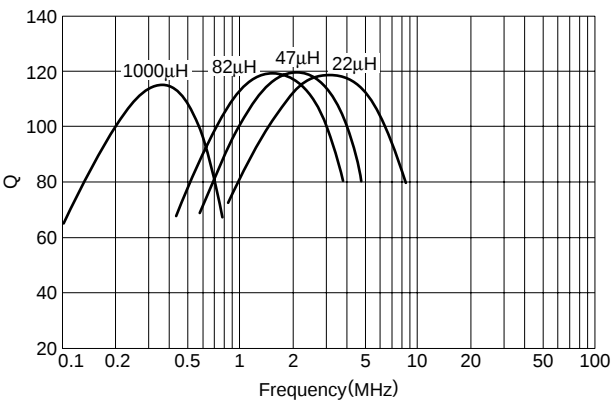
TYPICAL ELECTRICAL CHARACTERISTICS INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line

Axial

SP Series SP0508 Type

FEATURES

- These inductors feature low DC resistance and high current handling capacities, making them ideal for power supply line applications.
- These are coaxial horizontal types, highly miniaturized and lightweight.
- Available in ammo-pack style tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Type	Inductance	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]	Terminal tensile strength
SP0508	1 to 4700 μ H	-20 to +85°C	-40 to +85°C	24.5N min.

PRODUCT IDENTIFICATION

SP						
SPT	0508	A-	1R0	K	-3R8	-X
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1)Series name (Taping products are standard)

SP	Bulk
SPT	Taping

(2)Dimensions

0508	$\phi 4.5 \times 14$ mm
------	-------------------------

(3)Packaging style

A	Dimensions in between tapes 52mm
No code	Bulk

(4)Inductance value

1R0	1 μ H
101	100 μ H

(5)Inductance tolerance

K	$\pm 10\%$
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(6)Rated current

3R8	3.8A
R70	0.7A

(7)TDK internal code

(Some products may not have this number. See the main body for details).

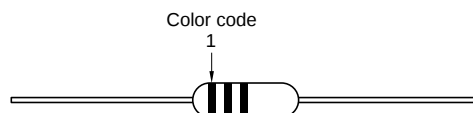
PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping (Ammo-pack)	SPT0508A	1000 pieces/box
Bulk	SP0508	200 pieces/pack

COLOR CODE MARKINGS (from left)

- 1: The first effective number
- 2: The second effective number
- 3: Multiplier

SP0508 TYPE



Color code table

Color	Effective number	Multiplier	Inductance tolerance
Black	0	1	$\pm 20\%$
Brown	1	10	—
Red	2	100	—
Orange	3	1000	—
Yellow	4	—	—
Green	5	—	—
Blue	6	—	—
Purple	7	—	—
Gray	8	—	—
White	9	—	—
Silver	—	0.01	$\pm 10\%$
Gold	—	0.1	$\pm 5\%$

- According to JIS-C-0801

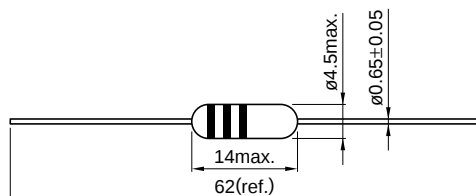
Inductors

For Power Line

Axial

SP Series SP0508 Type

SHAPES AND DIMENSIONS



Dimensions in mm

CHARACTERISTICS

Operating temperature range	–20 to +85°C [Including self-temperature rise]
Storage temperature range	–40 to +85°C
Terminal bending strength	24.5N min.
Moisture resistance	$\Delta L/L \leq \pm 10\%$ $\Delta Q/Q \leq \pm 25\%$

ELECTRICAL CHARACTERISTICS

Inductance (μ H)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self- resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current(mA)*max.		Part No.
						Based on inductance change	Based on temperature rise	
1	±10%	10	7.96	300	0.022	5600	3800	SP0508-1R0K3R8
1.2	±10%	10	7.96	260	0.024	5500	3700	SP0508-1R2K3R7
1.5	±10%	10	7.96	250	0.026	5000	3600	SP0508-1R5K3R6
1.8	±10%	10	7.96	240	0.029	4700	3100	SP0508-1R8K3R1
2.2	±10%	10	7.96	220	0.031	4500	2900	SP0508-2R2K2R9
2.7	±10%	10	7.96	195	0.034	4000	2700	SP0508-2R7K2R7
3.3	±10%	10	7.96	155	0.038	3400	2600	SP0508-3R3K2R6
3.9	±10%	10	7.96	115	0.04	3100	2500	SP0508-3R9K2R5
4.7	±10%	10	7.96	85	0.044	2800	2400	SP0508-4R7K2R4
5.6	±10%	10	7.96	55	0.048	2600	2100	SP0508-5R6K2R1
6.8	±10%	10	7.96	50	0.051	2400	2000	SP0508-6R8K2R0
8.2	±10%	10	7.96	38	0.056	2200	1950	SP0508-8R2K2R0
10	±10%	10	7.96	24	0.062	2100	1900	SP0508-100K1R9
12	±10%	10	2.52	18	0.076	1800	1800	SP0508-120K1R8
15	±10%	10	2.52	16	0.088	1700	1700	SP0508-150K1R7
18	±10%	10	2.52	15	0.11	1600	1600	SP0508-180K1R6
22	±10%	10	2.52	14	0.13	1400	1550	SP0508-220K1R4
27	±10%	10	2.52	13	0.14	1300	1300	SP0508-270K1R3
33	±10%	10	2.52	11	0.2	1200	1200	SP0508-330K1R2
39	±10%	10	2.52	10	0.22	1100	1000	SP0508-390K1R0
43	±10%	10	2.52	9.5	0.28	1000	950	SP0508-430K1R0
47	±10%	10	2.52	9.5	0.28	1000	950	SP0508-470KR95
56	±10%	10	2.52	8	0.3	900	900	SP0508-560KR90
68	±10%	10	2.52	7.5	0.34	800	800	SP0508-680KR80
82	±10%	10	2.52	7	0.385	700	750	SP0508-820KR70
100	±10%	10	2.52	6.5	0.48	700	700	SP0508-101KR70
120	±10%	15	0.796	5	0.595	600	600	SP0508-121KR60
150	±10%	15	0.796	4.5	0.9	550	500	SP0508-151KR50
180	±10%	15	0.796	4	1.1	500	400	SP0508-181KR40

* Rated current: Value obtained when current flows and the temperature has risen to 25°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

- Product's part No. is changed as below by packaging style.
Bulk: SP0508-1R0K3R8, Taping (52mm): SPT0508A-1R0K3R8

Test equipment

L: YHP4194A IMPEDANCE/GAIN-PHASE ANALYZER+HP16047D+TEST FIXTURE
Q: YHP4340A Q-METER(TF-A terminal)
SRF: HP8753C NETWORK ANALYZER+HP85047A S-PARAMETER TEST SET
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER



Inductors

For Power Line

Axial

SP Series SP0508 Type

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)ref.	DC resistance (Ω)max.	Rated current(mA)*max. Based on inductance change	Based on temperature rise	Part No.
220	±10%	15	0.796	3.8	1.25	440	390	SP0508-221KR39
270	±10%	15	0.796	3.5	1.85	420	330	SP0508-271KR33
330	±10%	15	0.796	3	2.1	380	310	SP0508-331KR31
390	±10%	15	0.796	2.8	2.28	340	300	SP0508-391KR30
470	±10%	15	0.796	2.5	3.22	320	280	SP0508-471KR28
560	±10%	15	0.796	2.2	3.85	290	270	SP0508-561KR27
680	±10%	15	0.796	2.1	4	260	240	SP0508-681KR24
820	±10%	15	0.796	2	5	250	230	SP0508-821KR23
1000	±10%	15	0.796	1.8	5.8	240	190	SP0508-102KR19
1200	±10%	15	0.252	1.6	7.1	200	180	SP0508-122KR18
1500	±10%	15	0.252	1.5	7.8	190	170	SP0508-152KR17
4700	±10%	50	0.252	0.7	30	120	100	SP0508-472KR10

* Rated current: Value obtained when current flows and the temperature has risen to 25°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

• Product's part No. is changed as below by packaging style.

Bulk: SP0508-1R0K3R8, Taping (52mm): SPT0508A-1R0K3R8

• Test equipment

L: YHP4194A IMPEDANCE/GAIN-PHASE ANALYZER+HP16047D+TEST FIXTURE

Q: YHP4340A Q-METER (TF-A terminal)

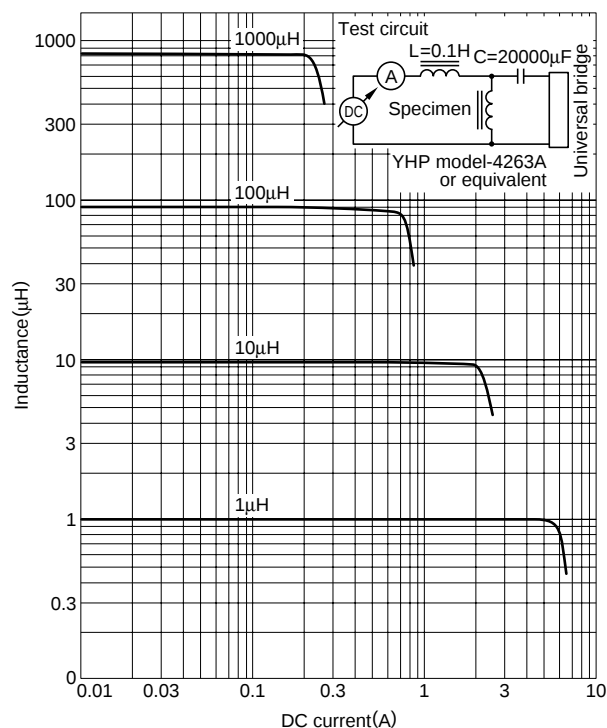
SRF: HP8753C NETWORK ANALYZER+HP85047A S-PARAMETER TEST SET

Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

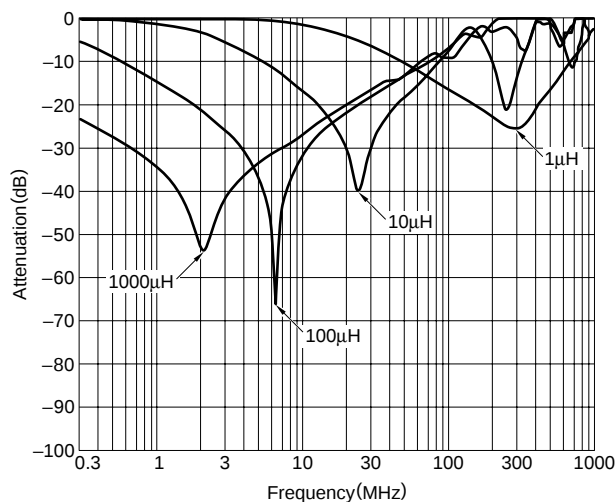
TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION

CHARACTERISTICS



ATTENUATION vs. FREQUENCY CHARACTERISTICS



Inductors

For High Frequency SMD

MLG Series MLG1608 Type

FEATURES

- Supports operating frequency bands of up to 10GHz with nominal inductance values from 1 to 100nH.
- Provides high Q characteristics.
- Advanced monolithic structure is formed using a lamination and firing process with high-frequency ceramic and conductive materials.

APPLICATIONS

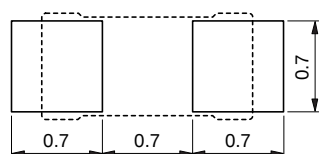
For high-frequency applications including mobile phones, portable phones, cordless phones, pagers and personal handy-phone systems (PHS).

SHAPES AND DIMENSIONS



Weight: 4mg

RECOMMENDED PC BOARD PATTERN

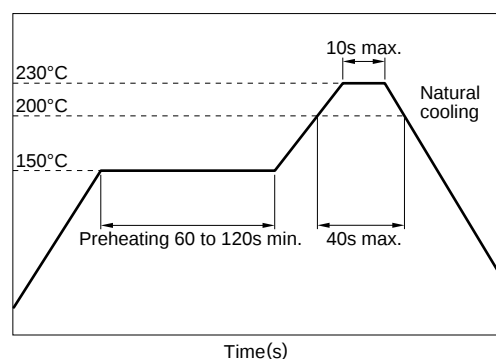


Dimensions in mm

SPECIFICATIONS

Operating temperature range	-25 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

MLG	1608	B	2N2	S	T
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions L×W

1608	1.6×0.8mm
------	-----------

(3) Material code

(4) Inductance value

2N2	2.2nH
12N	12nH
39N	39nH

(5) Inductance tolerance

S	±0.3nH
D	±0.5nH
J	±5%

(6) Packaging style

T	Taping (reel)
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PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	4000 pieces/reel

HANDLING AND PRECAUTIONS

- Before soldering, be sure to preheat components.
The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 260°C. Soldering time should not exceed 3 seconds.

Inductors

For High Frequency SMD

MLG Series MLG1608 Type

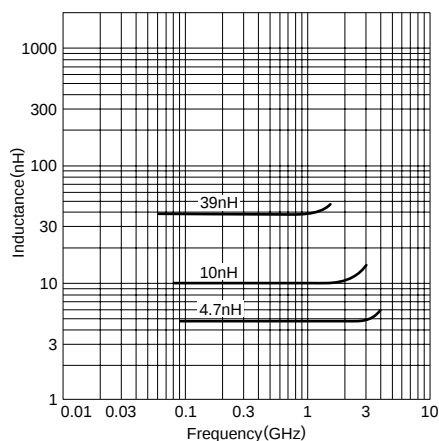
ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (GHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
1	$\pm 0.3\text{nH}$	8	100	10	0.1	300	MLG1608B1N0S
1.2	$\pm 0.3\text{nH}$	8	100	10	0.1	300	MLG1608B1N2S
1.5	$\pm 0.3\text{nH}$	8	100	10	0.1	300	MLG1608B1N5S
1.8	$\pm 0.3\text{nH}$	8	100	9.8	0.1	300	MLG1608B1N8S
2.2	$\pm 0.3\text{nH}$	10	100	7.6	0.15	300	MLG1608B2N2S
2.7	$\pm 0.3\text{nH}$	10	100	7	0.15	300	MLG1608B2N7S
3.3	$\pm 0.3\text{nH}$	10	100	6.2	0.2	300	MLG1608B3N3S
3.9	$\pm 0.3\text{nH}$	10	100	5.6	0.2	300	MLG1608B3N9S
4.7	$\pm 0.3\text{nH}$	10	100	4.8	0.2	300	MLG1608B4N7S
5.6	$\pm 0.5\text{nH}$	10	100	4.6	0.2	300	MLG1608B5N6D
6.8	$\pm 0.5\text{nH}$	10	100	4.2	0.2	300	MLG1608B6N8D
8.2	$\pm 0.5\text{nH}$	10	100	3.6	0.25	300	MLG1608B8N2D
10	$\pm 5\%$	12	100	3.2	0.25	300	MLG1608B10NJ
12	$\pm 5\%$	12	100	2.8	0.3	300	MLG1608B12NJ
15	$\pm 5\%$	12	100	2.6	0.35	300	MLG1608B15NJ
18	$\pm 5\%$	12	100	2.4	0.4	300	MLG1608B18NJ
22	$\pm 5\%$	12	100	2	0.5	300	MLG1608B22NJ
27	$\pm 5\%$	12	100	1.9	0.55	300	MLG1608B27NJ
33	$\pm 5\%$	12	100	1.6	0.6	300	MLG1608B33NJ
39	$\pm 5\%$	12	100	1.4	0.65	300	MLG1608B39NJ
47	$\pm 5\%$	14	100	1.2	0.7	300	MLG1608B47NJ
56	$\pm 5\%$	14	100	1	0.75	300	MLG1608B56NJ
68	$\pm 5\%$	14	100	0.9	0.8	300	MLG1608B68NJ
82	$\pm 5\%$	14	100	0.8	0.9	300	MLG1608B82NJ
100	$\pm 5\%$	14	100	0.7	1	300	MLG1608BR10J

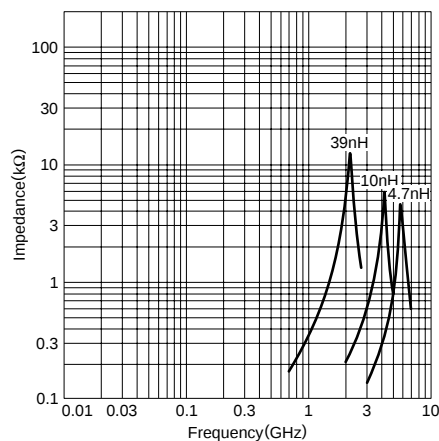
- Test equipment
Inductance Q : HP4291A+16193A SRF: HP8720C Rdc: YOKOGAWA TYPE7561
- Rated current : Value obtained when current flows and temperature has risen to 20°C.

TYPICAL ELECTRICAL CHARACTERISTICS

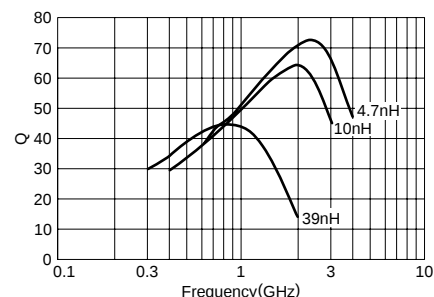
INDUCTANCE vs. FREQUENCY CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For High Frequency SMD

MLK Series MLK1005 Type

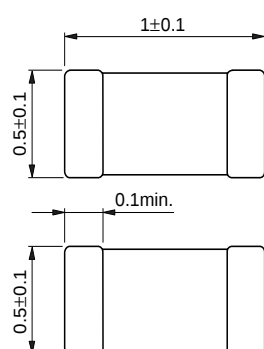
FEATURES

- Supports operating frequency bands of up to 12GHz with nominal inductance values from 1 to 100nH.
- Provides high Q characteristics.
- Advanced monolithic structure is formed using a lamination and firing process with high-frequency ceramic and conductive materials.
- Because the part is non-polarized, it can be used in bulk cassette loaders.

APPLICATIONS

High-frequency circuits for portable telephones, personal handy-phone systems(PHS), pagers, or other mobile communication appliances.

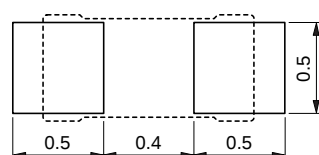
SHAPES AND DIMENSIONS



Weight: 1.0mg

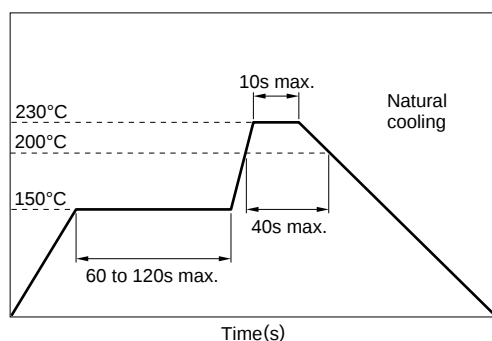


RECOMMENDED PC BOARD PATTERN



Dimensions in mm

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

MLK	1005	S	2N2	S	X
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions L×W

1005	1.0×0.5mm
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(3) Material code

(4) Inductance value

2N2	2.2nH
12N	12nH

(5) Inductance tolerance

S	±0.3nH
D	±0.5nH
J	±5%

(6) Packaging style

T	Taping (reel)
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PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	10000 pieces/reel

SPECIFICATIONS

Operating temperature range	−25 to +85°C
Storage temperature range	−40 to +85°C [Unit of product]

HANDLING AND PRECAUTIONS

- Before soldering, be sure to preheat components.
The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 260°C. Soldering time should not exceed 3 seconds.

Inductors

For High Frequency
SMD

MLK Series MLK1005 Type

ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Q	Q				Self-resonant frequency(GHz)		DC resistance (Ω)		Rated current (mA) max.	Part No.
		min. 100MHz	typ. 100MHz				min.	typ.	max.	typ.		
1	$\pm 0.3\text{nH}$	5	7	12	15	24	12	19	0.1	0.05	300	MLK1005S1N0S
1.2	$\pm 0.3\text{nH}$	5	7	13	17	26	11	16.2	0.15	0.07	300	MLK1005S1N2S
1.5	$\pm 0.3\text{nH}$	6	8	15	19	28	9.5	13.6	0.16	0.08	300	MLK1005S1N5S
1.8	$\pm 0.3\text{nH}$	6	8	15	19	29	8.5	10.5	0.2	0.11	300	MLK1005S1N8S
2.2	$\pm 0.3\text{nH}$	6	8	15	20	29	8	10	0.21	0.11	300	MLK1005S2N2S
2.7	$\pm 0.3\text{nH}$	6	8	15	20	30	7.5	9.2	0.23	0.16	300	MLK1005S2N7S
3.3	$\pm 0.3\text{nH}$	7	9	16	21	32	7	8.5	0.25	0.16	300	MLK1005S3N3S
3.9	$\pm 0.3\text{nH}$	7	9	16	21	30	6.5	8.2	0.28	0.16	300	MLK1005S3N9S
4.7	$\pm 0.3\text{nH}$	7	9	16	21	31	6	7.3	0.32	0.19	300	MLK1005S4N7S
5.6	$\pm 0.5\text{nH}$	7	9	16	21	31	5.7	7.2	0.35	0.21	300	MLK1005S5N6D
6.8	$\pm 0.5\text{nH}$	7	9	16	21	31	5.5	6.8	0.38	0.28	300	MLK1005S6N8D
8.2	$\pm 0.5\text{nH}$	7	9	16	21	31	5	6.5	0.42	0.31	300	MLK1005S8N2D
10	$\pm 5\%$	7	9	16	21	31	4.7	6.3	0.45	0.33	200	MLK1005S10NJ
12	$\pm 5\%$	7	9	16	21	32	4.3	6.2	0.5	0.41	200	MLK1005S12NJ
15	$\pm 5\%$	7	9	16	21	30	4	5.6	0.55	0.44	200	MLK1005S15NJ
18	$\pm 5\%$	7	9	16	21	30	3.7	5.3	0.65	0.53	200	MLK1005S18NJ
22	$\pm 5\%$	7	9	16	21	30	3.5	5.1	0.75	0.58	200	MLK1005S22NJ
27	$\pm 5\%$	7	9	16	20	28	3	4.7	0.95	0.75	200	MLK1005S27NJ
33	$\pm 5\%$	7	9	16	20	27	2.5	4.2	1.1	0.81	200	MLK1005S33NJ
39	$\pm 5\%$	6	9	16	20	27	2	3.4	1.2	0.67	100	MLK1005S39NJ
47	$\pm 5\%$	6	9	16	20	26	1.8	2.9	1.3	0.79	100	MLK1005S47NJ
56	$\pm 5\%$	6	9	16	20	25	1.5	2.8	1.4	0.97	100	MLK1005S56NJ
68	$\pm 5\%$	6	9	15	19	23	1.2	2.7	1.6	1.18	100	MLK1005S68NJ
82	$\pm 5\%$	6	9	14	18	20	1	2.1	1.8	1.24	50	MLK1005S82NJ
100	$\pm 5\%$	6	9	14	17	20	0.8	2	2.2	1.5	50	MLK1005SR10J

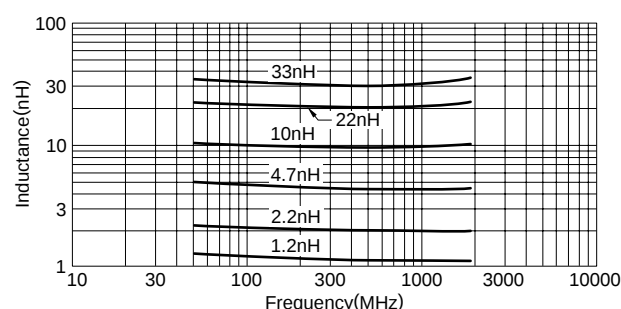
• Test equipment

Inductance Q: HP4291A+16193A SRF: HP8720C Rdc:YOKOGAWA TYPE7561

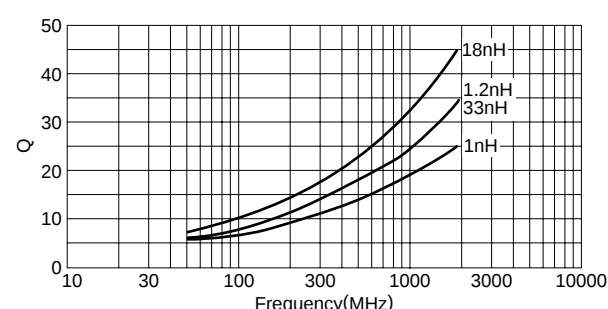
• Rated current: Value obtained when current flows and temperature has risen to 20°C

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For High Frequency SMD

NLH Series NLH2520 Type

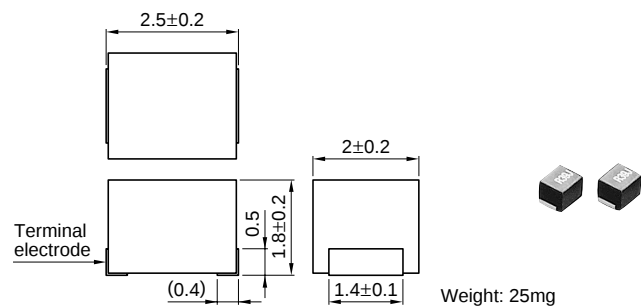
FEATURES

- Supports operating frequencies of up to 2GHz with nominal inductance values from 10 to 820nH.
- Compact winding structure ensures high Q.
- Inductance tolerance is ± 5 percent.

