

POLYESTER FILM CAPACITOR-PEI

INDUCTIVE WELDED CONSTRUCTION EPOXY DIP COATED

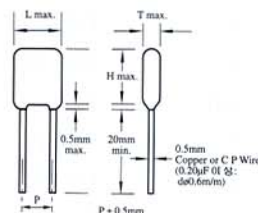
TS01

FEATURES

- Good reputation in use with consumer & industrial electronics.
- Optimum for automatic insertion due to their small size and light weight.
- Coated with epoxy resin for superior heat resistance, humidity resistance and solvent resistance.

SPECIFICATIONS

OPERATING TEMPERATURE	-40°C TO +85°C
RATED VOLTAGE	DC 100V, 250V, 400V, 630V, 1000V
CAPACITANCE RANGE	0.001 TO 0.47 Mfd
CAPACITANCE TOLERANCE	±5%, ±10%, ±20%
INSULATION RESISTANCE	30,000 MΩ min
DISSIPATION FACTOR	≤0.0075 (AT 1KHZ)
DIELECTRIC STRENGTH	250% of rated voltage for 5sec.



VDC Mfd	100 VDC				Miniature Size 100V				250 VDC				400 VDC			
	L	T	H	P	L	T	H	P	L	T	H	P	L	T	H	P
0.001	5.5	3.0	9.5	4.0	5.0	2.5	7.5	4.0	5.5	3.3	10.0	3.5	6.5	4.0	11.0	4.0
0.0012	5.5	3.0	9.5	4.0	5.0	2.5	7.5	4.0	5.5	3.3	10.0	3.5	6.5	4.0	11.0	4.0
0.0015	5.5	3.0	9.5	4.0	5.0	2.5	7.5	4.0	5.5	3.3	10.0	3.5	6.5	4.0	11.0	4.0
0.0018	5.5	3.0	9.5	4.0	5.0	2.5	7.5	4.0	5.5	3.3	10.0	3.5	6.5	4.0	11.0	4.0
0.0022	5.5	3.0	9.5	4.0	5.0	2.5	7.5	4.0	5.5	3.3	10.0	3.5	6.5	4.0	11.0	4.0
0.0027	5.5	3.0	9.5	4.0	5.0	2.5	7.5	4.0	5.5	3.3	10.0	3.5	6.5	4.0	11.0	4.0
0.0033	5.5	3.0	9.5	4.0	5.0	2.5	7.5	4.0	6.0	3.5	10.5	4.0	7.0	5.0	11.5	4.5
0.0039	5.5	3.0	9.5	4.0	5.0	2.5	7.5	4.0	6.0	3.5	10.5	4.0	7.0	5.0	11.5	4.5
0.0047	5.5	3.0	9.5	4.0	5.5	3.0	7.5	4.0	6.0	3.5	10.5	4.0	7.0	5.0	11.5	4.5
0.0056	5.5	3.0	9.5	4.0	5.5	3.0	7.5	4.0	6.0	3.5	10.5	4.0	7.0	5.5	11.5	4.5
0.0068	6.0	3.0	9.5	4.5	5.5	3.0	7.5	4.0	6.0	3.5	10.5	4.5	7.0	5.5	11.5	4.5
0.0082	6.0	3.5	9.5	4.5	5.5	3.0	7.5	4.0	6.5	4.0	10.5	4.5	7.0	5.5	11.5	4.5
0.01	6.0	3.5	9.5	4.5	6.0	3.5	7.5	4.0	6.5	4.0	10.5	4.5	8.0	5.5	11.5	5.0
0.012	6.5	3.5	11.0	5.0	6.0	3.5	9.5	4.5	6.5	4.0	11.5	4.5	8.0	5.5	11.5	5.0
0.015	6.5	3.5	11.0	5.0	6.0	3.5	9.5	4.5	7.0	4.5	11.5	4.5	8.0	5.5	12.0	5.0
0.018	6.5	3.5	11.0	5.0	6.0	3.5	9.5	4.5	7.0	4.5	11.5	5.0	8.0	5.5	12.0	5.0
0.022	6.5	3.5	11.0	5.0	6.0	3.5	9.5	4.5	7.5	4.5	12.0	5.0	8.5	6.0	12.5	5.5
0.027	7.0	3.5	11.0	6.0	7.0	3.5	9.5	5.0	7.5	4.5	12.0	5.0	8.5	6.0	12.5	5.5
0.033	7.5	3.5	11.0	6.0	7.0	3.5	9.5	6.0	8.0	5.0	12.5	5.5	9.0	6.0	12.5	6.0
0.039	7.5	3.5	11.5	6.0	7.0	3.5	9.5	6.0	8.5	5.0	12.5	5.5	10.0	6.0	13.0	6.5
0.047	8.0	4.0	11.5	6.5	8.0	4.0	9.5	6.0	9.0	5.5	13.0	6.0	11.0	6.5	13.0	7.0
0.056	8.5	4.0	11.5	7.0	8.0	4.0	10.0	6.0	9.5	6.0	13.0	6.5	11.5	6.5	13.0	7.5
0.068	9.0	4.0	11.5	7.0	8.5	4.5	10.0	6.0	9.5	6.5	13.0	7.0	11.5	6.5	13.5	10.0
0.082	9.5	5.0	12.0	7.5	9.0	5.0	10.0	6.0	10.0	7.0	13.5	7.5	12.0	7.0	14.0	10.0
0.1	10.0	5.5	12.0	7.5	9.0	5.0	10.0	7.0	10.0	7.5	13.5	8.0	13.0	7.0	14.0	10.0
0.12	10.5	6.0	13.0	8.0	10.0	5.5	10.0	7.0	11.0	8.0	13.5	8.0				
0.15	12.0	6.0	13.0	9.5	10.0	5.5	12.5	7.5	13.0	8.5	15.0	9.5				
0.18	12.5	7.0	16.0	9.5	10.5	5.5	13.0	8.0	14.0	9.0	15.0	9.5				
0.22	12.5	7.0	16.0	9.5	11.5	6.5	13.0	8.0	16.0	10.0	16.0	10.5				
0.27	14.0	7.5	16.0	11.0	12.0	7.5	13.0	9.0								
0.33	14.0	7.5	17.5	11.0	13.0	8.5	14.0	9.0								
0.39	15.0	8.0	18.0	11.0	13.5	9.0	14.0	9.0								
0.47	15.5	9.0	19.0	11.5	15.0	10.0	15.0	10.5								