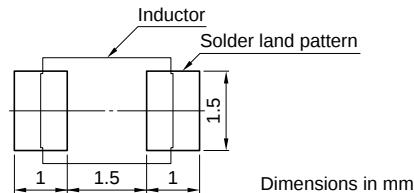
APPLICATIONS

High-frequency circuits for portable telephones, pagers, and other mobile communication equipment.

SHAPES AND DIMENSIONS



RECOMMENDED PC BOARD PATTERN



SPECIFICATIONS

Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

PRODUCT IDENTIFICATION

NLH	252018	T	022	J
(1)	(2)	(3)	(4)	(5)

(1) Series name

(2) Dimensions L×W×T

252018	2.5×2.0×1.8mm
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(3) Packaging style

T	Taping [reel]
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(4) Inductance value

022	22nH
R10	100nH

(5) Inductance tolerance

J	$\pm 5\%$
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PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	2000 pieces/reel

Inductors

For High Frequency
SMD

NLH Series NLH2520 Type

ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (GHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
10	±5%	25	100	2.15	0.26	530	NLH252018T-010J
12	±5%	25	100	2.05	0.27	500	NLH252018T-012J
15	±5%	25	100	2	0.29	480	NLH252018T-015J
18	±5%	25	100	1.85	0.31	450	NLH252018T-018J
22	±5%	25	100	1.65	0.37	420	NLH252018T-022J
27	±5%	25	100	1.55	0.4	410	NLH252018T-027J
33	±5%	25	100	1.45	0.42	400	NLH252018T-033J
39	±5%	25	100	1.35	0.45	380	NLH252018T-039J
47	±5%	25	100	1.2	0.5	360	NLH252018T-047J
56	±5%	25	100	1.1	0.6	340	NLH252018T-056J
68	±5%	25	100	1.05	0.65	320	NLH252018T-068J
82	±5%	25	100	0.9	0.75	300	NLH252018T-082J
100	±5%	25	100	0.8	0.8	280	NLH252018T-R10J
120	±5%	30	25.2	0.7	0.38	550	NLH252018T-R12J
150	±5%	30	25.2	0.55	0.42	500	NLH252018T-R15J
180	±5%	30	25.2	0.5	0.45	475	NLH252018T-R18J
220	±5%	35	25.2	0.45	0.5	450	NLH252018T-R22J
270	±5%	35	25.2	0.425	0.58	425	NLH252018T-R27J
330	±5%	40	25.2	0.4	0.68	400	NLH252018T-R33J
390	±5%	40	25.2	0.375	0.73	375	NLH252018T-R39J
470	±5%	40	25.2	0.35	0.83	350	NLH252018T-R47J
560	±5%	40	25.2	0.325	0.93	325	NLH252018T-R56J
680	±5%	40	25.2	0.18	0.98	300	NLH252018T-R68J
820	±5%	40	25.2	0.12	1.05	260	NLH252018T-R82J

• Test equipment

Inductance, Q[10 to 100nH] : YHP4291A IMPEDANCE/MATERIAL ANALYZER+YHP16191A, or equivalent

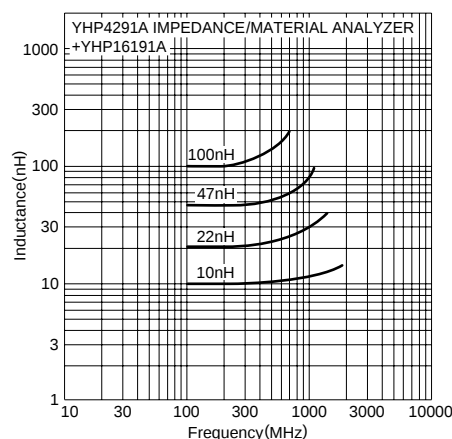
[120 to 820nH] : YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1, or equivalent

SRF: HP8753C NETWORK ANALYZER(Zin, Zout=50Ω), or equivalent

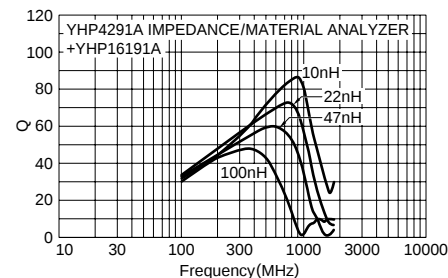
Rdc : MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For High Frequency
SMD

NLU Series NLU1608 Type

FEATURES

- Q has been increased by forming the special spiral-form conductor mainly composed of copper on the thin-film multilayer structure and reducing direct current resistance.
- Narrow inductance tolerance of $\pm 2\%$ or $\pm 0.2\text{nH}$ has been achieved by increasing the dimensional precision of the conductor and between them.
- Accurate dimensional precision has been achieved as well as excellent soldering heat resistance.
- Concurrent use with ultra-small chip components is possible due to the thickness of 0.6mm.
- Compatible with either reflow or flow soldering

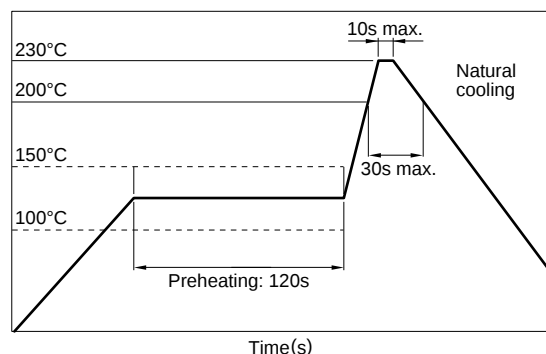
APPLICATIONS

High-frequency circuits for portable telephones, pagers, or other mobile communication appliances.

SPECIFICATIONS

Operating temperature range	-40 to +100°C
Storage temperature range	-55 to +125°C [Unit of products]

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

NLU	160805	T	-	2N2	C
(1)	(2)	(3)		(4)	(5)

(1) Series name

(2) Dimensions L×W×T

160805	1.6×0.8×0.58mm
201205	2.0×1.2×0.58mm

(3) Packaging style

T	Taping (reel)
---	---------------

(4) Inductance value

2N2	2.2nH
12N	12nH
R10	100nH

(5) Inductance tolerance

C	$\pm 0.2\text{nH}$
G	$\pm 2\%$

PACKAGING STYLE AND QUANTITIES

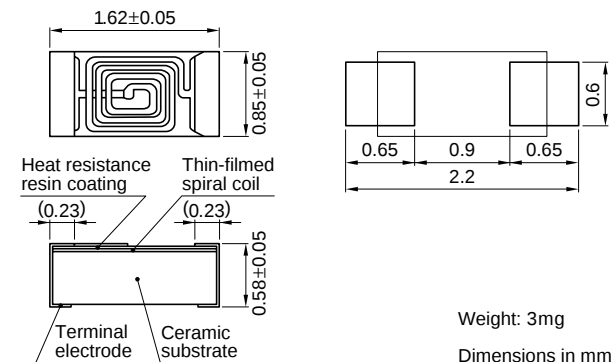
Packaging style	Quantity
Taping	4000 pieces/reel

Inductors

For High Frequency
SMD

NLU Series NLU1608 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Q		Test frequency L, Q (MHz)	Self-resonant frequency (GHz)		DC resistance (Ω)max.	Rated current (mA)max.	Part No.
		min.	typ.		min.	typ.			
1.2	±0.2nH	13	20	300	5	12.5	0.08	400	NLU160805T-1N2C
1.5	±0.2nH	13	18	300	5	11.5	0.1	400	NLU160805T-1N5C
1.8	±0.2nH	13	19	300	5	10.5	0.11	400	NLU160805T-1N8C
2.2	±0.2nH	13	20	300	5	9.5	0.12	400	NLU160805T-2N2C
2.7	±0.2nH	13	19	300	5	8.4	0.14	400	NLU160805T-2N7C
3.3	±0.2nH	13	19	300	5	7.6	0.16	320	NLU160805T-3N3C
3.9	±0.2nH	13	19	300	5	6.8	0.18	320	NLU160805T-3N9C
4.7	±0.2nH	13	19	300	5	6.5	0.28	240	NLU160805T-4N7C
5.6	±0.2nH	13	21	300	4.6	5.8	0.31	240	NLU160805T-5N6C
6.8	±0.2nH	13	19	300	4.1	5.1	0.37	240	NLU160805T-6N8C
8.2	±0.2nH	13	19	300	3.9	4.9	0.55	170	NLU160805T-8N2C
10	±2%	13	20	300	3.5	4.4	0.64	170	NLU160805T-10NG
12	±2%	13	18	300	3.1	3.9	0.7	170	NLU160805T-12NG
15	±2%	13	20	300	2.8	3.5	0.95	130	NLU160805T-15NG
18	±2%	13	20	300	2.5	3.1	1.2	130	NLU160805T-18NG
22	±2%	13	19	300	2.3	2.9	1.9	100	NLU160805T-22NG
27	±2%	13	20	300	2	2.6	2.1	100	NLU160805T-27NG
33	±2%	13	19	300	1.9	2.4	3.2	80	NLU160805T-33NG
39	±2%	13	18	300	1.7	2.2	4.4	70	NLU160805T-39NG
47	±2%	12	17	300	1.5	2	6.2	60	NLU160805T-47NG

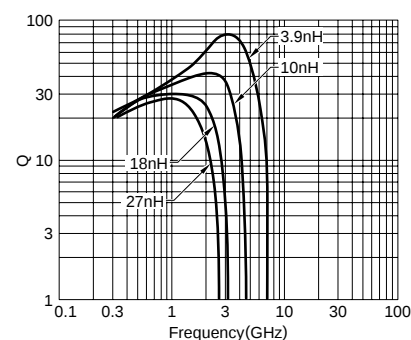
• L, Q : HP4291A IMPEDANCE ANALYZER+16193A TEST FIXTURE

SRF : HP8753C NETWORK ANALYZER Typical value : HP8719C NETWORK ANALYZER

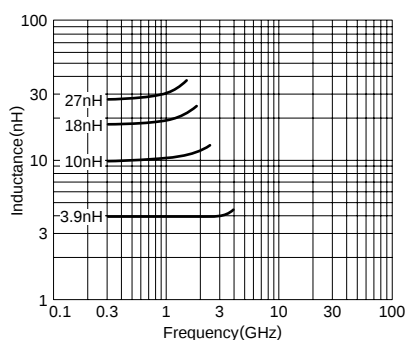
Rdc : MATSUSHITA DIGITAL MILLIOHM METER VP-2941A or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

Q vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For High Frequency
SMD

NLU Series NLU2012 Type

FEATURES

- Q has been increased by forming the special spiral-form conductor mainly composed of copper on the thin-film multilayer structure and reducing direct current resistance.
- Narrow inductance tolerance of $\pm 2\%$ or $\pm 0.2\text{nH}$ has been achieved by increasing the dimensional precision of the conductor and between them.
- Accurate dimensional precision has been achieved as well as excellent soldering heat resistance.
- Concurrent use with ultra-small chip components is possible due to the thickness of 0.6mm.
- Compatible with either reflow or flow soldering

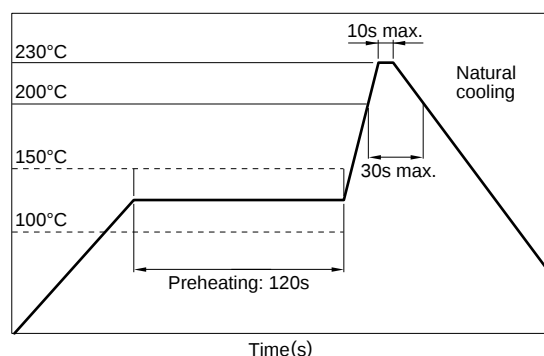
APPLICATIONS

High-frequency circuits for portable telephones, pagers, or other mobile communication appliances.

SPECIFICATIONS

Operating temperature range	-40 to +100°C
Storage temperature range	-55 to +125°C [Unit of products]

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

NLU	160805	T	-	2N2	C
(1)	(2)	(3)		(4)	(5)

(1) Series name

(2) Dimensions L×W×T

160805	1.6×0.8×0.58mm
201205	2.0×1.2×0.58mm

(3) Packaging style

T	Taping (reel)
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(4) Inductance value

2N2	2.2nH
12N	12nH
R10	100nH

(5) Inductance tolerance

C	$\pm 0.2\text{nH}$
G	$\pm 2\%$

PACKAGING STYLE AND QUANTITIES

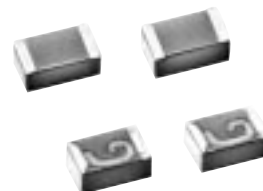
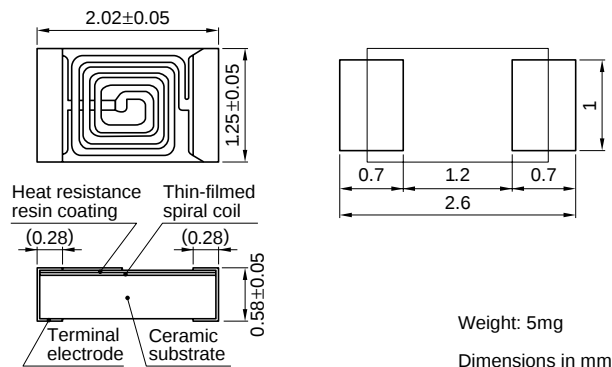
Packaging style	Quantity
Taping	4000 pieces/reel

Inductors

For High Frequency
SMD

NLU Series NLU2012 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Q		Test frequency L, Q (MHz)	Self-resonant frequency (GHz)		DC resistance (Ω)max.	Rated current (mA)max.	Part No.
		min.	typ.		min.	typ.			
1.2	±0.2nH	13	16	300	5	12.3	0.1	500	NLU201205T-1N2C
1.5	±0.2nH	17	22	300	5	10.9	0.1	500	NLU201205T-1N5C
1.8	±0.2nH	19	26	300	5	10.2	0.1	500	NLU201205T-1N8C
2.2	±0.2nH	19	28	300	5	8.5	0.11	500	NLU201205T-2N2C
2.7	±0.2nH	19	27	300	5	8.3	0.13	500	NLU201205T-2N7C
3.3	±0.2nH	19	27	300	5	7.2	0.14	500	NLU201205T-3N3C
3.9	±0.2nH	19	24	300	5	6.4	0.15	500	NLU201205T-3N9C
4.7	±0.2nH	19	24	300	4.4	5.6	0.16	500	NLU201205T-4N7C
5.6	±0.2nH	19	25	300	4.4	5.5	0.23	500	NLU201205T-5N6C
6.8	±0.2nH	19	25	300	3.8	4.8	0.25	500	NLU201205T-6N8C
8.2	±0.2nH	19	29	300	3.3	4.2	0.28	500	NLU201205T-8N2C
10	±2%	19	25	300	3	3.8	0.31	500	NLU201205T-10NG
12	±2%	19	28	300	2.8	3.6	0.47	500	NLU201205T-12NG
15	±2%	19	27	300	2.4	3.1	0.53	360	NLU201205T-15NG
18	±2%	19	28	300	2.3	2.9	0.71	260	NLU201205T-18NG
22	±2%	19	29	300	2	2.6	0.78	250	NLU201205T-22NG
27	±2%	19	28	300	1.8	2.3	0.97	250	NLU201205T-27NG
33	±2%	19	28	300	1.6	2	1.2	210	NLU201205T-33NG
39	±2%	19	26	300	1.4	1.8	1.4	180	NLU201205T-39NG
47	±2%	19	28	300	1.3	1.7	1.8	150	NLU201205T-47NG
56	±2%	19	27	300	1.2	1.6	1.9	150	NLU201205T-56NG
68	±2%	9	14	100	1	1.4	3.3	140	NLU201205T-68NG
82	±2%	9	14	100	0.9	1.3	4.2	120	NLU201205T-82NG
100	±2%	9	14	100	0.8	1.1	5.9	100	NLU201205T-R10G

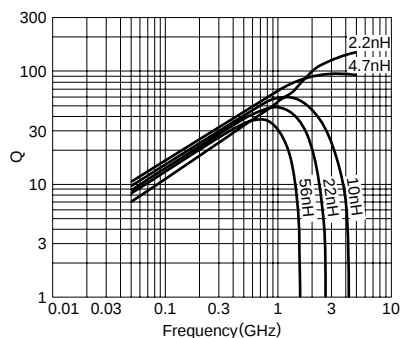
• L, Q : HP4291A IMPEDANCE ANALYZER+16193A TEST FIXTURE

SRF : HP8753C NETWORK ANALYZER Typical value : HP8719C NETWORK ANALYZER

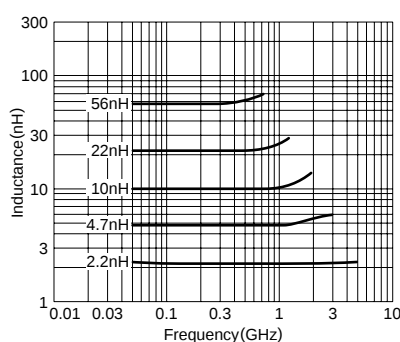
Rdc : MATSUSHITA DIGITAL MILLIOHM METER VP-2941A or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

Q vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Inductors

Wound Type for Power Circuit SMD

LDR Series LDR655312 Type

These products are ultra-low height type power inductors optimum to a DC-DC converter for driving an LCD panel. A plane accuracy of a user terminal is increased by separating a winding terminal. In addition, an application of a new-designed thin type drum core significantly lowers leakage flux so as to satisfy needs for high density mounting.

FEATURES

- The first ultra-low height realized by using new magnetic material superior in superimposed DC current characteristics with ultra-high specific resistance and by adopting a design in which a lead frame is directly bonded.
- Mountable on the back side of the LCD surface because of ultra-low height type (1.20mm max.).
- Low leakage flux drum core with original design applied.
- Size equivalent to a half of a conventional core having the same characteristics realized, thus enabling ultralight weight (0.1g max.).
- Automatic inserter usable in taping specifications.
- All terminals are welded without lead.

APPLICATIONS

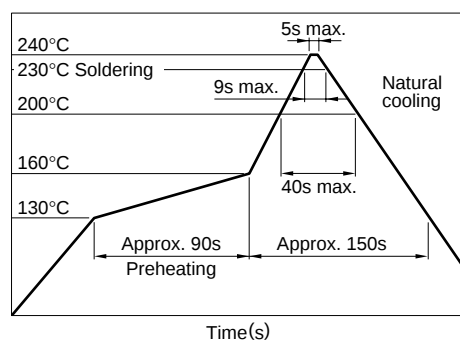
LCD driving circuits (DC-DC converters) such as notebook-sized personal computers, portable terminal equipment, game units

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
LDR655312T	-25 to +85°C	-40 to +85°C

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



PRODUCT IDENTIFICATION

LDR 655312	T	2R2	W
(1)	(2)	(3)	(4) (5)

(1) Series name

(2) Dimensions L×W×T

655312	6.5×5.3×1.2mm
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(3) Packaging style

T	Taping(reel)
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(4) Inductance value

2R2	2.2μH
100	10μH

(5) Variation code

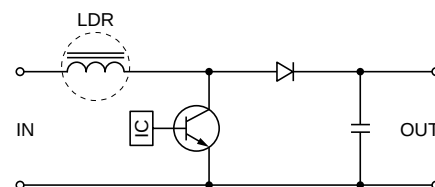
W	Welding
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PACKAGING STYLE AND QUANTITIES

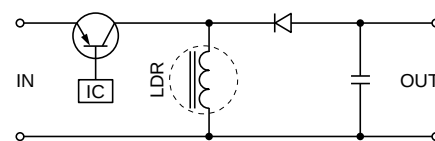
Packaging style	Type	Quantity
Taping	LDR655312T	3000 pieces/reel

APPLICATION EXAMPLES

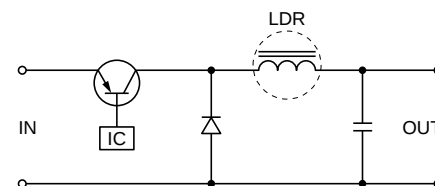
Step-up chopper circuit



Inverting chopper circuit



Step-down chopper circuit

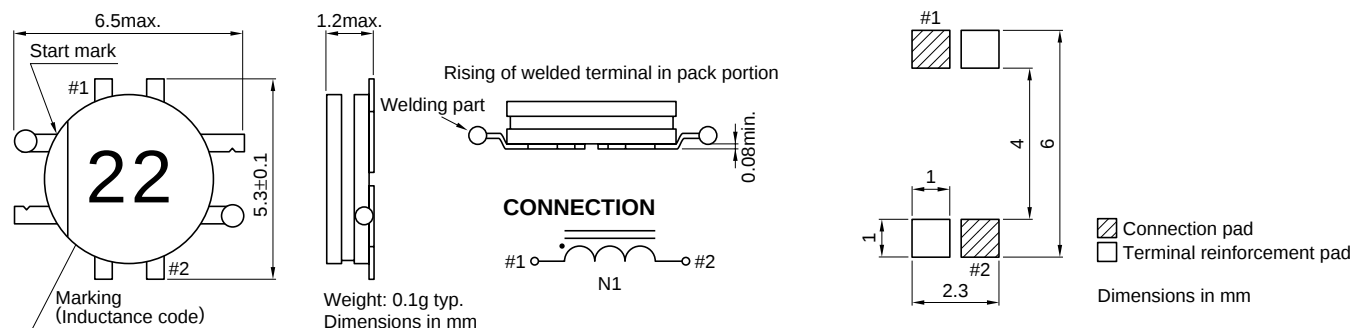


Inductors

LDR Series LDR655312 Type

Wound Type for Power Circuit
SMD

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

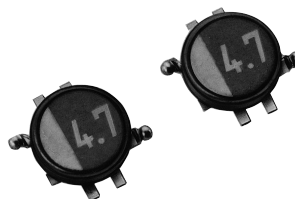
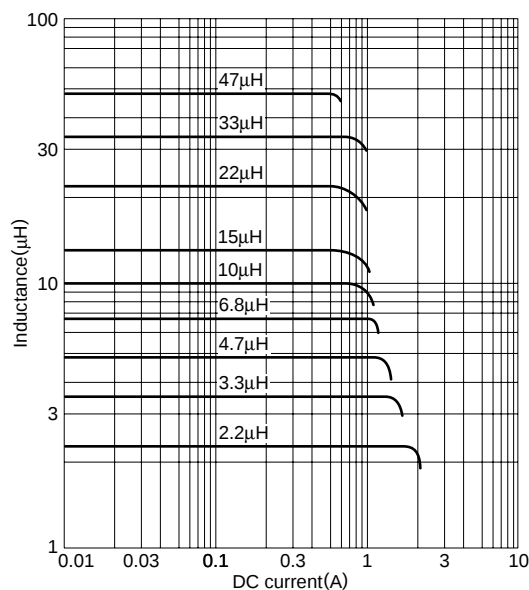
Inductance (mH)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω)±20%	Rated current (A)* max.	Part No.
2.2	±20	100	0.125	1.2	LDR655312T-2R2W
3.3	±20	100	0.155	0.96	LDR655312T-3R3W
4.7	±20	100	0.206	0.9	LDR655312T-4R7W
6.8	±20	100	0.24	0.8	LDR655312T-6R8W
10	±20	100	0.37	0.7	LDR655312T-100W
15	±20	100	0.46	0.6	LDR655312T-150W
22	±20	100	0.668	0.5	LDR655312T-220W
33	±20	100	1.1	0.42	LDR655312T-330W
47	±20	100	1.38	0.34	LDR655312T-470W

* Rated current: Value obtained when self-temperature has risen to 40°C.

• Test equipment Inductance: YHP 4284 LDR METER, or equivalent (Test frequency: 100kHz/20mV)
 Rdc: DIGITAL MILLIOHM METER VP-2941A MATSUSHITA, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line SMD

NLC Series NLC2520 Type

FEATURES

- The NLC series feature low DC resistance and high current handling capacities, making them ideal for power supply line applications.
- They are available in 4 form factors ranging from 2520 to 5650.

APPLICATIONS

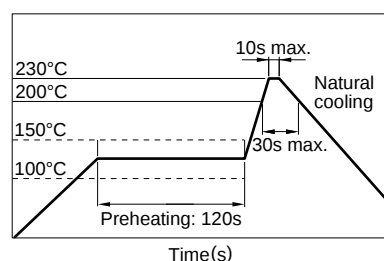
Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

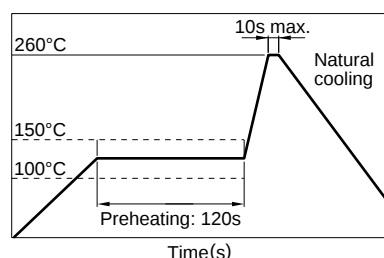
Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



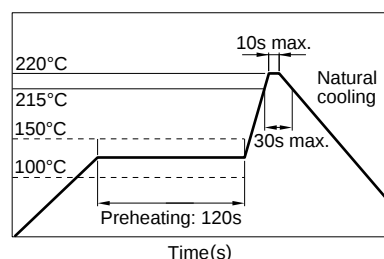
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NLC	252018	T-	2R2	M
(1)	(2)	(3)	(4)	(5)

(1) Series name

(2) Dimensions L×W×T

252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm
565050	5.6×5.0×5.0mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

1R0	1μH
330	33μH

(5) Inductance tolerance

K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

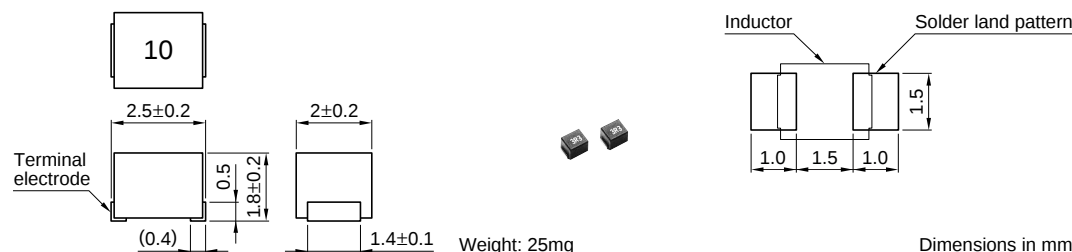
Packaging style	Type	Quantity
Taping	NLC252018T	2000 pieces/reel
	NLC322522T	2000 pieces/reel
	NLC453232T	500 pieces/reel
	NLC565050T	400 pieces/reel

Inductors

For Power Line
SMD

NLC Series NLC2520 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



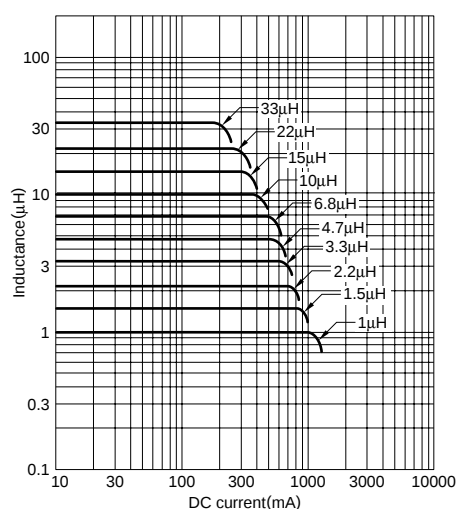
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q ref.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)±30%	Rated current (mA)max.	Part No.
1	±20%	20	7.96	200	0.34	475	NLC252018T-1R0M
1.5	±20%	20	7.96	165	0.42	435	NLC252018T-1R5M
2.2	±20%	20	7.96	95	0.5	390	NLC252018T-2R2M
3.3	±20%	20	7.96	55	0.65	340	NLC252018T-3R3M
4.7	±20%	20	7.96	43	0.8	285	NLC252018T-4R7M
6.8	±20%	20	7.96	39	1	275	NLC252018T-6R8M
10	±10%	30	2.52	32	1.69	210	NLC252018T-100K
15	±10%	30	2.52	21	2.2	175	NLC252018T-150K
22	±10%	30	2.52	18	2.8	160	NLC252018T-220K
33	±10%	30	2.52	16	4.2	120	NLC252018T-330K

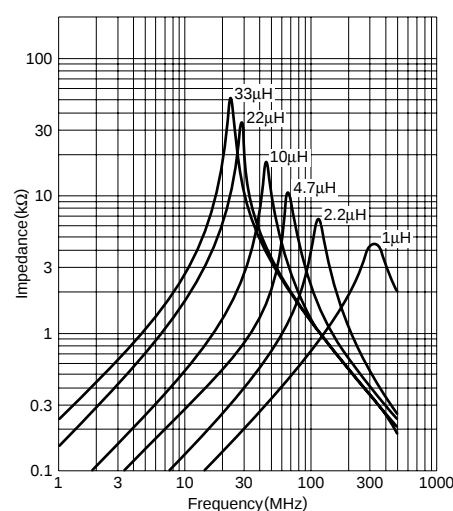
- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1, or equivalent
SRF: HP8753C NETWORK ANALYZER (Zin=Zout=50Ω), or equivalent
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line SMD

NLC Series NLC3225 Type

FEATURES

- The NLC series feature low DC resistance and high current handling capacities, making them ideal for power supply line applications.
- They are available in 4 form factors ranging from 2520 to 5650.

APPLICATIONS

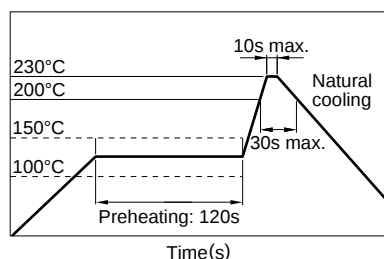
Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

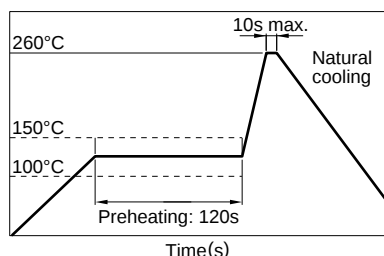
Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



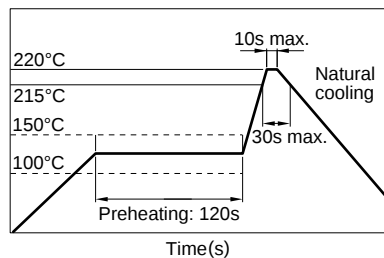
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NLC	252018	T-	2R2	M
(1)	(2)	(3)	(4)	(5)

(1) Series name

(2) Dimensions L×W×T

252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm
565050	5.6×5.0×5.0mm

(3) Packaging style

T	Taping(reel)
---	--------------

(4) Inductance value

1R0	1μH
330	33μH

(5) Inductance tolerance

K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

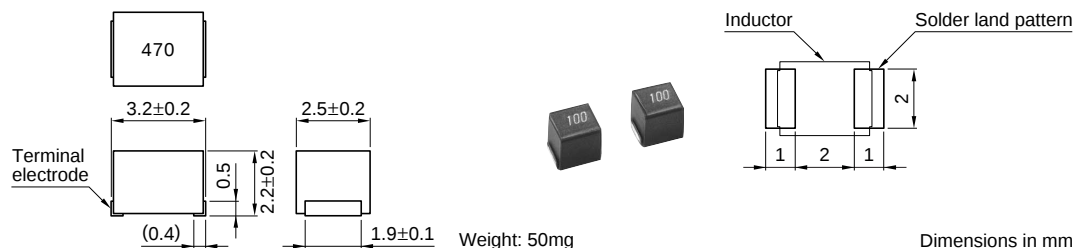
Packaging style	Type	Quantity
Taping	NLC252018T	2000 pieces/reel
	NLC322522T	2000 pieces/reel
	NLC453232T	500 pieces/reel
	NLC565050T	400 pieces/reel

Inductors

For Power Line
SMD

NLC Series NLC3225 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



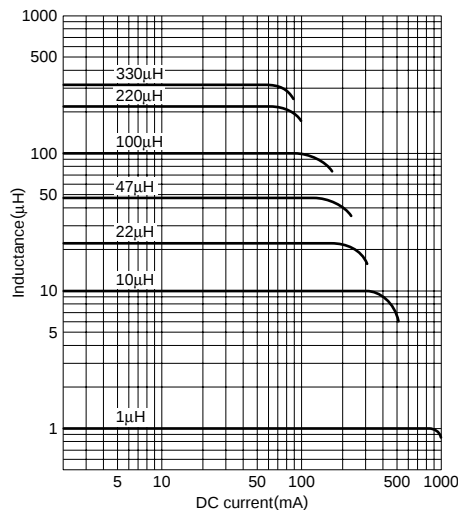
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q ref.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)±30%	Rated current (mA)max.	Part No.
1	±20%	10	7.96	100	0.08	850	NLC322522T-1R0M
1.5	±20%	10	7.96	80	0.11	700	NLC322522T-1R5M
2.2	±20%	10	7.96	68	0.13	600	NLC322522T-2R2M
3.3	±20%	10	7.96	54	0.16	500	NLC322522T-3R3M
4.7	±20%	15	7.96	46	0.2	430	NLC322522T-4R7M
6.8	±20%	15	7.96	38	0.27	360	NLC322522T-6R8M
10	±10%	15	2.52	30	0.36	300	NLC322522T-100K
15	±10%	15	2.52	26	0.56	250	NLC322522T-150K
22	±10%	15	2.52	21	0.77	210	NLC322522T-220K
33	±10%	15	2.52	17	1.1	170	NLC322522T-330K
47	±10%	15	2.52	14	1.64	150	NLC322522T-470K
68	±10%	15	2.52	12	2.8	120	NLC322522T-680K
100	±10%	15	0.796	10	3.7	100	NLC322522T-101K
150	±10%	20	0.796	8	6.1	85	NLC322522T-151K
220	±10%	20	0.796	7	8.4	70	NLC322522T-221K
330	±10%	20	0.796	6	12.3	60	NLC322522T-331K
470	±10%	20	0.796	4	22	45	NLC322522T-471K
680	±10%	20	0.796	3	28	35	NLC322522T-681K

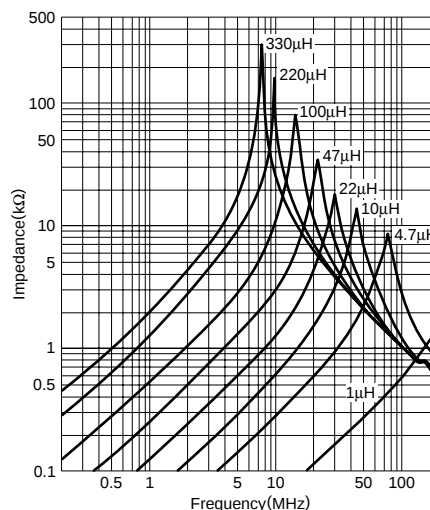
- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1, or equivalent
SRF: HP8753C NETWORK ANALYZER (Z_{in}=Z_{out}=50Ω), or equivalent
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent
- Marking: Inductance tolerance is omitted to distinguish NL series.

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line SMD

NLC Series NLC4532 Type

FEATURES

- The NLC series feature low DC resistance and high current handling capacities, making them ideal for power supply line applications.
- They are available in form factors ranging from 2520 to 5650.

APPLICATIONS

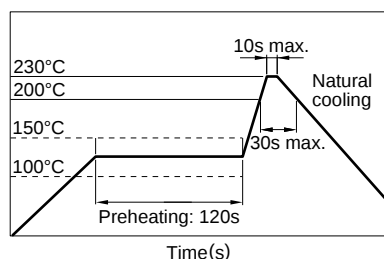
Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

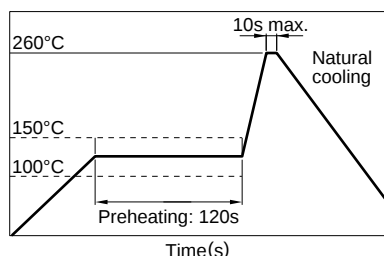
Operating temperature range	-20 to +85°C
Storage temperature range	-40 to +85°C [Unit of products]

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



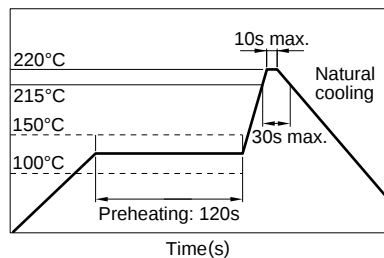
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NLC	252018	T-	2R2	M
(1)	(2)	(3)	(4)	(5)

(1) Series name

(2) Dimensions L×W×T

252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm
565050	5.6×5.0×5.0mm

(3) Packaging style

T	Taping(reel)
---	--------------

(4) Inductance value

1R0	1μH
330	33μH

(5) Inductance tolerance

K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

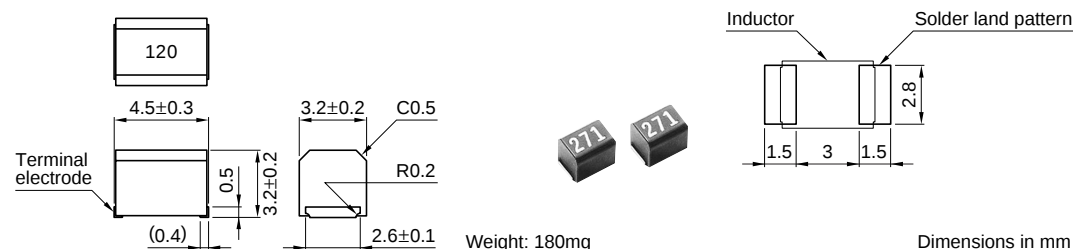
Packaging style	Type	Quantity
Taping	NLC252018T	2000 pieces/reel
	NLC322522T	2000 pieces/reel
	NLC453232T	500 pieces/reel
	NLC565050T	400 pieces/reel

Inductors

For Power Line
SMD

NLC Series NLC4532 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA)max.	Part No.
1	±10%	10	7.96	200	0.11	1050	NLC453232T-1R0K
1.2	±10%	10	7.96	160	0.12	1000	NLC453232T-1R2K
1.5	±10%	10	7.96	130	0.15	950	NLC453232T-1R5K
1.8	±10%	10	7.96	100	0.16	900	NLC453232T-1R8K
2.2	±10%	10	7.96	80	0.18	850	NLC453232T-2R2K
2.7	±10%	10	7.96	60	0.2	800	NLC453232T-2R7K
3.3	±10%	10	7.96	45	0.22	750	NLC453232T-3R3K
3.9	±10%	10	7.96	40	0.24	700	NLC453232T-3R9K
4.7	±10%	10	7.96	35	0.27	650	NLC453232T-4R7K
5.6	±10%	10	7.96	30	0.3	650	NLC453232T-5R6K
6.8	±10%	10	7.96	28	0.35	600	NLC453232T-6R8K
8.2	±10%	10	7.96	25	0.4	600	NLC453232T-8R2K
10	±10%	10	2.52	22	0.5	550	NLC453232T-100K
12	±10%	10	2.52	21	0.6	500	NLC453232T-120K
15	±10%	10	2.52	20	0.7	450	NLC453232T-150K
18	±10%	10	2.52	19	0.8	400	NLC453232T-180K
22	±10%	10	2.52	18	0.9	370	NLC453232T-220K
27	±10%	10	2.52	16	1.2	330	NLC453232T-270K
33	±10%	10	2.52	14	1.4	300	NLC453232T-330K
39	±10%	10	2.52	12	1.6	280	NLC453232T-390K
47	±10%	10	2.52	11.5	1.9	260	NLC453232T-470K
56	±10%	10	2.52	11	2.2	240	NLC453232T-560K
68	±10%	10	2.52	10	2.6	220	NLC453232T-680K
82	±10%	10	2.52	9	3.5	200	NLC453232T-820K
100	±10%	20	0.796	8	4	180	NLC453232T-101K
120	±10%	20	0.796	7.5	4.5	160	NLC453232T-121K
150	±10%	20	0.796	7	6.5	140	NLC453232T-151K
180	±10%	20	0.796	6.5	7.5	120	NLC453232T-181K
220	±10%	20	0.796	5.5	9	120	NLC453232T-221K
270	±10%	20	0.796	5	11	100	NLC453232T-271K
330	±10%	20	0.796	4	13	90	NLC453232T-331K

- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1, or equivalent
SRF: HP8753C NETWORK ANALYZER (Z_{in}=Z_{out}=50Ω), or equivalent
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent
- Marking: Inductance tolerance is omitted to distinguish NL series.

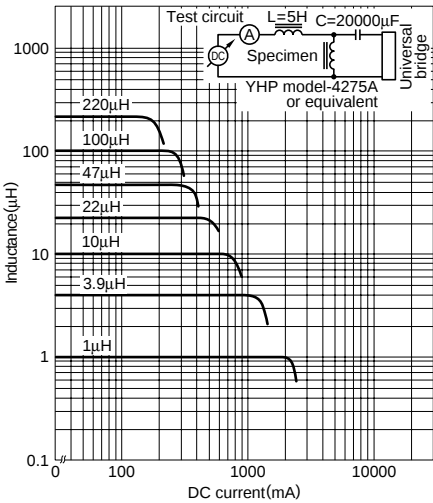
Inductors

For Power Line
SMD

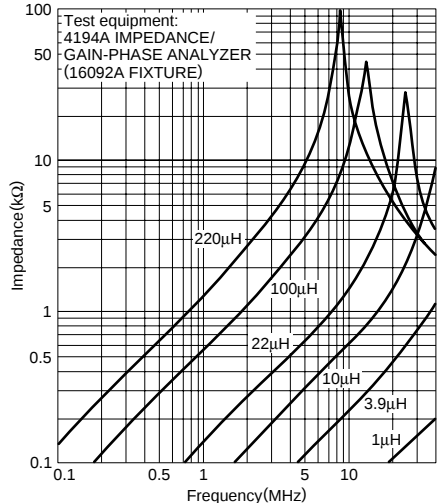
NLC Series NLC4532 Type

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line SMD

NLCV Series NLCV25 Type

FEATURES

- Provides high Q while using 252018 size winding construction.
- Environmentally friendly due to use of recyclable plastic (thermoplastic).
- Logo omitted to simplify production.
- Maintains interchangeability with earlier NL product series.
- NLV series are E-6 products, while NLCV and NLFV series are E-3 products.

APPLICATIONS

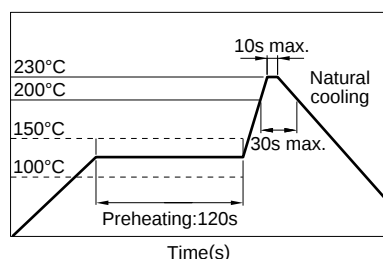
PCs, hard disk drives, and other types of electronics

SPECIFICATIONS

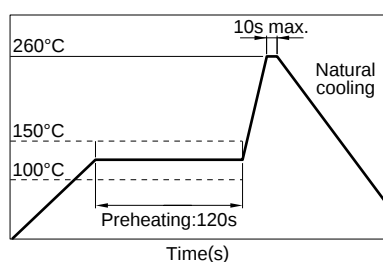
Type	Operating temperature range	Storage temperature range[Unit of products]
NLV25	-20 to +85°C	-40 to +85°C
NLCV25	-20 to +85°C	-40 to +85°C
NLFV25	-20 to +85°C	-40 to +85°C

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



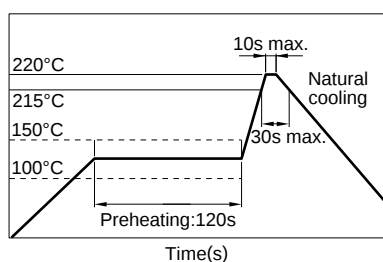
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



PRODUCT IDENTIFICATION

NLV	25	T-	2R2	J
(1)	(2)	(3)	(4)	(5)

(1) Series name

(2) Dimensions LxWxT

252018	2.5×2.0×1.8mm
--------	---------------

(3) Packaging style

T	Taping (reel)
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(4) Inductance value

1R0	1μH
220	22μH

(5) Inductance tolerance

J	±5%
K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	NLV25T	2000 pieces/reel
	NLCV25T	2000 pieces/reel
	NLFV25T	2000 pieces/reel

PRECAUTIONS

- The exterior of this product can melt since due to thermoplastic construction. During mechanical contact while at the plastic softening temperature, deformation can occur at the contact location. Therefore caution is required when utilizing a soldering iron during the soldering operation.

FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

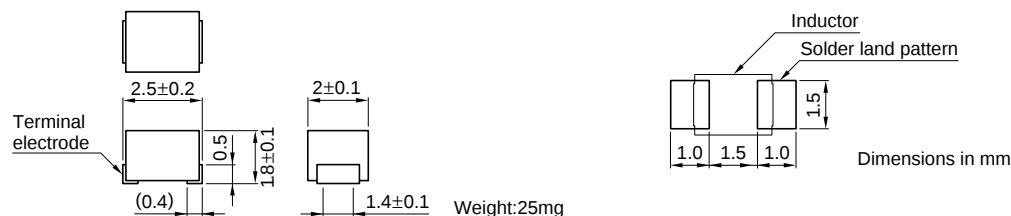
Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

Inductors

For Power Line
SMD

NLCV Series NLCV25 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance(μH)	Inductance tolerance	Q typ.	Test frequency L,Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)±30%	Rated current (mA)max.	Part No.
1	±20%	20	7.96	200	0.34	475	NLCV25T-1R0M
2.2	±20%	20	7.96	95	0.5	390	NLCV25T-2R2M
4.7	±20%	20	7.96	43	0.8	285	NLCV25T-4R7M
10	±10%	30	2.52	32	1.69	210	NLCV25T-100K
22	±10%	30	2.52	18	2.8	160	NLCV25T-220K

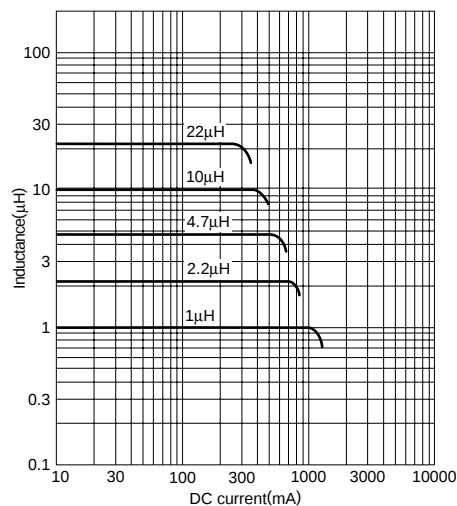
• Test equipment L, Q: HP4194A IMPEDANCE/GAIN PHASE ANALYZER+HP16085A+HP16093 B+TF-1

SRF: HP8753C NETWORK ANALYZER

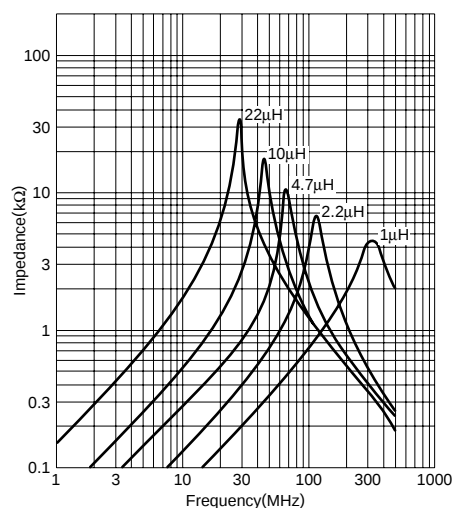
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line SMD

NLFC Series NLFC2016 Type

FEATURES

- The NLFC series features magnetic shielding and is recommended for power supply line applications.
- They are available in 4 form factors ranging from 2016 to 4532.