METALLIZED POLYESTER FILM CAPACITOR-MER/MEF

NON-INDUCTIVE, EXTENDED FOIL, EPOXY DIP COATED, HIGH MOISTURE RESISTANCE

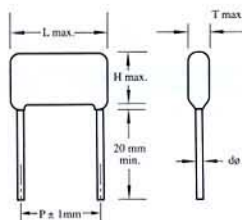
TS02

FEATURES

- Highly reliable with its Self-Healing performance.
- Coated with epoxy resin for superior heat resistance, humidity resistance and solvent resistance.
- Good reputation in use with filtering, DC blocking coupling and general communication equipment.

SPECIFICATIONS

OPERATING TEMPERATURE	-40°C TO + 85°C
RATED VOLTAGE	DC 250V, 400V, 630V
CAPACITANCE RANGE	0.01 TO 6.8 Mfd
CAPACITANCE TOLERANCE	±5%, ±10%, ±20%
INSULATION RESISTANCE	C < 0.33 Mfd R ≥ 15,000MΩ C ≥ 0.33 Mfd RC ≥ 5,000MΩ Mfd
DISSIPATION FACTOR	≤ 0.01 (AT 1KHZ)
DIELECTRIC STRENGTH	150% of rated voltage for 5sec.



VDC Mfd	250V				400V				630V			
	L	T	H	P	L	T	H	P	L	T	H	P
0.01	12.5	5	9	10.5	11.5	5	8	10.5	11.5	4.5	8	10.5
0.015	12.5	5	9	10.5	11.5	5	8	10.5	11.5	4.5	8	10.5
0.018	12.5	5	9	10.5	11.5	5	8	10.5	11.5	4.5	8	10.5
0.022	12.5	5	9	10.5	12	5	9	10.5	13	6	9.5	10.5
0.027	12.5	5	9	10.5	12	5	9	10.5	13	6	9.5	10.5
0.033	12.5	5	9	10.5	12	5	9	10.5	13	6	10	15.5
0.039	12.5	5	9	10.5	12	5	9	10.5	13	6	10	15.5
0.047	12.5	5	9	10.5	12	5	9	10.5	17.5	6	10	15.5
0.056	12.5	5	9	10.5	12.5	5	9	10.5	17.5	6	10	15.5
0.068	12.5	5	9	10.5	12.5	5	9	10.5	17.5	6	10	15.5
0.082	12.5	5	9	10.5	12.5	5	9	10.5	17.5	6	10.5	15.5
0.1	12.5	5.5	9	10.5	12.5	5	9	10.5	17.5	6	11	15.5
0.15	13.5	5.5	10.5	10.5	17.5	5.5	9.5	15.5	17.5	8	13	15.5
0.18	13.5	7	10.5	10.5	17.5	5.5	9.5	15.5	17.5	8	13	15.5
0.22	13.5	7	10.5	10.5	17.5	5.5	9.5	15.5	23	8.5	14.5	20.5
0.27	13.5	7	10.5	10.5	17.5	5.5	9.5	15.5	23	8.5	14.5	20.5
0.33	17.5	7	10.5	15.5	22.5	5.5	9.5	20.5	23	8.5	14.5	20.5
0.39	17.5	7	10.5	15.5	22.5	5.5	9.5	20.5	23	8.5	14.5	20.5