APPLICATIONS

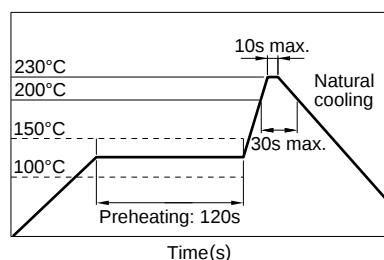
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

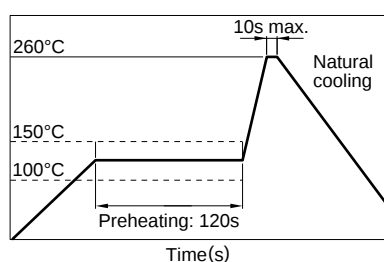
Type	Operating temperature range	Storage temperature range [Unit of products]
NLFC201614	-20 to +80°C	-40 to +85°C
NLFC252018	-20 to +80°C	-40 to +85°C
NLFC322522	-20 to +80°C	-40 to +85°C
NLFC453232	-20 to +80°C	-40 to +80°C

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



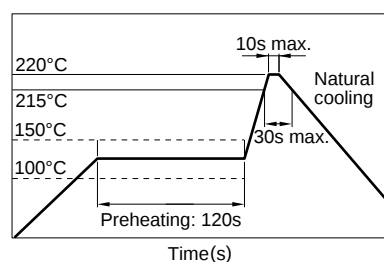
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NLFC	201614	T-	2R2	M
(1)	(2)	(3)	(4)	(5)

(1)Series name

(2)Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm

(3)Packaging style

T	Taping (reel)
---	---------------

(4)Inductance value

1R0	1μH
220	22μH

(5)Inductance tolerance

K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

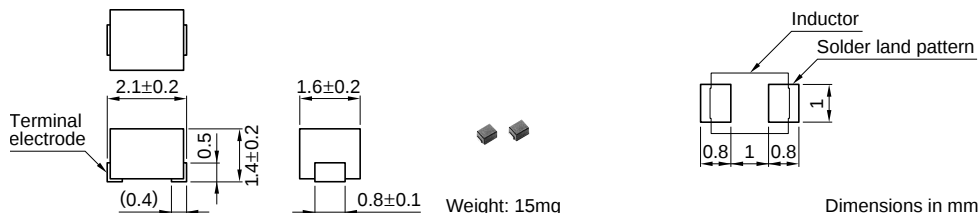
Packaging style	Type	Quantity
Taping	NLFC201614T	2000 pieces/reel
	NLFC252018T	2000 pieces/reel
	NLFC322522T	2000 pieces/reel
	NLFC453232T	500 pieces/reel

Inductors

For Power Line
SMD

NLFC Series NLFC2016 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q ref.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)±30%	Rated current (mA)* max.		Part No.
						Based on inductance change	Based on temperature rise	
1	±20%	5	7.96	100	0.16	300	700	NLFC201614T-1R0M
2.2	±20%	5	7.96	80	0.23	240	620	NLFC201614T-2R2M
4.7	±20%	5	7.96	45	0.4	150	430	NLFC201614T-4R7M
10	±10%	10	2.52	32	0.7	120	300	NLFC201614T-100K
22	±10%	10	2.52	16	1.7	75	220	NLFC201614T-220K

*Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

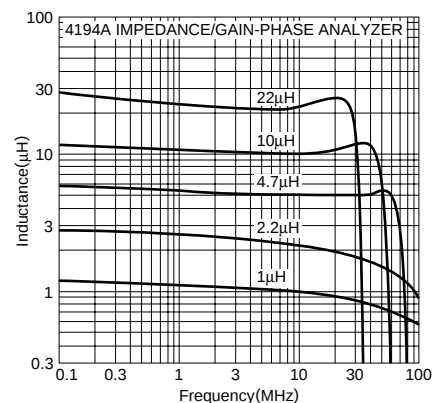
• Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1, or equivalent

SRF: HP8753C NETWORK ANALYZER (Zin=Zout=50Ω), or equivalent

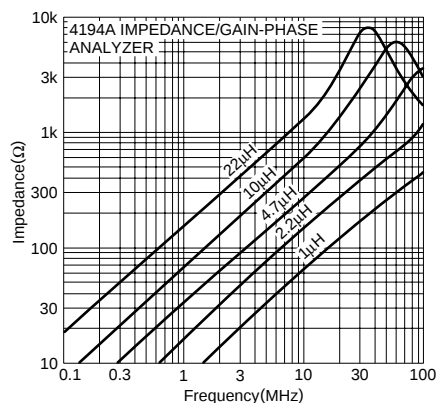
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

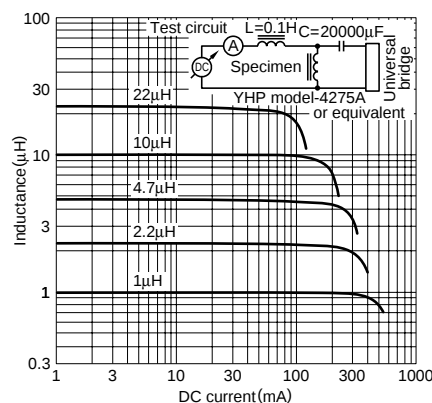
INDUCTANCE vs. FREQUENCY CHARACTERISTICS



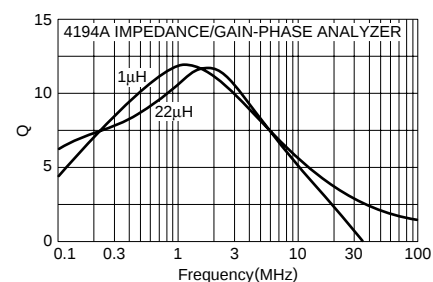
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line SMD

NLFC Series NLFC2520 Type

FEATURES

- The NLFC series features magnetic shielding and is recommended for power supply line applications.
- They are available in 4 form factors ranging from 2016 to 4532.

APPLICATIONS

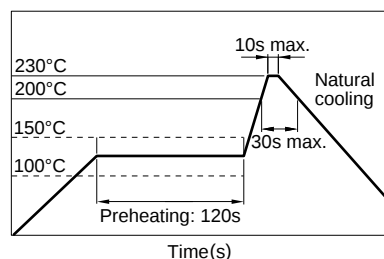
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

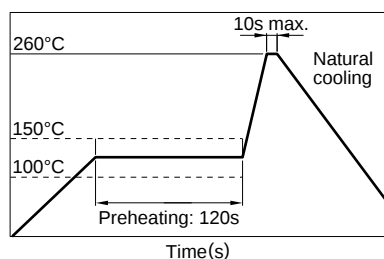
Type	Operating temperature range	Storage temperature range [Unit of products]
NLFC201614	-20 to +80°C	-40 to +85°C
NLFC252018	-20 to +80°C	-40 to +85°C
NLFC322522	-20 to +80°C	-40 to +85°C
NLFC453232	-20 to +80°C	-40 to +80°C

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



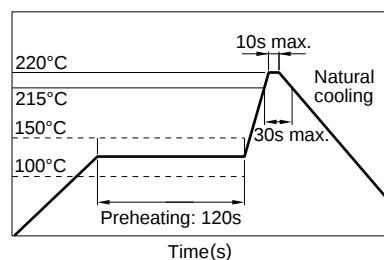
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NLFC	201614	T-	2R2	M
(1)	(2)	(3)	(4)	(5)

(1) Series name

(2) Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm

(3) Packaging style

T	Taping (reel)
---	---------------

(4) Inductance value

1R0	1μH
220	22μH

(5) Inductance tolerance

K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	NLFC201614T	2000 pieces/reel
	NLFC252018T	2000 pieces/reel
	NLFC322522T	2000 pieces/reel
	NLFC453232T	500 pieces/reel

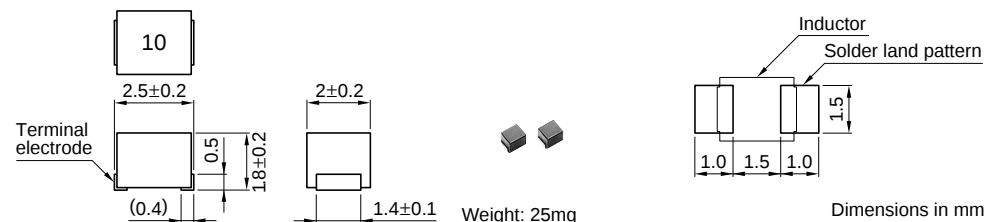
Inductors

For Power Line

SMD

NLFC Series NLFC2520 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q ref.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)±30%	Rated current (mA) max.	Part No.
1	±20%	10	7.96	100	0.13	455	NLFC252018T-1R0M
1.5	±20%	10	7.96	80	0.17	350	NLFC252018T-1R5M
2.2	±20%	10	7.96	70	0.2	315	NLFC252018T-2R2M
3.3	±20%	10	7.96	55	0.25	280	NLFC252018T-3R3M
4.7	±20%	10	7.96	45	0.3	210	NLFC252018T-4R7M
6.8	±20%	10	7.96	38	0.35	175	NLFC252018T-6R8M
10	±10%	20	2.52	32	0.5	155	NLFC252018T-100K
15	±10%	20	2.52	28	0.75	130	NLFC252018T-150K
22	±10%	20	2.52	16	1.6	105	NLFC252018T-220K
33	±10%	20	2.52	14	2.1	85	NLFC252018T-330K
47	±10%	20	2.52	11	2.6	60	NLFC252018T-470K
68	±10%	20	2.52	10	3.3	50	NLFC252018T-680K
100	±10%	20	0.796	8	5.5	40	NLFC252018T-101K

• Inductance tolerance: Value of inductance corresponds to inductance value of standard products.

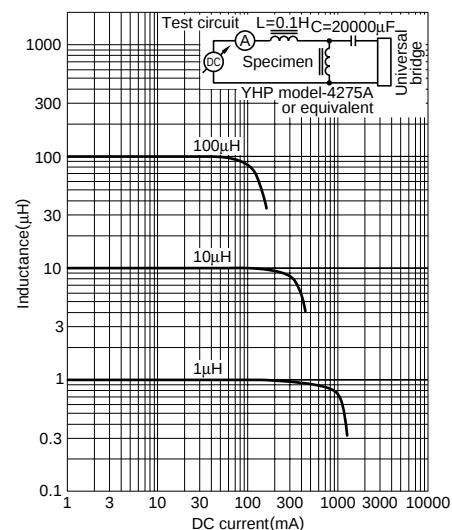
• Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1

SRF: HP8753C NETWORK ANALYZER

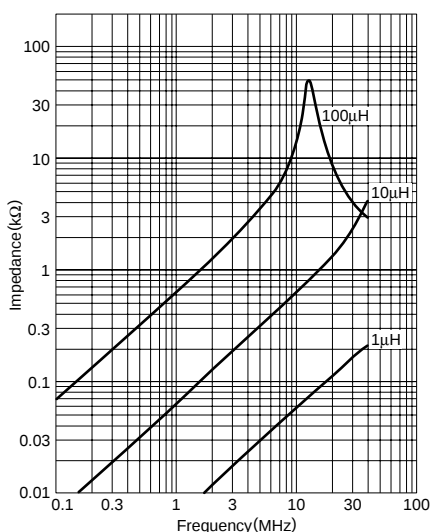
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line SMD

NLFC Series NLFC3225 Type

FEATURES

- The NLFC series features magnetic shielding and is recommended for power supply line applications.
- They are available in 4 form factors ranging from 2016 to 4532.

APPLICATIONS

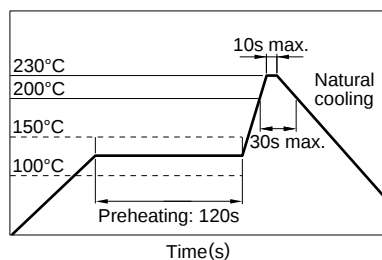
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

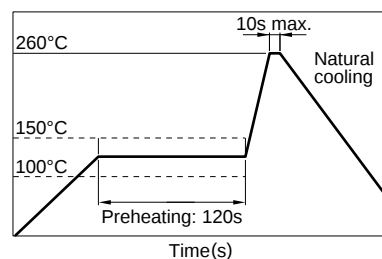
Type	Operating temperature range	Storage temperature range [Unit of products]
NLFC201614	-20 to +80°C	-40 to +85°C
NLFC252018	-20 to +80°C	-40 to +85°C
NLFC322522	-20 to +80°C	-40 to +85°C
NLFC453232	-20 to +80°C	-40 to +80°C

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



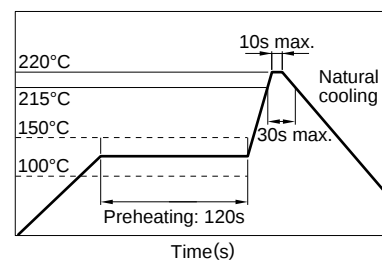
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NLFC	201614	T-	2R2	M
(1)	(2)	(3)	(4)	(5)

(1)Series name

(2)Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm

(3)Packaging style

T	Taping (reel)
---	---------------

(4)Inductance value

1R0	1μH
220	22μH

(5)Inductance tolerance

K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	NLFC201614T	2000 pieces/reel
	NLFC252018T	2000 pieces/reel
	NLFC322522T	2000 pieces/reel
	NLFC453232T	500 pieces/reel

Inductors

For Power Line
SMD

NLFC Series NLFC3225 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

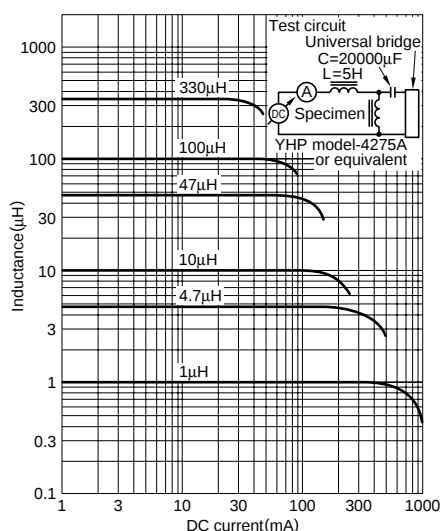
Inductance (μH)	Inductance tolerance	Q ref.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz) min.	DC resistance (Ω) ±30%	Rated current (mA)* max. Based on inductance change	Based on temperature rise	Part No.
1	±20%	5	7.96	100	0.06	500	1250	NLFC322522T-1R0M
1.5	±20%	5	7.96	80	0.08	400	1100	NLFC322522T-1R5M
2.2	±20%	5	7.96	68	0.09	340	1000	NLFC322522T-2R2M
3.3	±20%	5	7.96	54	0.11	270	900	NLFC322522T-3R3M
4.7	±20%	5	7.96	46	0.13	240	850	NLFC322522T-4R7M
6.8	±20%	5	7.96	38	0.17	195	750	NLFC322522T-6R8M
10	±10%	10	2.52	30	0.26	165	650	NLFC322522T-100K
15	±10%	10	2.52	26	0.32	145	550	NLFC322522T-150K
22	±10%	10	2.52	21	0.5	115	450	NLFC322522T-220K
33	±10%	10	2.52	17	0.75	95	360	NLFC322522T-330K
47	±10%	10	2.52	14	0.95	85	320	NLFC322522T-470K
68	±10%	10	2.52	12	1.5	70	260	NLFC322522T-680K
100	±10%	10	0.796	10	2.5	55	200	NLFC322522T-101K
150	±10%	10	0.796	8	3.2	45	170	NLFC322522T-151K
220	±10%	10	0.796	7	5.4	35	130	NLFC322522T-221K
330	±10%	10	0.796	5	7	30	110	NLFC322522T-331K
470	±10%	10	0.796	4	16	25	79	NLFC322522T-471K
680	±10%	10	0.796	3	20	20	70	NLFC322522T-681K
1000	±10%	10	0.252	2.4	24	15	63	NLFC322522T-102K

* Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

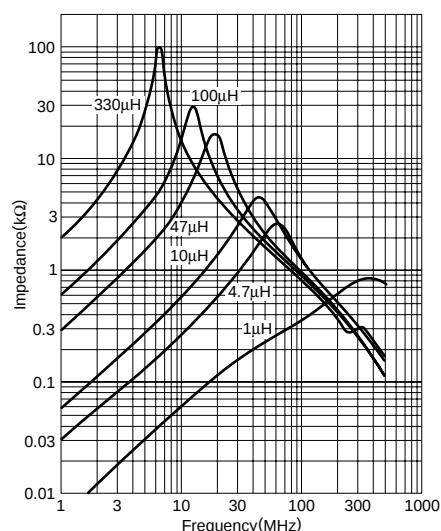
- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1, or equivalent
SRF: HP8753C NETWORK ANALYZER (Z_{in}=Z_{out}=50Ω), or equivalent
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line SMD

NLFC Series NLFC4532 Type

FEATURES

- The NLFC series features magnetic shielding and is recommended for power supply line applications.
- They are available in 4 form factors ranging from 2016 to 4532.

APPLICATIONS

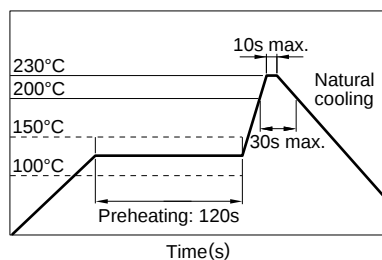
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

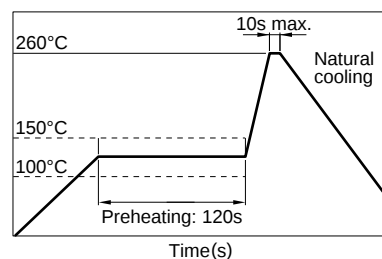
Type	Operating temperature range	Storage temperature range [Unit of products]
NLFC201614	-20 to +80°C	-40 to +85°C
NLFC252018	-20 to +80°C	-40 to +85°C
NLFC322522	-20 to +80°C	-40 to +85°C
NLFC453232	-20 to +80°C	-40 to +80°C

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



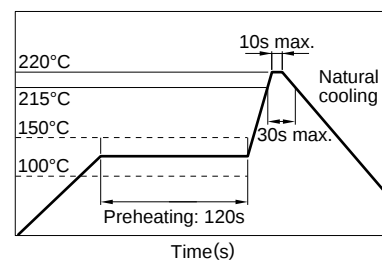
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NLFC	201614	T-	2R2	M
(1)	(2)	(3)	(4)	(5)

(1)Series name

(2)Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm

(3)Packaging style

T	Taping (reel)
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(4)Inductance value

1R0	1μH
220	22μH

(5)Inductance tolerance

K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

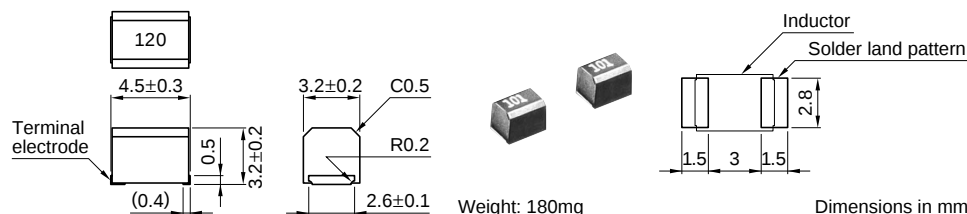
Packaging style	Type	Quantity
Taping	NLFC201614T	2000 pieces/reel
	NLFC252018T	2000 pieces/reel
	NLFC322522T	2000 pieces/reel
	NLFC453232T	500 pieces/reel

Inductors

For Power Line
SMD

NLFC Series NLFC4532 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

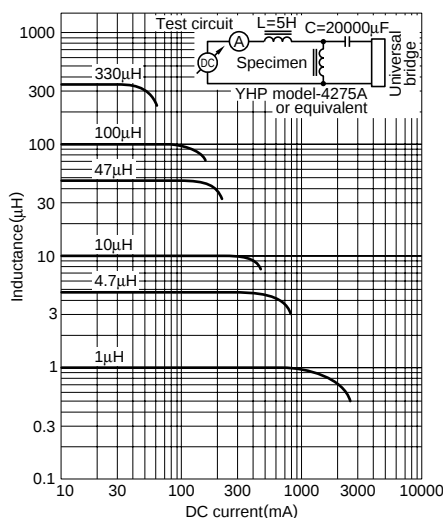
Inductance (μH)	Inductance tolerance	Q ref.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz) min.	DC resistance (Ω) ±30%	Rated current (mA)* max.		Part No.
						Based on inductance change	Based on temperature rise	
1	±20%	10	7.96	200	0.05	800	1400	NLFC453232T-1R0M
1.5	±20%	10	7.96	130	0.06	700	1200	NLFC453232T-1R5M
2.2	±20%	10	7.96	80	0.07	600	1100	NLFC453232T-2R2M
3.3	±20%	10	7.96	45	0.09	460	1050	NLFC453232T-3R3M
4.7	±20%	10	7.96	35	0.1	400	1000	NLFC453232T-4R7M
6.8	±20%	10	7.96	28	0.14	300	840	NLFC453232T-6R8M
10	±10%	10	2.52	22	0.21	250	690	NLFC453232T-100K
15	±10%	10	2.52	20	0.3	200	570	NLFC453232T-150K
22	±10%	10	2.52	18	0.46	170	460	NLFC453232T-220K
33	±10%	10	2.52	14	0.63	140	400	NLFC453232T-330K
47	±10%	10	2.52	11.5	0.85	120	340	NLFC453232T-470K
68	±10%	10	2.52	10	1.2	100	280	NLFC453232T-680K
100	±10%	10	0.796	8	1.7	90	240	NLFC453232T-101K
150	±10%	10	0.796	7	2.3	65	200	NLFC453232T-151K
220	±10%	10	0.796	5.5	3.8	55	160	NLFC453232T-221K
330	±10%	10	0.796	4	6	45	120	NLFC453232T-331K

* Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

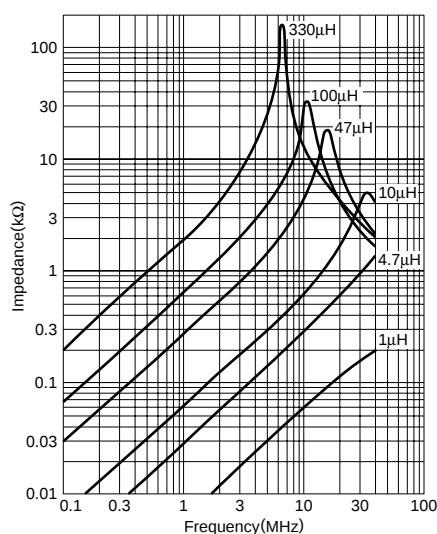
- Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1, or equivalent
SRF: HP8753C NETWORK ANALYZER (Zin=Zout=50Ω), or equivalent
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line

SMD

NLFC Series NLFC5650 Type

FEATURES

- The NLFC series features magnetic shielding and is recommended for power supply line applications.
- They are available in 5 form factors ranging from 2016 to 5650.

APPLICATIONS

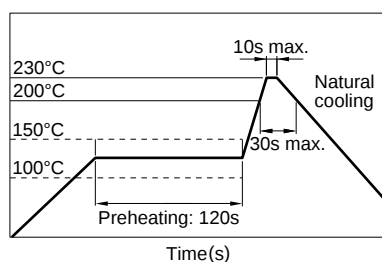
Personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

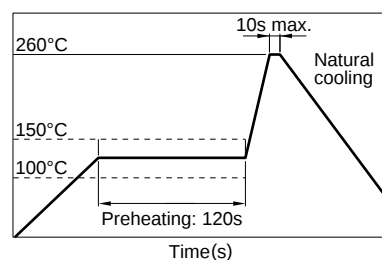
Type	Operating temperature range	Storage temperature range [Unit of products]
NLFC201614	-20 to +85°C	-40 to +85°C
NLFC252018	-20 to +85°C	-40 to +85°C
NLFC322522	-20 to +85°C	-40 to +85°C
NLFC453232	-20 to +80°C	-40 to +80°C
NLFC565050	-20 to +85°C	-40 to +85°C

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



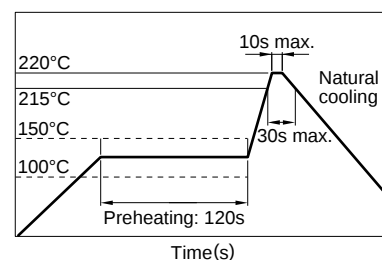
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

PRODUCT IDENTIFICATION

NLFC	201614	T-	2R2	M
(1)	(2)	(3)	(4)	(5)

(1)Series name

(2)Dimensions L×W×T

201614	2.1×1.6×1.4mm
252018	2.5×2.0×1.8mm
322522	3.2×2.5×2.2mm
453232	4.5×3.2×3.2mm
565050	5.6×5.0×5.0mm

(3)Packaging style

T	Taping (reel)
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(4)Inductance value

1R0	1μH
220	22μH

(5)Inductance tolerance

K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

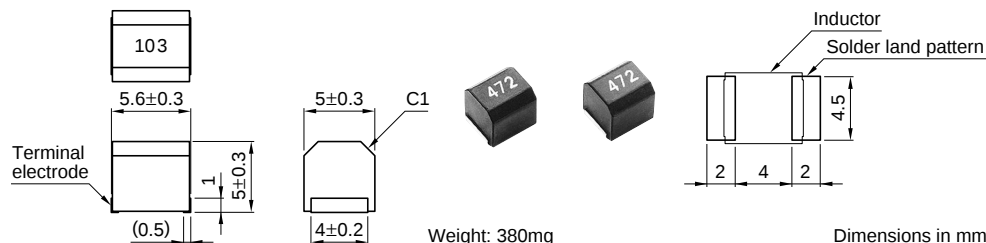
Packaging style	Type	Quantity
Taping	NLFC201614T	2000 pieces/reel
	NLFC252018T	2000 pieces/reel
	NLFC322522T	2000 pieces/reel
	NLFC453232T	500 pieces/reel
	NLFC565050T	400 pieces/reel

Inductors

For Power Line
SMD

NLFC Series NLFC5650 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (mH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (mA) max.	Part No.
1.5	±10%	30	0.252	1.5	7.5	50	NLFC565050T-152K
2.2	±10%	30	0.252	1.2	15	40	NLFC565050T-222K
3.3	±10%	30	0.252	0.8	15	33	NLFC565050T-332K
4.7	±10%	30	0.252	0.6	20	30	NLFC565050T-472K
6.8	±10%	30	0.252	0.5	30	25	NLFC565050T-682K
10	±10%	30	0.0796	0.45	55	20	NLFC565050T-103K
15	±10%	30	0.0796	0.4	90	15	NLFC565050T-153K
22	±10%	30	0.0796	0.35	120	13	NLFC565050T-223K
33	±10%	30	0.0796	0.3	190	11	NLFC565050T-333K
47	±10%	30	0.0796	0.25	250	9	NLFC565050T-473K
68	±10%	30	0.0796	0.2	320	7	NLFC565050T-683K
100	±10%	10	0.01	0.16	480	4	NLFC565050T-104K

• Inductance tolerance: Value of inductance corresponds to inductance value of standard products.

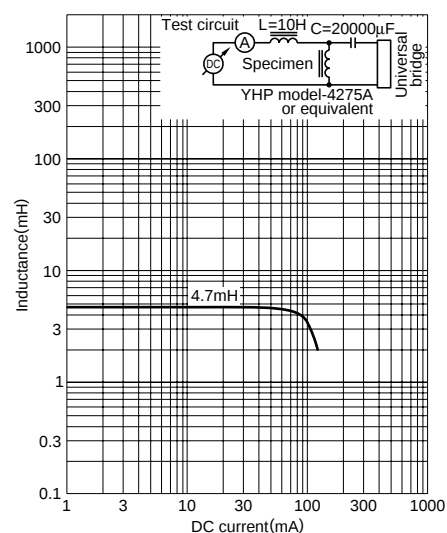
• Test equipment L, Q: YHP4194A IMPEDANCE ANALYZER+YHP16085A+YHP16093B+TF-1

SRF:HP8753C NETWORK ANALYZER

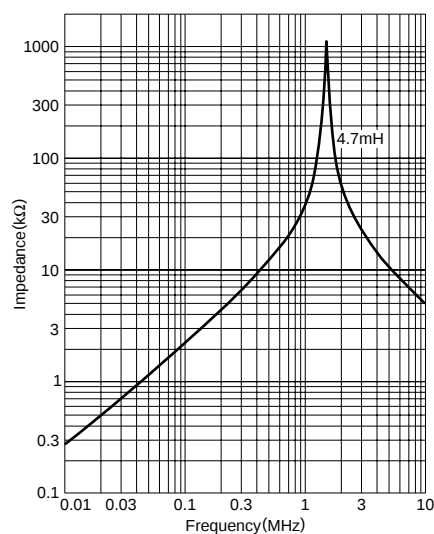
Rdc:MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line SMD

NLFV Series NLFV25 Type

FEATURES

- Provides high Q while using 252018 size winding construction.
- Environmentally friendly due to use of recyclable plastic (thermoplastic).
- Logo omitted to simplify production.
- Maintains interchangeability with earlier NL product series.
- NLV series are E-6 products, while NLCV and NLFV series are E-3 products.

APPLICATIONS

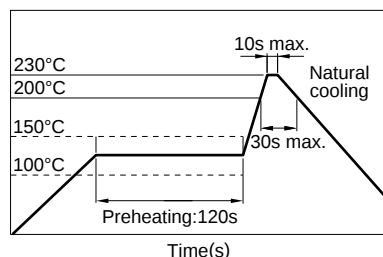
PCs, hard disk drives, and other types of electronics

SPECIFICATIONS

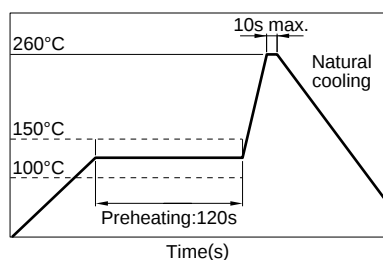
Type	Operating temperature range	Storage temperature range[Unit of products]
NLV25	-20 to +85°C	-40 to +85°C
NLCV25	-20 to +85°C	-40 to +85°C
NLFV25	-20 to +85°C	-40 to +85°C

RECOMMENDED SOLDERING CONDITIONS

REFLOW SOLDERING



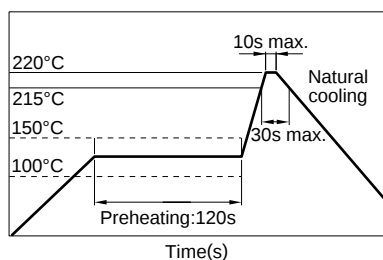
FLOW SOLDERING



IRON SOLDERING

Perform soldering at 250°C on 30W max. within 5 seconds.

VAPOR-PHASING



PRODUCT IDENTIFICATION

NLV	25	T-	2R2	J
(1)	(2)	(3)	(4)	(5)

(1) Series name

(2) Dimensions LxWxT

252018	2.5×2.0×1.8mm
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(3) Packaging style

T	Taping (reel)
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(4) Inductance value

1R0	1μH
220	22μH

(5) Inductance tolerance

J	±5%
K	±10%
M	±20%

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	NLV25T	2000 pieces/reel
	NLCV25T	2000 pieces/reel
	NLFV25T	2000 pieces/reel

PRECAUTIONS

- The exterior of this product can melt since due to thermoplastic construction. During mechanical contact while at the plastic softening temperature, deformation can occur at the contact location. Therefore caution is required when utilizing a soldering iron during the soldering operation.

FLUX AND CLEANING

Rosin-based flux is recommended.

Cleaning Conditions

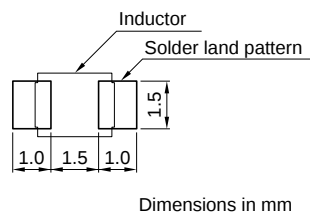
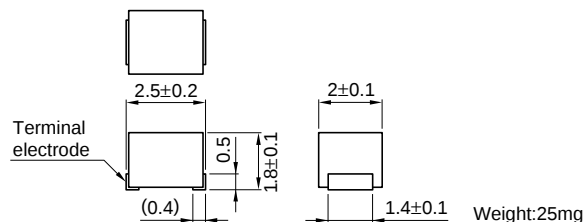
Solvent	Chlorine-based solvent (Do not use acid or alkali solvents.)
Time	2min max.

Inductors

For Power Line
SMD

NLFV Series NLFV25 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance(μH)	Inductance tolerance	Q typ.	Test frequency L,Q (MHz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)±20%	Rated current (mA)max.	Part No.
1	±20%	5	7.96	100	0.07	455	NLFV25T-1R0M
2.2	±20%	5	7.96	70	0.1	315	NLFV25T-2R2M
4.7	±20%	5	7.96	45	0.24	210	NLFV25T-4R7M
10	±10%	10	2.52	32	0.36	155	NLFV25T-100K
22	±10%	10	2.52	16	1	105	NLFV25T-220K
47	±10%	10	2.52	11	1.7	60	NLFV25T-470K
100	±10%	10	0.796	8	4	40	NLFV25T-101K

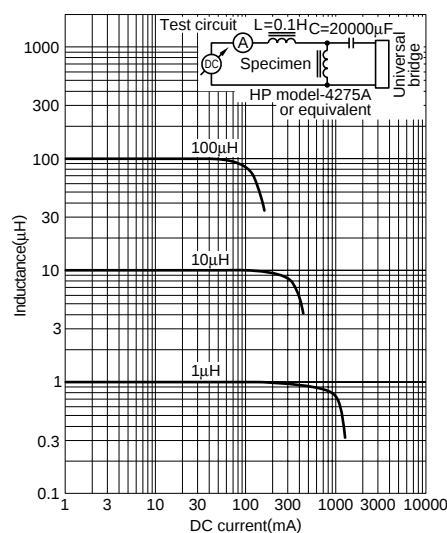
• Test equipment L, Q: HP4194A IMPEDANCE ANALYZER(16085A+16093B+TDK TF-1)

SRF: HP8753C NETWORK ANALYZER

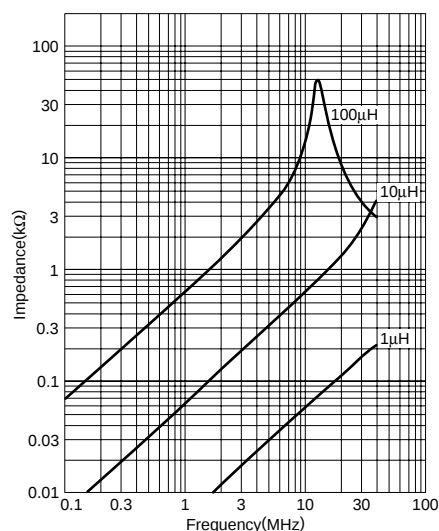
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line

SMD

SLF Series SLF10145 Type

FEATURES

- The SLF series are characterized by low profile, low DC resistance, and high current handling capacities.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

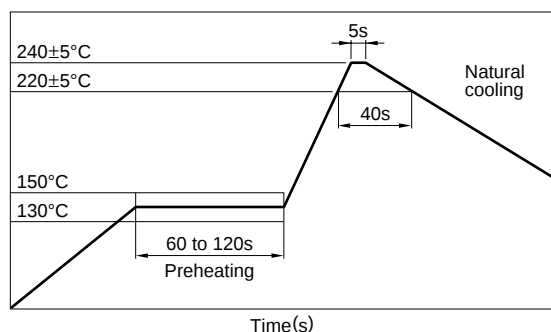
APPLICATIONS

Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
SLF6025	-20 to +85°C	-40 to +85°C
SLF6028	-20 to +85°C	-40 to +85°C
SLF7028	-20 to +85°C	-40 to +85°C
SLF7030	-20 to +85°C	-40 to +85°C
SLF7032	-20 to +85°C	-40 to +85°C
SLF7045	-20 to +85°C	-40 to +85°C
SLF10145	-20 to +90°C	-40 to +90°C
SLF12555	-20 to +90°C	-40 to +90°C
SLF12565	-20 to +105°C	-40 to +105°C
SLF12575	-20 to +105°C	-40 to +105°C

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

SLF	7032	T-	220	M	R96	-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W×T

6025	6.0×6.0×2.5mm
6028	6.0×6.0×2.8mm
7028	7.0×7.0×2.8mm
7030	7.0×7.0×3.0mm
7032	7.0×7.0×3.2mm
7045	7.0×7.0×4.5mm
10145	10.1×10.1×4.5mm
12555	12.5×12.5×5.5mm
12565	12.5×12.5×6.5mm
12575	12.5×12.5×7.5mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

3R3	3.3μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

1R9	1.9A
R96	0.96A

(7) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SLF6025T	1000 pieces/reel
	SLF6028T	1000 pieces/reel
	SLF7028T	1000 pieces/reel
	SLF7030T	1000 pieces/reel
	SLF7032T	1000 pieces/reel
	SLF7045T	1000 pieces/reel
	SLF10145T	500 pieces/reel
	SLF12555T	500 pieces/reel
	SLF12565T	500 pieces/reel
	SLF12575T	500 pieces/reel

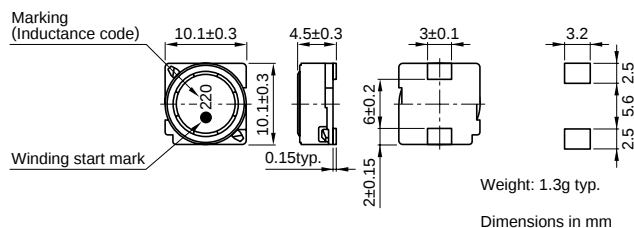
Inductors

For Power Line

SMD

SLF Series SLF10145 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

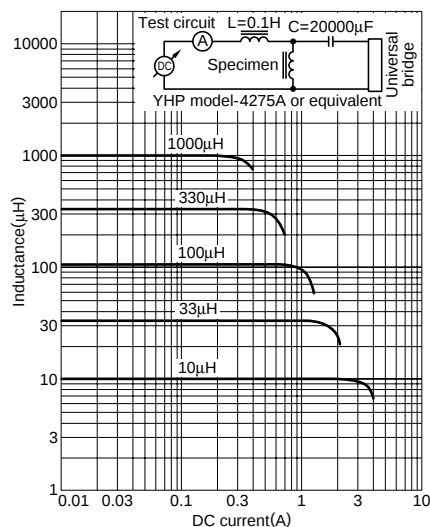
Inductance (μH)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω) $\pm 20\%$	Rated current (A)* max.		Part No.
				Based on inductance change	Based on temperature rise	
10	± 20	1	0.0364	3	2.5	SLF10145T-100M2R5
15	± 20	1	0.0472	2.4	2.2	SLF10145T-150M2R2
22	± 20	1	0.0591	2.1	1.9	SLF10145T-220M1R9
33	± 20	1	0.0815	1.6	1.7	SLF10145T-330M1R6
47	± 20	1	0.1	1.4	1.5	SLF10145T-470M1R4
68	± 20	1	0.14	1.2	1.3	SLF10145T-680M1R2
100	± 20	1	0.2	1	1.1	SLF10145T-101M1R0
150	± 20	1	0.35	0.79	0.81	SLF10145T-151MR79
220	± 20	1	0.47	0.65	0.7	SLF10145T-221MR65
330	± 20	1	0.68	0.54	0.58	SLF10145T-331MR54
470	± 20	1	1.03	0.47	0.47	SLF10145T-471MR47
680	± 20	1	1.6	0.38	0.38	SLF10145T-681MR38
1000	± 20	1	2.8	0.32	0.29	SLF10145T-102MR29
1500	± 20	1	3.4	0.22	0.26	SLF10145T-152MR22

* Rated current: Value obtained when current flows and the temperature has risen to 30°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

- Test equipment L: YHP 4194A IMPEDANCE GAIN/PHASE ANALYZER, or equivalent (Measured at 1kHz/0.5V)
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

SMD

SLF Series SLF12555 Type

FEATURES

- The SLF series are characterized by low profile, low DC resistance, and high current handling capacities.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

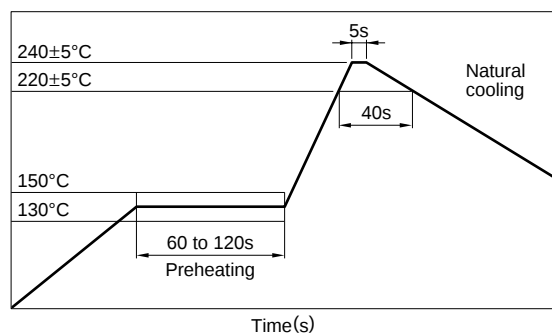
APPLICATIONS

Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
SLF6025	-20 to +85°C	-40 to +85°C
SLF6028	-20 to +85°C	-40 to +85°C
SLF7028	-20 to +85°C	-40 to +85°C
SLF7030	-20 to +85°C	-40 to +85°C
SLF7032	-20 to +85°C	-40 to +85°C
SLF7045	-20 to +85°C	-40 to +85°C
SLF10145	-20 to +90°C	-40 to +90°C
SLF12555	-20 to +90°C	-40 to +90°C
SLF12565	-20 to +105°C	-40 to +105°C
SLF12575	-20 to +105°C	-40 to +105°C

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

SLF	7032	T-	220	M	R96	-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W×T

6025	6.0×6.0×2.5mm
6028	6.0×6.0×2.8mm
7028	7.0×7.0×2.8mm
7030	7.0×7.0×3.0mm
7032	7.0×7.0×3.2mm
7045	7.0×7.0×4.5mm
10145	10.1×10.1×4.5mm
12555	12.5×12.5×5.5mm
12565	12.5×12.5×6.5mm
12575	12.5×12.5×7.5mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

3R3	3.3μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

1R9	1.9A
R96	0.96A

(7) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SLF6025T	1000 pieces/reel
	SLF6028T	1000 pieces/reel
	SLF7028T	1000 pieces/reel
	SLF7030T	1000 pieces/reel
	SLF7032T	1000 pieces/reel
	SLF7045T	1000 pieces/reel
	SLF10145T	500 pieces/reel
	SLF12555T	500 pieces/reel
	SLF12565T	500 pieces/reel
	SLF12575T	500 pieces/reel

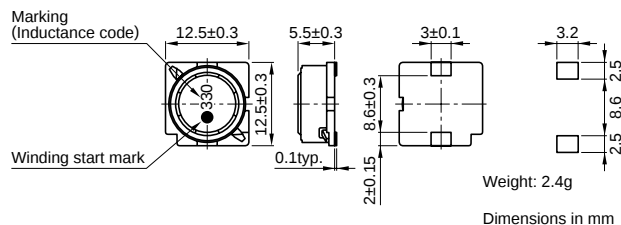
Inductors

For Power Line

SMD

SLF Series SLF12555 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

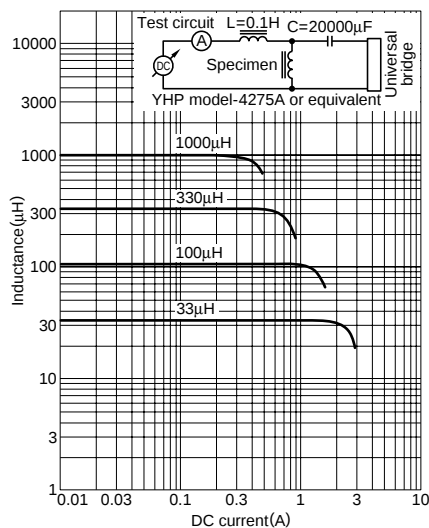
Inductance (μH)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω)±20%	Rated current (A)* max.		Part No.
				Based on inductance change	Based on temperature rise	
6	±30	1	0.0164	3.6	4.9	SLF12555T-6R0N3R6
10	±20	1	0.0215	3.4	4.3	SLF12555T-100M3R4
15	±20	1	0.0259	2.8	3.9	SLF12555T-150M2R8
22	±20	1	0.0338	2.3	3.4	SLF12555T-220M2R3
33	±20	1	0.0415	1.9	3.1	SLF12555T-330M1R9
47	±20	1	0.0618	1.6	2.5	SLF12555T-470M1R6
68	±20	1	0.0832	1.3	2.2	SLF12555T-680M1R3
100	±20	1	0.117	1.1	1.8	SLF12555T-101M1R1
150	±20	1	0.19	0.88	1.4	SLF12555T-151MR88
220	±20	1	0.27	0.72	1.2	SLF12555T-221MR72
330	±20	1	0.41	0.59	1	SLF12555T-331MR59
470	±20	1	0.52	0.49	0.88	SLF12555T-471MR49
680	±20	1	0.76	0.43	0.73	SLF12555T-681MR43
1000	±20	1	1.12	0.34	0.6	SLF12555T-102MR34
1500	±20	1	1.73	0.29	0.48	SLF12555T-152MR29

* Rated current: Value obtained when current flows and the temperature has risen to 30°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

- Test equipment L: YHP 4194A IMPEDANCE GAIN/PHASE ANALYZER, or equivalent (Measured at 1kHz/0.5V)
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

SMD

SLF Series SLF12565 Type

FEATURES

- The SLF series are characterized by low profile, low DC resistance, and high current handling capacities.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

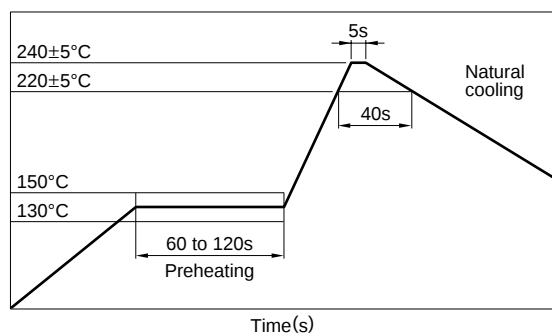
APPLICATIONS

Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
SLF6025	-20 to +85°C	-40 to +85°C
SLF6028	-20 to +85°C	-40 to +85°C
SLF7028	-20 to +85°C	-40 to +85°C
SLF7030	-20 to +85°C	-40 to +85°C
SLF7032	-20 to +85°C	-40 to +85°C
SLF7045	-20 to +85°C	-40 to +85°C
SLF10145	-20 to +90°C	-40 to +90°C
SLF12555	-20 to +90°C	-40 to +90°C
SLF12565	-20 to +105°C	-40 to +105°C
SLF12575	-20 to +105°C	-40 to +105°C

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

SLF	7032	T	220	M	R96	-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W×T

6025	6.0×6.0×2.5mm
6028	6.0×6.0×2.8mm
7028	7.0×7.0×2.8mm
7030	7.0×7.0×3.0mm
7032	7.0×7.0×3.2mm
7045	7.0×7.0×4.5mm
10145	10.1×10.1×4.5mm
12555	12.5×12.5×5.5mm
12565	12.5×12.5×6.5mm
12575	12.5×12.5×7.5mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

3R3	3.3μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

1R9	1.9A
R96	0.96A

(7) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SLF6025T	1000 pieces/reel
	SLF6028T	1000 pieces/reel
	SLF7028T	1000 pieces/reel
	SLF7030T	1000 pieces/reel
	SLF7032T	1000 pieces/reel
	SLF7045T	1000 pieces/reel
	SLF10145T	500 pieces/reel
	SLF12555T	500 pieces/reel
	SLF12565T	500 pieces/reel
	SLF12575T	500 pieces/reel