0.47	17.5	7	11.5	15.5	22.5	5.5	11.5	20.5	23	9	15	20.5
0.5	17.5	7	11.5	15.5	22.5	5.5	11.5	20.5	23	9	15	25.5
0.56	18	7	11.5	15.5	23.5	6	11.5	20.5	23	9	15	25.5
0.68	18	7	13.5	15.5	28	6	12	25.5	28.5	9.5	18	25.5
0.82	18	7.5	13.5	15.5	28	6	12	25.5	28.5	9.5	18	25.5
1	23	7.5	13.5	20.5	28	7	15	25.5	28.5	10.5	19	25.5
1.1	23	7.5	13.5	20.5	28	7	15	25.5	28.5	10.5	19	25.5
1.2	23	7.5	13.5	20.5	28	7	15	25.5	28.5	10.5	19	25.5
1.5	23	8.0	14.5	20.5	28	7	15	25.5	28.5	13.5	22	25.5
1.8	28	8.0	14.5	20.5	28	9.5	18	25.5	28.5	13.5	22	25.5
2.2	28	8.5	16	25.5	28	10.5	19.5	25.5	28.5	13.5	22	30.5
2.5	28	8.5	17.5	25.5	28	10.5	19.5	25.5	28.5	13.5	22	30.5
2.7	28	9	18	25.5	28	10.5	19.5	25.5	28.5	13.5	22	30.5
6.8	28	9	18	30.5	28	10.5	19.5	30.5	28.5	13.5	22	30.5

METALLIZED POLYESTER FILM CAPACITOR-AC-MFA

NON-INDUCTIVE, COATED WITH EPOXY RESIN OR FLAME RETARDANT EPOXY POWER

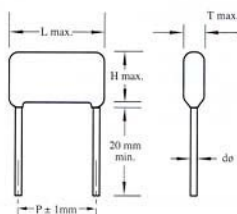
TS02A

FEATURES

- High reliability with self-healing performance
- High moisture resistance
- Competitive price
- High capacitance stability
- Recommendable for high frequency circuit use
- Possibility production of special specifications

SPECIFICATIONS

CAPACITANCE RANGE	0.01 TO + 4.7 Mfd
CAPACITANCE TOLERANCE	±5%, ±10%, ±20%
TEMPERATURE RANGE	-40°C TO +85°C
RATED VOLTAGE	AC 250V
INSULATION RESISTANCE	2.000 MΩ
DISSIPATION FACTOR	1% MAX. AT 1KHz
DIELECTRIC STRENGTH	175% of rated voltage for 5 sec.



Marking : AC or ~



VAC Mfd	CODE	L	H	T	P	d	VAC Mfd	CODE	L	H	T	P	d
0.01	103	15.0	9.5	6.0	11.5	0.7	0.56	564	20.0	15.0	11.0	16.5	0.7
0.015	153	15.0	9.5	6.0	11.5	0.7	0.68	684	20.0	16.0	11.5	16.5	0.7
0.018	183	15.0	9.5	6.0	11.5	0.7	0.82	824	20.0	17.0	12.0	16.5	0.7
0.022	223	15.0	10.0	6.5	11.5	0.7	1.0	105	26.0	17.0	11.0	21.5	0.7
0.027	273	15.0	9.5	6.5	11.5	0.7	1.5	155	26.