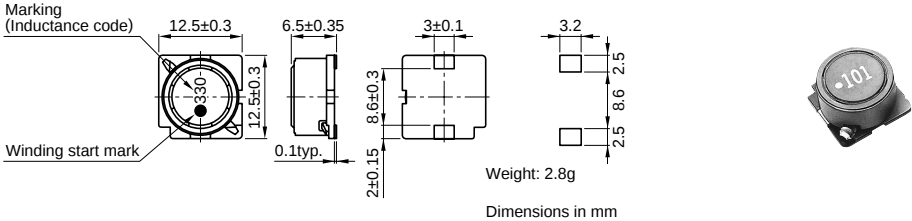
Inductors

For Power Line

SMD

SLF Series SLF12565 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

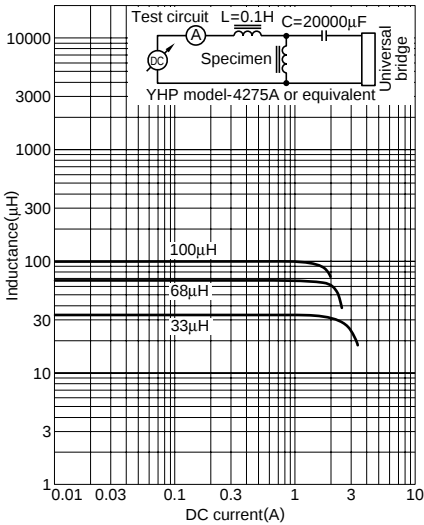
Inductance (μ H)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω) $\pm$ 20%	Rated current (A)* max.		Part No.
				Based on inductance change	Based on temperature rise	
2	$\pm$ 30	1	0.0117	10	6.2	SLF12565T-2R0N6R2
4.2	$\pm$ 30	1	0.015	7.3	5.5	SLF12565T-4R2N5R5
7	$\pm$ 30	1	0.0177	5.7	5	SLF12565T-7R0N5R0
10	$\pm$ 20	1	0.0202	5	4.8	SLF12565T-100M4R8
15	$\pm$ 20	1	0.0237	4.2	4.4	SLF12565T-150M4R2
22	$\pm$ 20	1	0.0316	3.5	3.8	SLF12565T-220M3R5
33	$\pm$ 20	1	0.0406	2.8	3.4	SLF12565T-330M2R8
47	$\pm$ 20	1	0.0578	2.4	2.8	SLF12565T-470M2R4
68	$\pm$ 20	1	0.0787	2	2.4	SLF12565T-680M2R0
100	$\pm$ 20	1	0.123	1.6	1.9	SLF12565T-101M1R6
220	$\pm$ 20	1	0.273	1	1.2	SLF12565T-221M1R0

* Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

- Test equipment L: YHP 4194A IMPEDANCE GAIN/PHASE ANALYZER, or equivalent (Measured at 1kHz/0.5V)
Rdc: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

SMD

SLF Series SLF12575 Type

FEATURES

- The SLF series are characterized by low profile, low DC resistance, and high current handling capacities.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

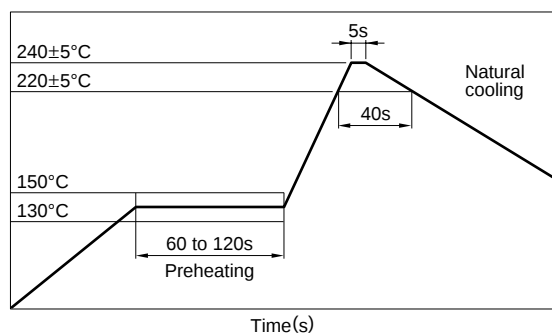
APPLICATIONS

Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
SLF6025	-20 to +85°C	-40 to +85°C
SLF6028	-20 to +85°C	-40 to +85°C
SLF7028	-20 to +85°C	-40 to +85°C
SLF7030	-20 to +85°C	-40 to +85°C
SLF7032	-20 to +85°C	-40 to +85°C
SLF7045	-20 to +85°C	-40 to +85°C
SLF10145	-20 to +90°C	-40 to +90°C
SLF12555	-20 to +90°C	-40 to +90°C
SLF12565	-20 to +105°C	-40 to +105°C
SLF12575	-20 to +105°C	-40 to +105°C

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

SLF	7032	T-	220	M	R96	-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W×T

6025	6.0×6.0×2.5mm
6028	6.0×6.0×2.8mm
7028	7.0×7.0×2.8mm
7030	7.0×7.0×3.0mm
7032	7.0×7.0×3.2mm
7045	7.0×7.0×4.5mm
10145	10.1×10.1×4.5mm
12555	12.5×12.5×5.5mm
12565	12.5×12.5×6.5mm
12575	12.5×12.5×7.5mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

3R3	3.3μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

1R9	1.9A
R96	0.96A

(7) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SLF6025T	1000 pieces/reel
	SLF6028T	1000 pieces/reel
	SLF7028T	1000 pieces/reel
	SLF7030T	1000 pieces/reel
	SLF7032T	1000 pieces/reel
	SLF7045T	1000 pieces/reel
	SLF10145T	500 pieces/reel
	SLF12555T	500 pieces/reel
	SLF12565T	500 pieces/reel
	SLF12575T	500 pieces/reel

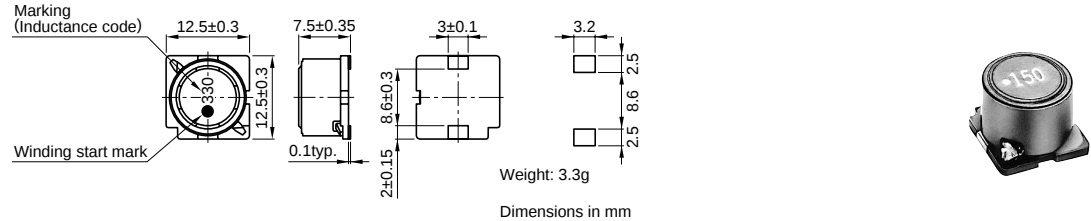
Inductors

For Power Line

SMD

SLF Series SLF12575 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

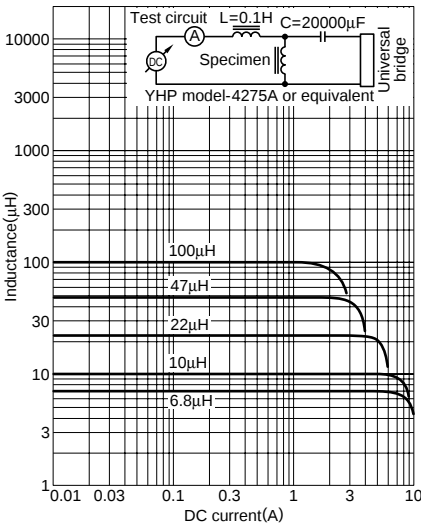
Inductance (μH)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω)±20%	Rated current (A)* max.		Part No.
				Based on inductance change	Based on temperature rise	
1.2	±30	1	0.0069	13	8.2	SLF12575T-1R2N8R2
2.7	±30	1	0.0094	10	7	SLF12575T-2R7N7R0
3.9	±30	1	0.0104	9	6.7	SLF12575T-3R9N6R7
5.6	±30	1	0.0116	7.8	6.3	SLF12575T-5R6N6R3
6.8	±30	1	0.0131	7.2	5.9	SLF12575T-6R8N5R9
10	±20	1	0.0156	5.5	5.4	SLF12575T-100M5R4
15	±20	1	0.0184	4.7	5	SLF12575T-150M4R7
22	±20	1	0.0263	4	4	SLF12575T-220M4R0
33	±20	1	0.0395	3.2	3.4	SLF12575T-330M3R2
47	±20	1	0.0528	2.7	3	SLF12575T-470M2R7
68	±20	1	0.0778	2	2.4	SLF12575T-680M2R0
100	±20	1	0.125	1.9	1.9	SLF12575T-101M1R9
150	±20	1	0.175	1.5	1.6	SLF12575T-151M1R5
220	±20	1	0.258	1.3	1.3	SLF12575T-221M1R3

* Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

- Test equipment L:YHP 4194A IMPEDANCE GAIN/PHASE ANALYZER, or equivalent (Measured at 1kHz/0.5V)
Rdc:MATSUSHITA VP-2941A DIGITAL MILLIOHM METER, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

SMD

SLF Series SLF6028 Type

FEATURES

- The SLF series are characterized by low profile, low DC resistance, and high current handling capacities.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

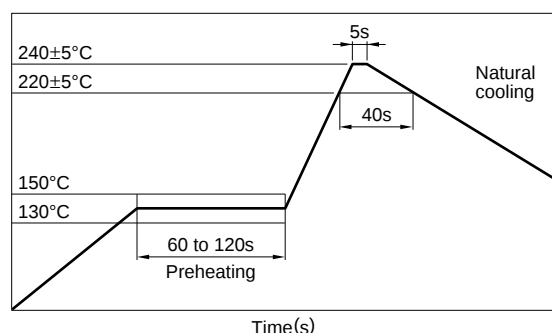
APPLICATIONS

Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
SLF6025	-20 to +85°C	-40 to +85°C
SLF6028	-20 to +85°C	-40 to +85°C
SLF7028	-20 to +85°C	-40 to +85°C
SLF7030	-20 to +85°C	-40 to +85°C
SLF7032	-20 to +85°C	-40 to +85°C
SLF7045	-20 to +85°C	-40 to +85°C
SLF10145	-20 to +90°C	-40 to +90°C
SLF12555	-20 to +90°C	-40 to +90°C
SLF12565	-20 to +105°C	-40 to +105°C
SLF12575	-20 to +105°C	-40 to +105°C

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

SLF	7032	T-	220	M	R96	-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W×T

6025	6.0×6.0×2.5mm
6028	6.0×6.0×2.8mm
7028	7.0×7.0×2.8mm
7030	7.0×7.0×3.0mm
7032	7.0×7.0×3.2mm
7045	7.0×7.0×4.5mm
10145	10.1×10.1×4.5mm
12555	12.5×12.5×5.5mm
12565	12.5×12.5×6.5mm
12575	12.5×12.5×7.5mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

3R3	3.3μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

1R9	1.9A
R96	0.96A

(7) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SLF6025T	1000 pieces/reel
	SLF6028T	1000 pieces/reel
	SLF7028T	1000 pieces/reel
	SLF7030T	1000 pieces/reel
	SLF7032T	1000 pieces/reel
	SLF7045T	1000 pieces/reel
	SLF10145T	500 pieces/reel
	SLF12555T	500 pieces/reel
	SLF12565T	500 pieces/reel
	SLF12575T	500 pieces/reel

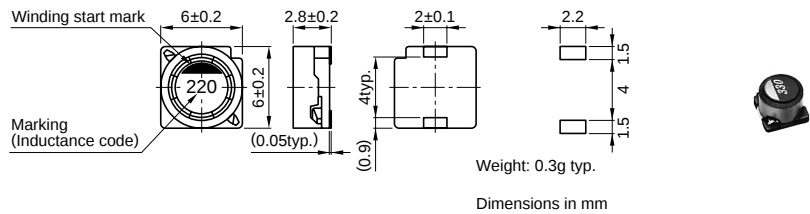
Inductors

For Power Line

SMD

SLF Series SLF6028 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

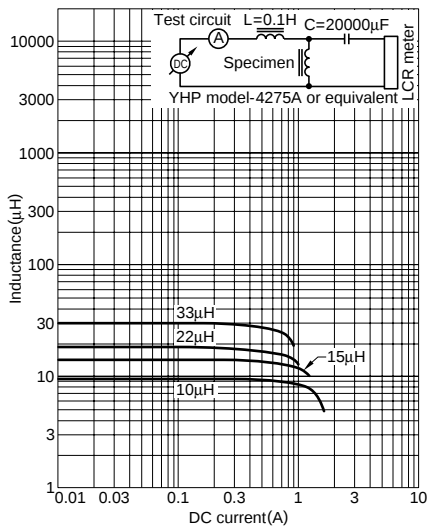
Inductance (μH)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω)±20%	Rated current (A)*		Part No.
				Based on inductance change	Based on temperature rise	
4.7	±20	1	0.0284	1.6max.	2.5typ.	SLF6028T-4R7M1R6
6.8	±20	1	0.0354	1.5max.	2.2typ.	SLF6028T-6R8M1R5
10	±20	1	0.0532	1.3max.	1.8typ.	SLF6028T-100M1R3
15	±20	1	0.0745	1max.	1.4typ.	SLF6028T-150M1R0
22	±20	1	0.104	0.77max.	1.3typ.	SLF6028T-220MR77
33	±20	1	0.148	0.69max.	1.1typ.	SLF6028T-330MR69
47	±20	1	0.21	0.59max.	0.92typ.	SLF6028T-470MR59
68	±20	1	0.29	0.5max.	0.78typ.	SLF6028T-680MR50
100	±20	1	0.43	0.42max.	0.64typ.	SLF6028T-101MR42

* Rated current: Value obtained when current flows and the temperature has risen to 25°C or when DC current flows and the initial value of inductance has fallen by 30%, whichever is smaller.

- Test equipment Inductance: YHP 4194A IMPEDANCE GAIN/PHASE ANALYZER, or equivalent (Test frequency: 1kHz/0.5V)
Rdc: DIGITAL MILLIOHM METER VP-2941A MATSUSHITA, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

SMD

SLF Series SLF7028 Type

FEATURES

- The SLF series are characterized by low profile, low DC resistance, and high current handling capacities.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

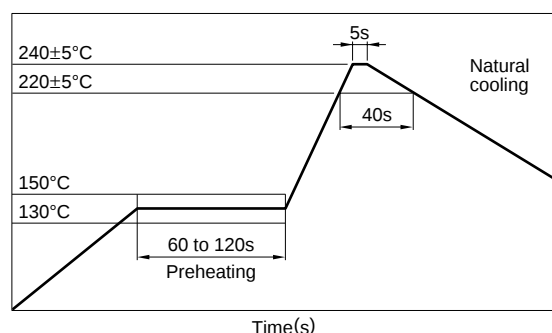
APPLICATIONS

Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
SLF6025	-20 to +85°C	-40 to +85°C
SLF6028	-20 to +85°C	-40 to +85°C
SLF7028	-20 to +85°C	-40 to +85°C
SLF7030	-20 to +85°C	-40 to +85°C
SLF7032	-20 to +85°C	-40 to +85°C
SLF7045	-20 to +85°C	-40 to +85°C
SLF10145	-20 to +90°C	-40 to +90°C
SLF12555	-20 to +90°C	-40 to +90°C
SLF12565	-20 to +105°C	-40 to +105°C
SLF12575	-20 to +105°C	-40 to +105°C

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

SLF	7032	T	220	M	R96	-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W×T

6025	6.0×6.0×2.5mm
6028	6.0×6.0×2.8mm
7028	7.0×7.0×2.8mm
7030	7.0×7.0×3.0mm
7032	7.0×7.0×3.2mm
7045	7.0×7.0×4.5mm
10145	10.1×10.1×4.5mm
12555	12.5×12.5×5.5mm
12565	12.5×12.5×6.5mm
12575	12.5×12.5×7.5mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

3R3	3.3μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

1R9	1.9A
R96	0.96A

(7) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SLF6025T	1000 pieces/reel
	SLF6028T	1000 pieces/reel
	SLF7028T	1000 pieces/reel
	SLF7030T	1000 pieces/reel
	SLF7032T	1000 pieces/reel
	SLF7045T	1000 pieces/reel
	SLF10145T	500 pieces/reel
	SLF12555T	500 pieces/reel
	SLF12565T	500 pieces/reel
	SLF12575T	500 pieces/reel

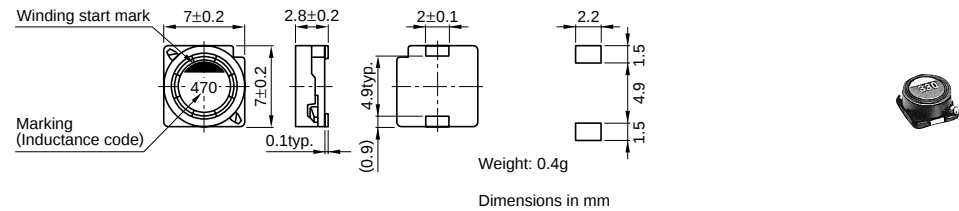
Inductors

For Power Line

SMD

SLF Series SLF7028 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



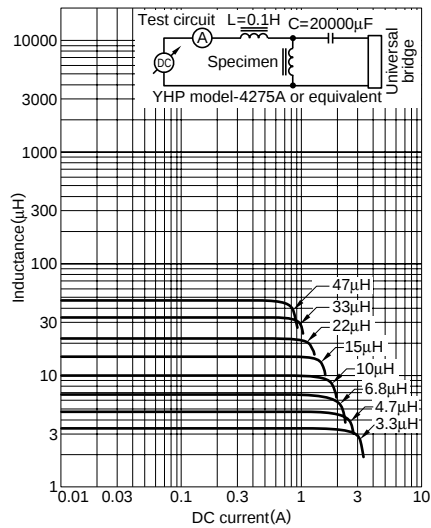
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω)±20%	Rated current (A)max.	Part No.
3.3	±20	1	0.037	1.6	SLF7028T-3R3M1R6
4.7	±20	1	0.045	1.5	SLF7028T-4R7M1R5
6.8	±20	1	0.059	1.3	SLF7028T-6R8M1R3
10	±20	1	0.083	1.1	SLF7028T-100M1R1
15	±20	1	0.13	0.88	SLF7028T-150MR88
22	±20	1	0.18	0.75	SLF7028T-220MR75
33	±20	1	0.24	0.65	SLF7028T-330MR65
47	±20	1	0.34	0.54	SLF7028T-470MR54

- Test equipment L:YHP 4194A IMPEDANCE GAIN/PHASE ANALYZER or equivalent (Measured at 1kHz/0.5V)
Rdc:MATSUSHITA,VP-2941A DIGITAL MILLIOHM METER or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

SMD

SLF Series SLF7030 Type

FEATURES

- The SLF series are characterized by low profile, low DC resistance, and high current handling capacities.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

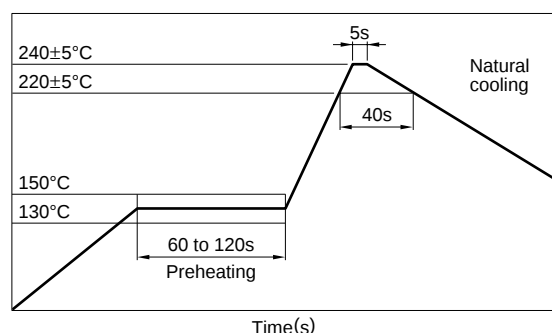
APPLICATIONS

Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
SLF6025	-20 to +85°C	-40 to +85°C
SLF6028	-20 to +85°C	-40 to +85°C
SLF7028	-20 to +85°C	-40 to +85°C
SLF7030	-20 to +85°C	-40 to +85°C
SLF7032	-20 to +85°C	-40 to +85°C
SLF7045	-20 to +85°C	-40 to +85°C
SLF10145	-20 to +90°C	-40 to +90°C
SLF12555	-20 to +90°C	-40 to +90°C
SLF12565	-20 to +105°C	-40 to +105°C
SLF12575	-20 to +105°C	-40 to +105°C

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

SLF	7032	T	220	M	R96	-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W×T

6025	6.0×6.0×2.5mm
6028	6.0×6.0×2.8mm
7028	7.0×7.0×2.8mm
7030	7.0×7.0×3.0mm
7032	7.0×7.0×3.2mm
7045	7.0×7.0×4.5mm
10145	10.1×10.1×4.5mm
12555	12.5×12.5×5.5mm
12565	12.5×12.5×6.5mm
12575	12.5×12.5×7.5mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

3R3	3.3μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

1R9	1.9A
R96	0.96A

(7) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SLF6025T	1000 pieces/reel
	SLF6028T	1000 pieces/reel
	SLF7028T	1000 pieces/reel
	SLF7030T	1000 pieces/reel
	SLF7032T	1000 pieces/reel
	SLF7045T	1000 pieces/reel
	SLF10145T	500 pieces/reel
	SLF12555T	500 pieces/reel
	SLF12565T	500 pieces/reel
	SLF12575T	500 pieces/reel

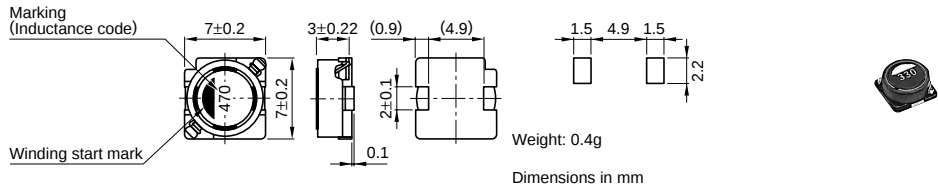
Inductors

For Power Line

SMD

SLF Series SLF7030 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω)±20%	Rated current (A)*max.	Part No.
3.3	±20	1	0.023	1.8	SLF7030T-3R3M1R8
4.7	±20	1	0.036	1.6	SLF7030T-4R7M1R6
6.8	±20	1	0.041	1.5	SLF7030T-6R8M1R5
10	±20	1	0.053	1.3	SLF7030T-100M1R3
15	±20	1	0.084	1	SLF7030T-150M1R0
22	±20	1	0.11	0.86	SLF7030T-220MR86
33	±20	1	0.16	0.65	SLF7030T-330MR65
47	±20	1	0.24	0.57	SLF7030T-470MR57
68	±20	1	0.31	0.49	SLF7030T-680MR49
100	±20	1	0.45	0.35	SLF7030T-101MR35

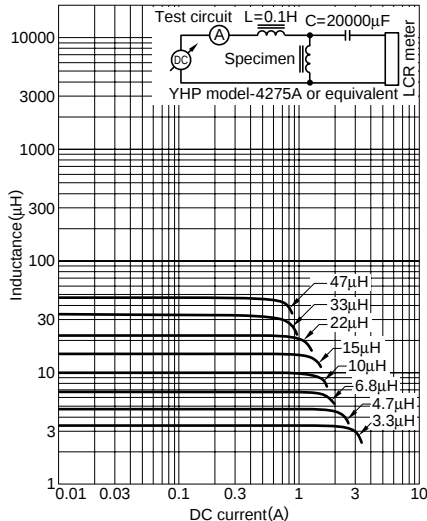
* Rated current: Value obtained that the initial value of inductance has fallen by 10% and the temperature rise specifications.

• Test equipment L:YHP 4194A IMPEDANCE GAIN/PHASE ANALYZER or equivalent (Measured at 1kHz/0.5V)
Rdc:MATSUSHITA,VP-2941A DIGITAL MILLIOHM METER or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION

CHARACTERISTICS



Inductors

For Power Line

SMD

SLF Series SLF7032 Type

FEATURES

- The SLF series are characterized by low profile, low DC resistance, and high current handling capacities.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

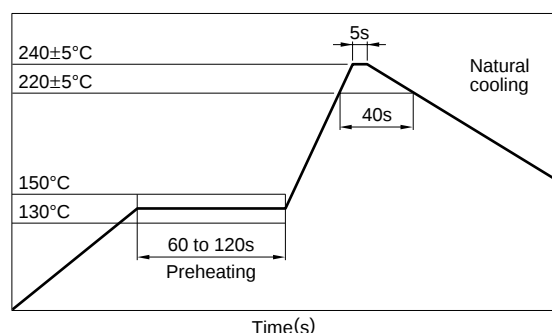
APPLICATIONS

Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
SLF6025	-20 to +85°C	-40 to +85°C
SLF6028	-20 to +85°C	-40 to +85°C
SLF7028	-20 to +85°C	-40 to +85°C
SLF7030	-20 to +85°C	-40 to +85°C
SLF7032	-20 to +85°C	-40 to +85°C
SLF7045	-20 to +85°C	-40 to +85°C
SLF10145	-20 to +90°C	-40 to +90°C
SLF12555	-20 to +90°C	-40 to +90°C
SLF12565	-20 to +105°C	-40 to +105°C
SLF12575	-20 to +105°C	-40 to +105°C

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

SLF	7032	T	220	M	R96	-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W×T

6025	6.0×6.0×2.5mm
6028	6.0×6.0×2.8mm
7028	7.0×7.0×2.8mm
7030	7.0×7.0×3.0mm
7032	7.0×7.0×3.2mm
7045	7.0×7.0×4.5mm
10145	10.1×10.1×4.5mm
12555	12.5×12.5×5.5mm
12565	12.5×12.5×6.5mm
12575	12.5×12.5×7.5mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

3R3	3.3μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

1R9	1.9A
R96	0.96A

(7) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SLF6025T	1000 pieces/reel
	SLF6028T	1000 pieces/reel
	SLF7028T	1000 pieces/reel
	SLF7030T	1000 pieces/reel
	SLF7032T	1000 pieces/reel
	SLF7045T	1000 pieces/reel
	SLF10145T	500 pieces/reel
	SLF12555T	500 pieces/reel
	SLF12565T	500 pieces/reel
	SLF12575T	500 pieces/reel

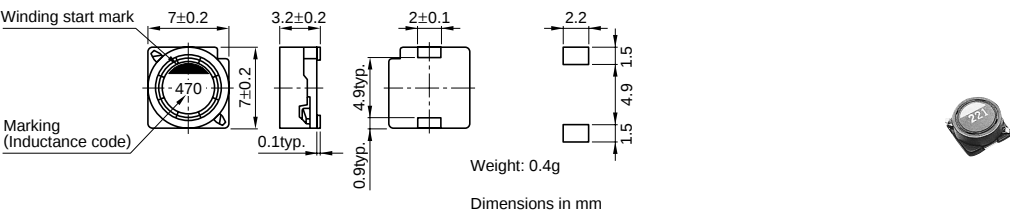
Inductors

For Power Line

SMD

SLF Series SLF7032 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



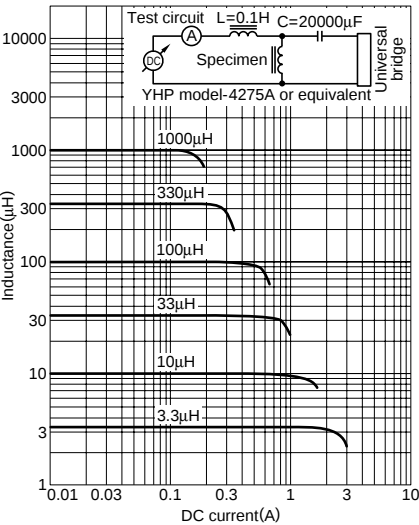
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω)±20%	Rated current (A)max.	Part No.
3.3	±20	1	0.023	1.9	SLF7032T-3R3M1R9-2
4.7	±20	1	0.036	1.7	SLF7032T-4R7M1R7-2
6.8	±20	1	0.041	1.6	SLF7032T-6R8M1R6-2
10	±20	1	0.053	1.4	SLF7032T-100M1R4-2
15	±20	1	0.075	1.1	SLF7032T-150M1R1-2
22	±20	1	0.11	0.96	SLF7032T-220MR96-2
33	±20	1	0.16	0.75	SLF7032T-330MR75-2
47	±20	1	0.24	0.67	SLF7032T-470MR67-2
68	±20	1	0.31	0.59	SLF7032T-680MR59-2
100	±20	1	0.45	0.45	SLF7032T-101MR45-2
150	±20	1	0.65	0.37	SLF7032T-151MR37-2
220	±20	1	1.05	0.29	SLF7032T-221MR29-2
330	±20	1	1.67	0.22	SLF7032T-331MR22-2
470	±20	1	2.05	0.2	SLF7032T-471MR20-2
680	±20	1	3.15	0.16	SLF7032T-681MR16-2
1000	±20	1	4.78	0.13	SLF7032T-102MR13-2

• Test equipment L:YHP 4194A IMPEDANCE GAIN/PHASE ANALYZER or equivalent (Measured at 1kHz/0.5V)
Rdc:MATSUSHITA,VP-2941A DIGITAL MILLIOHM METER or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

SMD

SLF Series SLF7045 Type

FEATURES

- The SLF series are characterized by low profile, low DC resistance, and high current handling capacities.
- Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- Flat bottom surface ensures secure, reliable mounting.
- Provided in embossed carrier tape packaging for use with automatic mounting machines.

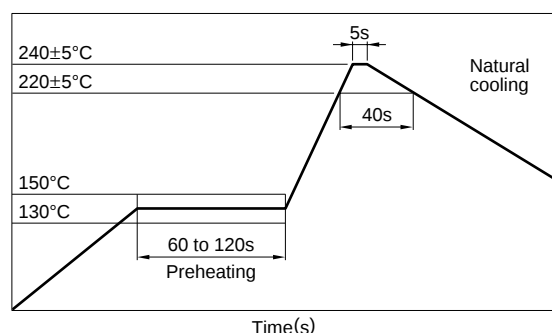
APPLICATIONS

Portable telephones, personal computers, hard disk drives, and other electronic equipment.

SPECIFICATIONS

Type	Operating temperature range [Including self-temperature rise]	Storage temperature range [Unit of products]
SLF6025	-20 to +85°C	-40 to +85°C
SLF6028	-20 to +85°C	-40 to +85°C
SLF7028	-20 to +85°C	-40 to +85°C
SLF7030	-20 to +85°C	-40 to +85°C
SLF7032	-20 to +85°C	-40 to +85°C
SLF7045	-20 to +85°C	-40 to +85°C
SLF10145	-20 to +90°C	-40 to +90°C
SLF12555	-20 to +90°C	-40 to +90°C
SLF12565	-20 to +105°C	-40 to +105°C
SLF12575	-20 to +105°C	-40 to +105°C

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

SLF	7032	T-	220	M	R96	-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W×T

6025	6.0×6.0×2.5mm
6028	6.0×6.0×2.8mm
7028	7.0×7.0×2.8mm
7030	7.0×7.0×3.0mm
7032	7.0×7.0×3.2mm
7045	7.0×7.0×4.5mm
10145	10.1×10.1×4.5mm
12555	12.5×12.5×5.5mm
12565	12.5×12.5×6.5mm
12575	12.5×12.5×7.5mm

(3) Packaging style

T	Taping(reel)
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(4) Inductance value

3R3	3.3μH
100	10μH

(5) Inductance tolerance

M	±20%
N	±30%

(6) Rated current

1R9	1.9A
R96	0.96A

(7) TDK internal code

(Some products may not have this number. See the main body for details.)

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping	SLF6025T	1000 pieces/reel
	SLF6028T	1000 pieces/reel
	SLF7028T	1000 pieces/reel
	SLF7030T	1000 pieces/reel
	SLF7032T	1000 pieces/reel
	SLF7045T	1000 pieces/reel
	SLF10145T	500 pieces/reel
	SLF12555T	500 pieces/reel
	SLF12565T	500 pieces/reel
	SLF12575T	500 pieces/reel

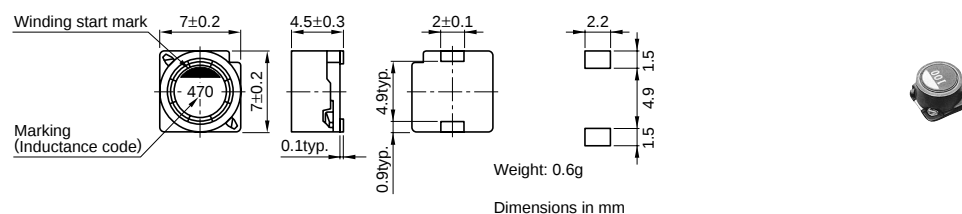
Inductors

For Power Line

SMD

SLF Series SLF7045 Type

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



ELECTRICAL CHARACTERISTICS

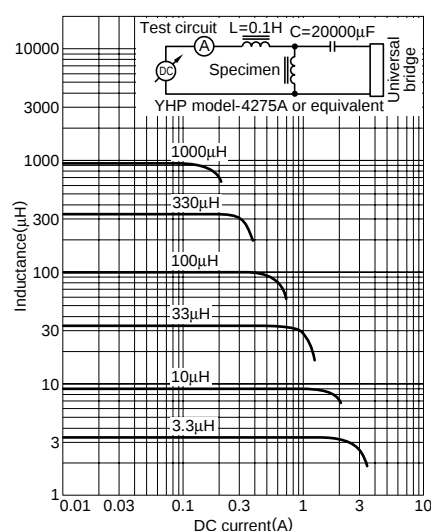
Inductance (μH)	Inductance tolerance (%)	Test frequency L (kHz)	DC resistance (Ω) $\pm 20\%$	Rated current(A)* max.		Part No.
				Based on inductance change	Based on temperature rise	
3.3	± 20	1	0.02	2.5	2.3	SLF7045T-3R3M2R5
4.7	± 20	1	0.03	2	2.1	SLF7045T-4R7M2R0
6.8	± 20	1	0.039	1.7	1.74	SLF7045T-6R8M1R7
10	± 20	1	0.036	1.3	1.78	SLF7045T-100M1R3
15	± 20	1	0.052	1.1	1.53	SLF7045T-150M1R1
22	± 20	1	0.061	0.9	1.34	SLF7045T-220MR90
33	± 20	1	0.096	0.82	1.09	SLF7045T-330MR82
47	± 20	1	0.125	0.75	0.92	SLF7045T-470MR75
68	± 20	1	0.175	0.6	0.77	SLF7045T-680MR60
100	± 20	1	0.25	0.5	0.65	SLF7045T-101MR50
150	± 20	1	0.34	0.4	0.55	SLF7045T-151MR40
220	± 20	1	0.52	0.33	0.45	SLF7045T-221MR33
330	± 20	1	0.74	0.25	0.37	SLF7045T-331MR25
470	± 20	1	1.05	0.22	0.31	SLF7045T-471MR22
680	± 20	1	1.48	0.2	0.27	SLF7045T-681MR20
1000	± 20	1	2.28	0.14	0.25	SLF7045T-102MR14

* Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

- Test equipment L: YHP 4194A IMPEDANCE GAIN/PHASE ANALYZER or equivalent (Measured at 1kHz/0.5V)
Rdc: MATSUSHITA, VP-2941A DIGITAL MILLIOHM METER or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

Radial

ELC Series ELC0607 Type

FEATURES

- The ELC series feature low DC resistance and high current handling capacities, making them ideal for power supply applications.
- Epoxy resin construction assures high reliability.
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipment.

SPECIFICATIONS

Operating temperature range	−20 to +80°C [Including self-temperature rise]
Storage temperature range	−40 to +80°C [Unit of products]
Terminal tensile strength	14.7N min.

PRODUCT IDENTIFICATION

ELC	0607	RA-	1R0	J	3R0
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0607	7.4×6.2×10mm (lead pitch 5mm)
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(3)Packaging style (Taping products are standard.)

RA	Taping (ammo-pack)
SKI	Bulk

(4)Inductance value

1R0	1μH
120	12μH

(5)Inductance tolerance

J	±5%
K	±10%

(6)Rated current

3R0	3A
R92	0.92A

PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping(Ammo-pack)	2000 pieces/box
Bulk	1000 pieces/pack

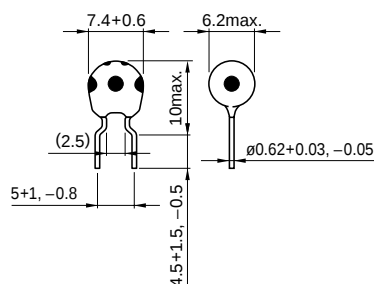
Inductors

For Power Line
Radial

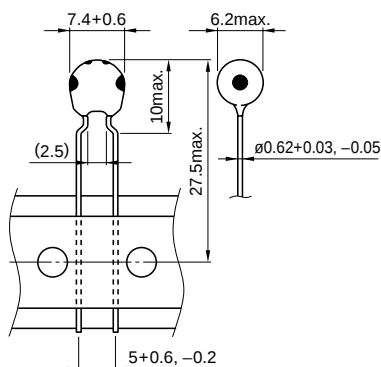
ELC Series ELC0607 Type

SHAPES AND DIMENSIONS

BULK



AMMO-PACK TAPING STYLE



Dimensions in mm

CHARACTERISTICS

Operating temperature range	-20 to +80°C [Including self-temperature rise, 20°C max.]
Storage temperature range	-40 to +80°C
Rated current	Based on temperature rise, 20°C
Terminal tensile strength	14.7N min.
Moisture resistance	$\Delta L/L \leq \pm 5\%$ $\Delta Q/Q \leq \pm 25\%$



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q ref.	Test frequency L, Q (MHz)	DC resistance (Ω) max.	Rated current (A) max.	Part No.
1	±10, ±5%	10	7.96	0.026	3	ELC0607X*1-1R0X*23R0
1.2	±10, ±5%	10	7.96	0.029	2.8	ELC0607X-1R2X2R8
1.5	±10, ±5%	10	7.96	0.031	2.8	ELC0607X-1R5X2R8
1.8	±10, ±5%	10	7.96	0.035	2.6	ELC0607X-1R8X2R6
2.2	±10, ±5%	10	7.96	0.039	2.5	ELC0607X-2R2X2R5
2.7	±10, ±5%	10	7.96	0.041	2.3	ELC0607X-2R7X2R3
3.3	±10, ±5%	10	7.96	0.044	2.2	ELC0607X-3R3X2R2
3.9	±10, ±5%	10	7.96	0.05	2.1	ELC0607X-3R9X2R1
4.7	±10, ±5%	10	7.96	0.052	2	ELC0607X-4R7X2R0
5.6	±10, ±5%	10	7.96	0.062	1.9	ELC0607X-5R6X1R9
6.8	±10, ±5%	10	7.96	0.066	1.8	ELC0607X-6R8X1R8
8.2	±10, ±5%	10	7.96	0.08	1.7	ELC0607X-8R2X1R7
10	±10, ±5%	20	2.52	0.09	1.6	ELC0607X-100X1R6
12	±10, ±5%	20	2.52	0.1	1.5	ELC0607X-120X1R5
15	±10, ±5%	20	2.52	0.12	1.3	ELC0607X-150X1R3
18	±10, ±5%	20	2.52	0.145	1.2	ELC0607X-180X1R2
22	±10, ±5%	20	2.52	0.18	1.2	ELC0607X-220X1R2
27	±10, ±5%	20	2.52	0.22	1	ELC0607X-270X1R0
33	±10, ±5%	20	2.52	0.25	0.92	ELC0607X-330XR92
39	±10, ±5%	20	2.52	0.31	0.88	ELC0607X-390XR88
47	±10, ±5%	20	2.52	0.35	0.77	ELC0607X-470XR77
56	±10, ±5%	20	2.52	0.42	0.72	ELC0607X-560XR72
68	±10, ±5%	20	2.52	0.45	0.63	ELC0607X-680XR63
82	±10, ±5%	20	2.52	0.57	0.61	ELC0607X-820XR61
100	±10, ±5%	20	0.796	0.69	0.55	ELC0607X-101XR55
150	±10, ±5%	30	0.796	1.1	0.44	ELC0607X-151XR44
220	±10, ±5%	40	0.796	1.7	0.36	ELC0607X-221XR36
330	±10, ±5%	50	0.796	2.5	0.29	ELC0607X-331XR29
470	±10, ±5%	60	0.796	4.1	0.23	ELC0607X-471XR23

*1 X: Please specify packaging style, SKI(Bulk) or RA(Taping).

*2 X: Please specify inductance tolerance, K(±10%) or J(±5%)

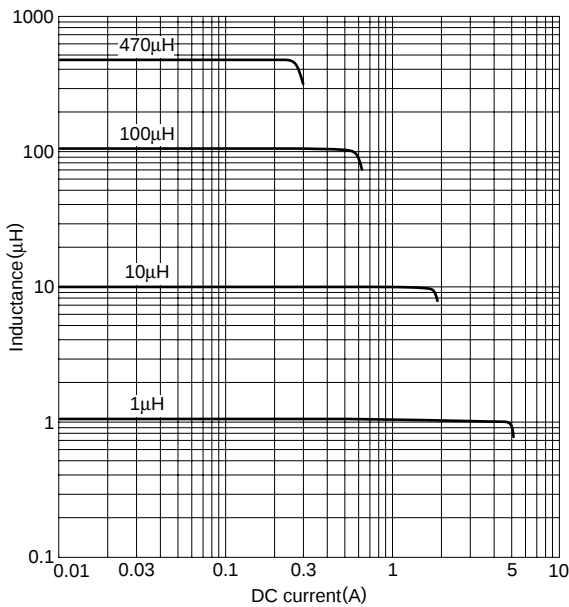
• Test equipment Inductance, Q: YHP4194A IMPEDANCE/GAIN-PHASE ANALYZER
DC resistance: MATSUSHITA VP-2941A DIGITAL MILLIOHM METER

Inductors

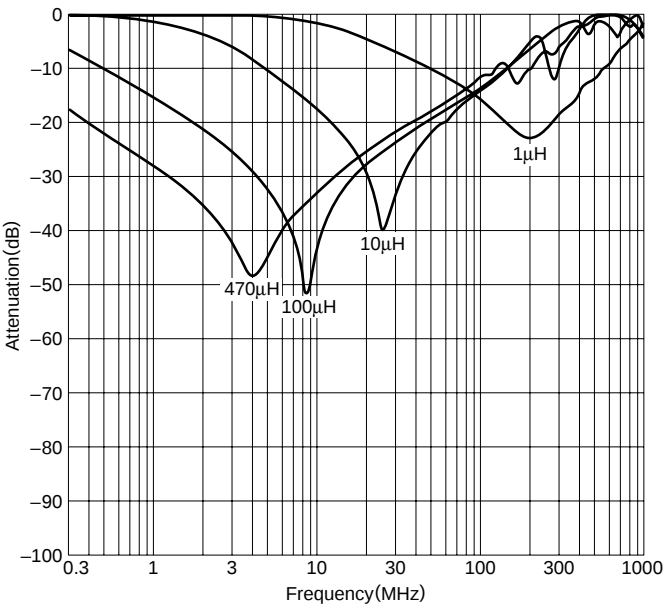
For Power Line
Radial

ELC Series ELC0607 Type

TYPICAL ELECTRICAL CHARACTERISTICS
INDUCTANCE CHANGE vs. DC SUPERPOSITION
CHARACTERISTICS



ATTENUATION vs. FREQUENCY CHARACTERISTICS



Inductors

For Power Line

Radial

SL Series SL1215 Type

FEATURES

- This is a low Rdc, best for the power supply line.
- There is a series of many types from low inductance to high inductance in large current.

APPLICATIONS

Televisions, CRT displays, printers, and various types of electronic products.

SPECIFICATIONS

Operating temperature range	−40 to +85°C [Including self-temperature rise]
Storage temperature range	−40 to +85°C [Unit of products]
Terminal strength	9.8N min.*

* Only for lead type specification. Wire type's specification depends on the vibration test.

PRODUCT IDENTIFICATION

SL	1215	-	100	K	3R6
(1)	(2)		(3)	(4)	(5)

(1)Series name

(2)Dimensions

Type	Dimension	Lead pitch
1215	ø12×14.5mm	11mm (10 to 100μH for wire type) 7.5mm (150 to 5600μH for lead type)
1720	ø16.9×20.5mm	10mm (lead type)
1923	ø18.8×23.5mm	10mm (lead type)
2125	ø20.8×25.5mm	10mm (lead type)

(3)Inductance value

100	10μH
102	1000μH

(4)Inductance tolerance

K	±10%
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(5)Rated current

3R6	3.6A
R20	0.2A

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Bulk	SL1215	100 pieces/tray
	SL1720	100 pieces/tray
	SL1923	100 pieces/tray
	SL2125	100 pieces/tray

Inductors

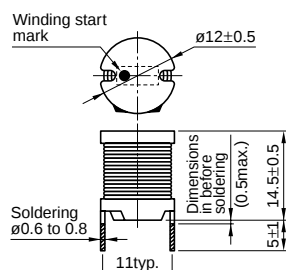
For Power Line

Radial

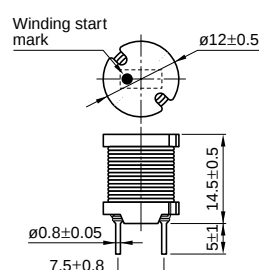
SL Series SL1215 Type

SHAPES AND DIMENSIONS

WIRE TYPE (10 to 100 μ H)



LEAD TYPE (150 to 5600 μ H)



Weight: 7g typ.
Dimensions in mm



ELECTRICAL CHARACTERISTICS

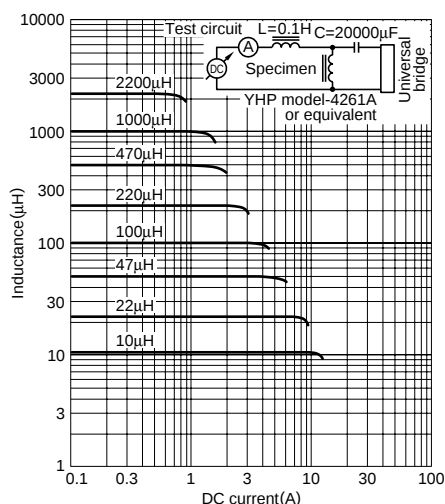
Inductance (μ H)	Inductance tolerance	DC resistance (Ω)max.	Rated current(A)*max.		Part No.	Lead wire style
			Based on inductance change	Based on temperature rise		
10	±10%	0.019	9.8	3.6	SL1215-100K3R6	Wire type
15	±10%	0.022	8.9	3.3	SL1215-150K3R3	Wire type
22	±10%	0.031	7.2	2.8	SL1215-220K2R8	Wire type
33	±10%	0.044	6	2.3	SL1215-330K2R3	Wire type
47	±10%	0.059	4.9	2	SL1215-470K2R0	Wire type
68	±10%	0.073	4.2	1.8	SL1215-680K1R8	Wire type
100	±10%	0.1	3.4	1.5	SL1215-101K1R5	Wire type
150	±10%	0.15	2.8	1.3	SL1215-151K1R3	Lead type
220	±10%	0.26	1.9	1	SL1215-221K1R0	Lead type
330	±10%	0.32	1.8	0.91	SL1215-331KR91	Lead type
470	±10%	0.48	1.6	0.72	SL1215-471KR72	Lead type
680	±10%	0.73	1.3	0.58	SL1215-681KR58	Lead type
1000	±10%	0.96	1.1	0.51	SL1215-102KR51	Lead type
1500	±10%	1.4	0.9	0.42	SL1215-152KR42	Lead type
2200	±10%	2.5	0.7	0.31	SL1215-222KR31	Lead type
3300	±10%	3.3	0.6	0.27	SL1215-332KR27	Lead type
5600	±10%	6.4	0.47	0.2	SL1215-562KR20	Lead type

* Rated current: Value obtained when current flows and self-temperature has risen to 25°C.

- Test equipment Inductance: LCR METER YHP4261A, or equivalent
Rdc: MILLIOHM METER VP-2941A MATSUSHITA, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

Radial

SL Series SL1720 Type

FEATURES

- This is a low Rdc, best for the power supply line.
- There is a series of many types from low inductance to high inductance in large current.

APPLICATIONS

Televisions, CRT displays, printers, and various types of electronic products.

SPECIFICATIONS

Operating temperature range	−40 to +85°C [Including self-temperature rise]
Storage temperature range	−40 to +85°C [Unit of products]
Terminal strength	9.8N min.*

* Only for lead type specification. Wire type's specification depends on the vibration test.

PRODUCT IDENTIFICATION

SL	1215	-	100	K	3R6
(1)	(2)		(3)	(4)	(5)

(1)Series name

(2)Dimensions

Type	Dimension	Lead pitch
1215	ø12×14.5mm	11mm (10 to 100μH for wire type) 7.5mm (150 to 5600μH for lead type)
1720	ø16.9×20.5mm	10mm (lead type)
1923	ø18.8×23.5mm	10mm (lead type)
2125	ø20.8×25.5mm	10mm (lead type)

(3)Inductance value

100	10μH
102	1000μH

(4)Inductance tolerance

K	±10%
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(5)Rated current

3R6	3.6A
R20	0.2A

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Bulk	SL1215	100 pieces/tray
	SL1720	100 pieces/tray
	SL1923	100 pieces/tray
	SL2125	100 pieces/tray

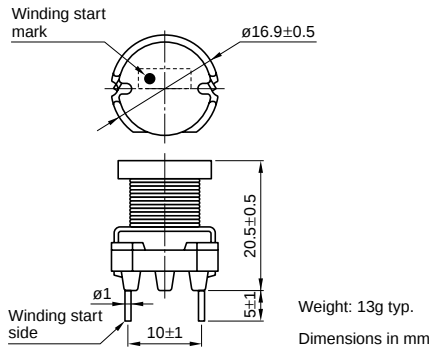
Inductors

For Power Line

Radial

SL Series SL1720 Type

SHAPES AND DIMENSIONS



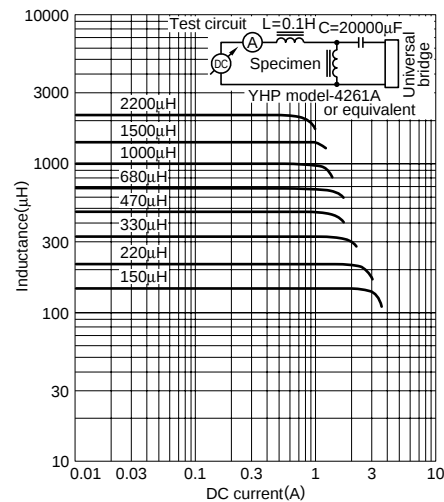
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	DC resistance (Ω)max.	Rated current(A)*max.		Part No.
			Based on inductance change	Based on temperature rise	
150	±10%	0.1	3	2.1	SL1720-151K2R1
220	±10%	0.13	2.6	1.8	SL1720-221K1R8
330	±10%	0.18	2	1.5	SL1720-331K1R5
470	±10%	0.27	1.7	1.3	SL1720-471K1R3
680	±10%	0.38	1.4	1	SL1720-681K1R0
1000	±10%	0.54	1.1	0.9	SL1720-102KR90
1500	±10%	0.86	0.98	0.72	SL1720-152KR72
2200	±10%	1.22	0.81	0.6	SL1720-222KR60

- * Rated current: Value obtained when current flows and self-temperature has risen to 25°C.
- Test equipment Inductance:LCR METER YHP4261A, or equivalent
Rdc: MILLIOHM METER VP-2941A MATSUSHITA, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line

Radial

SL Series SL1923 Type

FEATURES

- This is a low Rdc, best for the power supply line.
- There is a series of many types from low inductance to high inductance in large current.

APPLICATIONS

Televisions, CRT displays, printers, and various types of electronic products.

SPECIFICATIONS

Operating temperature range	−40 to +85°C [Including self-temperature rise]
Storage temperature range	−40 to +85°C [Unit of products]
Terminal strength	9.8N min.*

* Only for lead type specification. Wire type's specification depends on the vibration test.

PRODUCT IDENTIFICATION

SL	1215	-	100	K	3R6
(1)	(2)		(3)	(4)	(5)

(1)Series name

(2)Dimensions

Type	Dimension	Lead pitch
1215	ø12×14.5mm	11mm (10 to 100μH for wire type) 7.5mm (150 to 5600μH for lead type)
1720	ø16.9×20.5mm	10mm (lead type)
1923	ø18.8×23.5mm	10mm (lead type)
2125	ø20.8×25.5mm	10mm (lead type)

(3)Inductance value

100	10μH
102	1000μH

(4)Inductance tolerance

K	±10%
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(5)Rated current

3R6	3.6A
R20	0.2A

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Bulk	SL1215	100 pieces/tray
	SL1720	100 pieces/tray
	SL1923	100 pieces/tray
	SL2125	100 pieces/tray

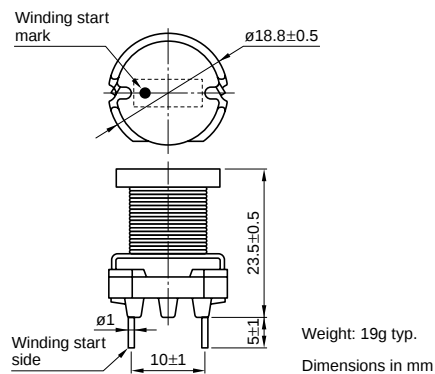
Inductors

For Power Line

Radial

SL Series SL1923 Type

SHAPES AND DIMENSIONS



ELECTRICAL CHARACTERISTICS

Inductance (μ H)	Inductance tolerance	DC resistance (Ω)max.	Rated current(A)*max.		Part No.
			Based on inductance change	Based on temperature rise	
470	$\pm 10\%$	0.2	2.1	1.5	SL1923-471K1R5
680	$\pm 10\%$	0.29	1.8	1.3	SL1923-681K1R3
1000	$\pm 10\%$	0.41	1.4	1.1	SL1923-102K1R1
2200	$\pm 10\%$	1	1	0.7	SL1923-222KR70
10000	$\pm 10\%$	4.3	0.46	0.33	SL1923-103KR33
15000	$\pm 10\%$	7.1	0.38	0.26	SL1923-153KR26

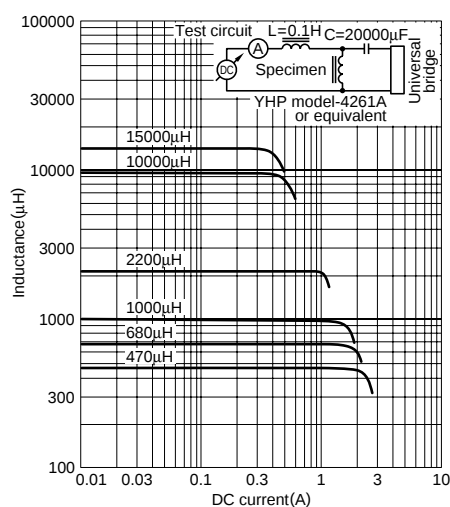
* Rated current: Value obtained when current flows and self-temperature has risen to 25°C.

- Test equipment Inductance: LCR METER YHP4261A, or equivalent
Rdc: MILLIOHM METER VP-2941A MATSUSHITA, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION

CHARACTERISTICS



Inductors

For Power Line

Radial

SL Series SL2125 Type

FEATURES

- This is a low Rdc, best for the power supply line.
- There is a series of many types from low inductance to high inductance in large current.

APPLICATIONS

Televisions, CRT displays, printers, and various types of electronic products.

SPECIFICATIONS

Operating temperature range	−40 to +85°C [Including self-temperature rise]
Storage temperature range	−40 to +85°C [Unit of products]
Terminal strength	9.8N min.*

* Only for lead type specification. Wire type's specification depends on the vibration test.

PRODUCT IDENTIFICATION

SL	1215	-	100	K	3R6
(1)	(2)		(3)	(4)	(5)

(1)Series name

(2)Dimensions

Type	Dimension	Lead pitch
1215	ø12×14.5mm	11mm (10 to 100μH for wire type) 7.5mm (150 to 5600μH for lead type)
1720	ø16.9×20.5mm	10mm (lead type)
1923	ø18.8×23.5mm	10mm (lead type)
2125	ø20.8×25.5mm	10mm (lead type)

(3)Inductance value

100	10μH
102	1000μH

(4)Inductance tolerance

K	±10%
---	------

(5)Rated current

3R6	3.6A
R20	0.2A

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Bulk	SL1215	100 pieces/tray
	SL1720	100 pieces/tray
	SL1923	100 pieces/tray
	SL2125	100 pieces/tray

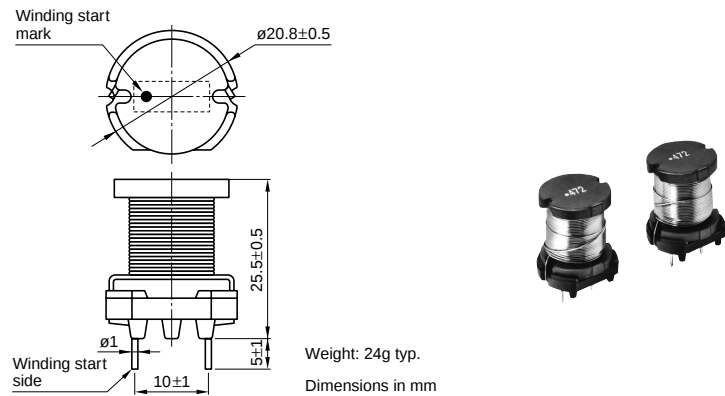
Inductors

For Power Line

Radial

SL Series SL2125 Type

SHAPES AND DIMENSIONS



ELECTRICAL CHARACTERISTICS

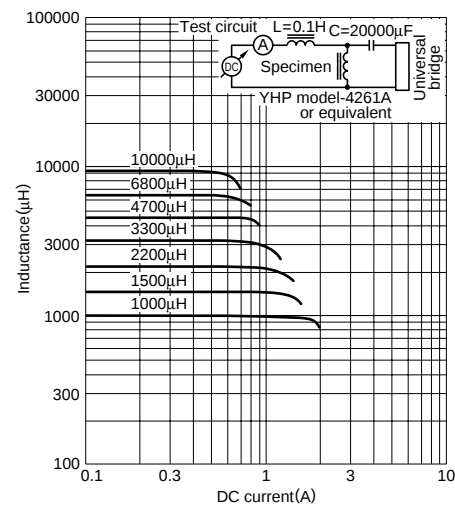
Inductance (μ H)	Inductance tolerance	Test frequency L (kHz)	DC resistance (Ω)max.	Rated current(A)*max.		Part No.
				Based on inductance change	Based on temperature rise	
1000	±10%	1	0.35	1.7	1.3	SL2125-102K1R3
1500	±10%	1	0.61	1.3	0.99	SL2125-152KR99
2200	±10%	1	0.78	1.1	0.87	SL2125-222KR87
3300	±10%	1	1.15	0.95	0.72	SL2125-332KR72
4700	±10%	1	1.71	0.78	0.59	SL2125-472KR59
6800	±10%	1	2.61	0.66	0.47	SL2125-682KR47
10000	±10%	1	3.41	0.55	0.41	SL2125-103KR41

* Rated current: Value obtained when current flows and self-temperature has risen to 25°C.

- Test equipment Inductance: LCR METER YHP4261A, or equivalent
Rdc: MILLIOHM METER VP-2941A MATSUSHITA, or equivalent

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line Radial

TSL Series TSL0709 Type

FEATURES

- The TSL series feature low DC resistance and high current handling capacities, making them ideal for power supply line applications.
- These parts are manufactured to a high degree of dimensional accuracy using non-flammable material (UL94V-0).
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipments.

SPECIFICATIONS

Operating temperature range	-20 to +85°C [Including self-temperature rise]
Storage temperature range	-40 to +85°C[Unit of products]
Terminal tensile strength	9.8N min.

PRODUCT IDENTIFICATION

TSL	0709	RA-	1R0	M	5R0
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0709	ø7.7×9.5mm (lead pitch 5mm)
0809	ø8.8×9.5mm (lead pitch 5mm)
1112	ø11.2×12.2mm (lead pitch 5mm)
1315	ø14×17mm (lead pitch 7.5mm)

(3)Packaging style

RA	Taping(Ammo-pack)
S	Bulk

(4)Inductance value

1R0	1μH
100	10μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)Rated current

5R0	5A
R66	0.66A

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping (Ammo-pack)	TSL0709RA	1000 pieces/box
	TSL0809RA	500 pieces/box
	TSL1112RA	500 pieces/box
	TSL1315RA	200 pieces/box
Bulk	TSL0709S	500 pieces/10tray*
	TSL0809S	500 pieces/10tray
	TSL1112S	400 pieces/8tray
	TSL1315S	50 pieces/pack

*50 pieces/tray

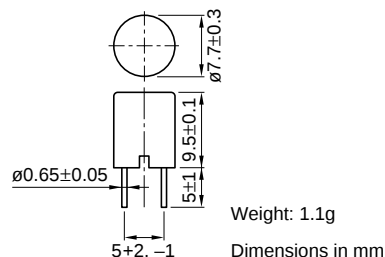
Inductors

For Power Line

Radial

TSL Series TSL0709 Type

SHAPES AND DIMENSIONS



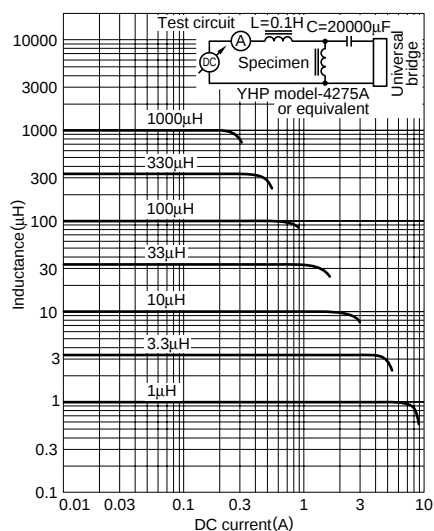
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L/Q (Hz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current(A)*max.		Part No.
						Based on inductance change	Based on temperature rise	
1	±20%	10	1k/7.96M	70	0.006	6.6	5	TSL0709-1R0M5R0
1.5	±20%	10	1k/7.96M	56	0.008	5.4	4.3	TSL0709-1R5M4R3
2.2	±20%	10	1k/7.96M	45	0.011	4	3.7	TSL0709-2R2M3R7
3.3	±20%	10	1k/7.96M	36	0.018	3.6	2.9	TSL0709-3R3M2R9
4.7	±20%	10	1k/7.96M	29	0.022	3.1	2.6	TSL0709-4R7M2R6
6.8	±20%	10	1k/7.96M	24	0.028	2.5	2.3	TSL0709-6R8M2R3
10	±10%	20	1k/2.52M	19	0.043	2.1	1.9	TSL0709-100K1R9
15	±10%	20	1k/2.52M	15	0.056	1.7	1.6	TSL0709-150K1R6
22	±10%	20	1k/2.52M	12	0.086	1.4	1.3	TSL0709-220K1R3
33	±10%	20	1k/2.52M	9.4	0.14	1.1	1	TSL0709-330K1R0
47	±10%	20	1k/2.52M	7.6	0.17	0.96	0.94	TSL0709-470KR94
68	±10%	20	1k/2.52M	6.2	0.28	0.79	0.73	TSL0709-680KR73
100	±10%	20	1k/796k	5	0.33	0.66	0.67	TSL0709-101KR66
150	±10%	20	1k/796k	4	0.56	0.53	0.52	TSL0709-151KR52
220	±10%	20	1k/796k	3.2	0.72	0.44	0.46	TSL0709-221KR44
330	±10%	20	1k/796k	2.5	1.1	0.36	0.37	TSL0709-331KR36
470	±10%	20	1k/796k	2	1.7	0.3	0.3	TSL0709-471KR30
680	±10%	20	1k/796k	1.7	2.3	0.25	0.26	TSL0709-681KR25
1000	±10%	70	1k/252k	1.3	4.3	0.2	0.19	TSL0709-102KR19
1500	±10%	50	1k/252k	1.3	5	0.17	0.16	TSL0709-152KR16

* Rated current: Value obtained when current flows and the temperature has risen to 25°C or when DC current flows and the initial value of inductance has fallen by 20%, whichever is smaller.

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



532_TSL0709
980917

Inductors

For Power Line Radial

TSL Series TSL1112 Type

FEATURES

- The TSL series feature low DC resistance and high current handling capacities, making them ideal for power supply line applications.
- These parts are manufactured to a high degree of dimensional accuracy using non-flammable material (UL94V-0).
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipments.

SPECIFICATIONS

Operating temperature range	-20 to +85°C [Including self-temperature rise]
Storage temperature range	-40 to +85°C[Unit of products]
Terminal tensile strength	9.8N min.

PRODUCT IDENTIFICATION

TSL	0709	RA-	1R0	M	5R0
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0709	ø7.7×9.5mm (lead pitch 5mm)
0809	ø8.8×9.5mm (lead pitch 5mm)
1112	ø11.2×12.2mm (lead pitch 5mm)
1315	ø14×17mm (lead pitch 7.5mm)

(3)Packaging style

RA	Taping(Ammo-pack)
S	Bulk

(4)Inductance value

1R0	1μH
100	10μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)Rated current

5R0	5A
R66	0.66A

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping (Ammo-pack)	TSL0709RA	1000 pieces/box
	TSL0809RA	500 pieces/box
	TSL1112RA	500 pieces/box
	TSL1315RA	200 pieces/box
Bulk	TSL0709S	500 pieces/10tray*
	TSL0809S	500 pieces/10tray
	TSL1112S	400 pieces/8tray
	TSL1315S	50 pieces/pack

*50 pieces/tray

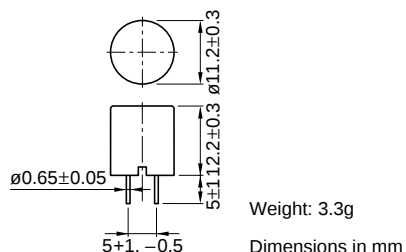
Inductors

For Power Line

Radial

TSL Series TSL1112 Type

SHAPES AND DIMENSIONS



ELECTRICAL CHARACTERISTICS

Inductance (μ H)	Inductance tolerance	Q min.	Test frequency L/Q (Hz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (A)*max.		Part No.
						Based on inductance change	Based on temperature rise	
3.3	±20%	10	1k/7.96M	36	0.01	8.8	5.9	TSL1112-3R3M5R9
4.7	±20%	10	1k/7.96M	28	0.015	7.2	4.8	TSL1112-4R7M4R8
6.8	±20%	10	1k/7.96M	18	0.016	6.1	4.6	TSL1112-6R8M4R6
10	±20%	20	1k/2.52M	16	0.025	5	3.7	TSL1112-100M3R7
15	±20%	20	1k/2.52M	12	0.029	4.2	3.4	TSL1112-150M3R4
22	±10%	20	1k/2.52M	9.5	0.04	3.4	2.9	TSL1112-220K2R9
33	±10%	30	1k/2.52M	7	0.062	2.8	2.3	TSL1112-330K2R3
47	±10%	30	1k/2.52M	5.8	0.075	2.3	2.1	TSL1112-470K2R1
68	±10%	20	1k/2.52M	4.7	0.13	1.9	1.6	TSL1112-680K1R6
100	±10%	20	1k/796k	3.8	0.16	1.6	1.4	TSL1112-101K1R4
150	±10%	20	1k/796k	3.1	0.26	1.3	1.1	TSL1112-151K1R1
220	±10%	20	1k/796k	2.5	0.33	1.1	1	TSL1112-221K1R0
330	±10%	20	1k/796k	2	0.52	0.88	0.82	TSL1112-331KR82
470	±10%	10	1k/796k	1.6	0.66	0.75	0.72	TSL1112-471KR72
680	±10%	10	1k/796k	1.3	1.1	0.61	0.56	TSL1112-681KR56
1000	±5%	20	1k/252k	1.1	1.4	0.51	0.5	TSL1112-102JR50
1500	±5%	30	1k/252k	0.82	2.4	0.43	0.38	TSL1112-152JR38
2200	±5%	20	1k/252k	0.76	3.2	0.35	0.33	TSL1112-222JR33
3300	±5%	30	1k/252k	0.64	4.9	0.28	0.26	TSL1112-332JR26
4700	±5%	30	1k/252k	0.54	7.6	0.24	0.21	TSL1112-472JR21
6800	±5%	30	1k/252k	0.45	9.8	0.2	0.18	TSL1112-682JR18
10000	±5%	30	1k/79.6k	0.38	18	0.17	0.14	TSL1112-103JR14
15000	±5%	50	1k/79.6k	0.29	24	0.13	0.12	TSL1112-153JR12

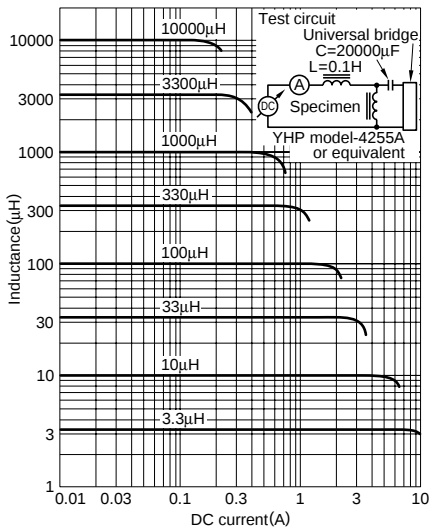
* Rated current: Value obtained when current flows and the temperature has risen to 25°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

Inductors

For Power Line
Radial

TSL Series TSL1112 Type

TYPICAL ELECTRICAL CHARACTERISTICS INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



Inductors

For Power Line Radial

TSL Series TSL1315 Type

FEATURES

- The TSL series feature low DC resistance and high current handling capacities, making them ideal for power supply line applications.
- These parts are manufactured to a high degree of dimensional accuracy using non-flammable material (UL94V-0).
- Available in tape packaging to support automated mounting machines.

APPLICATIONS

Televisions, VCRs, personal computers, and other electronic equipments.

SPECIFICATIONS

Operating temperature range	-20 to +85°C [Including self-temperature rise]
Storage temperature range	-40 to +85°C[Unit of products]
Terminal tensile strength	9.8N min.

PRODUCT IDENTIFICATION

TSL	0709	RA-	1R0	M	5R0
(1)	(2)	(3)	(4)	(5)	(6)

(1)Series name

(2)Dimensions

0709	ø7.7×9.5mm (lead pitch 5mm)
0809	ø8.8×9.5mm (lead pitch 5mm)
1112	ø11.2×12.2mm (lead pitch 5mm)
1315	ø14×17mm (lead pitch 7.5mm)

(3)Packaging style

RA	Taping(Ammo-pack)
S	Bulk

(4)Inductance value

1R0	1μH
100	10μH

(5)Inductance tolerance

J	±5%
K	±10%
M	±20%

(6)Rated current

5R0	5A
R66	0.66A

PACKAGING STYLE AND QUANTITIES

Packaging style	Type	Quantity
Taping (Ammo-pack)	TSL0709RA	1000 pieces/box
	TSL0809RA	500 pieces/box
	TSL1112RA	500 pieces/box
	TSL1315RA	200 pieces/box
Bulk	TSL0709S	500 pieces/10tray*
	TSL0809S	500 pieces/10tray
	TSL1112S	400 pieces/8tray
	TSL1315S	50 pieces/pack

*50 pieces/tray

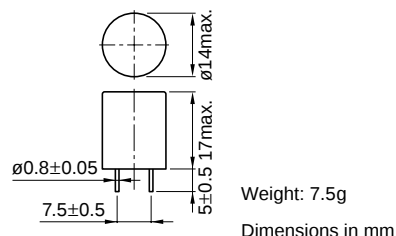
Inductors

For Power Line

Radial

TSL Series TSL1315 Type

SHAPES AND DIMENSIONS



ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q min.	Test frequency L/Q (Hz)	Self-resonant frequency (MHz)min.	DC resistance (Ω)max.	Rated current (A)*max. Based on inductance change	Based on temperature rise	Part No.
10	±10%	90	1k/2.52M	19	0.023	12	5.1	TSL1315-100K5R1
15	±10%	90	1k/2.52M	12	0.028	9.5	4.5	TSL1315-150K4R5
22	±10%	80	1k/2.52M	7.6	0.035	8.2	4.2	TSL1315-220K4R2
33	±10%	70	1k/2.52M	6.9	0.043	6.8	3.7	TSL1315-330K3R7
47	±10%	50	1k/2.52M	5.6	0.052	5.7	3.4	TSL1315-470K3R4
68	±10%	40	1k/2.52M	4.4	0.068	4.8	3	TSL1315-680K3R0
100	±10%	50	1k/796k	3.3	0.097	3.9	2.5	TSL1315-101K2R5
150	±10%	50	1k/796k	2.6	0.14	3.2	2.1	TSL1315-151K2R1
220	±10%	40	1k/796k	2.2	0.2	2.7	1.7	TSL1315-221K1R7
330	±10%	30	1k/796k	1.8	0.3	2.1	1.4	TSL1315-331K1R4
470	±10%	30	1k/796k	1.5	0.43	1.8	1.1	TSL1315-471K1R1
680	±10%	30	1k/796k	1.2	0.61	1.5	0.99	TSL1315-681K1R9
1000	±5%	30	1k/252k	1	1	1.2	0.78	TSL1315-102JR78
1500	±5%	40	1k/252k	0.83	1.3	1	0.68	TSL1315-152JR68
2200	±5%	40	1k/252k	0.7	2	0.83	0.55	TSL1315-222JR55
3300	±5%	40	1k/252k	0.6	3.1	0.69	0.44	TSL1315-332JR44
4700	±5%	40	1k/252k	0.43	4.4	0.58	0.37	TSL1315-472JR37
6800	±5%	30	1k/252k	0.38	6.5	0.46	0.3	TSL1315-682JR30
10000	±5%	70	1k/79.6k	0.3	10	0.4	0.24	TSL1315-103JR24

* Rated current: Value obtained when current flows and the temperature has risen to 25°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller.

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS

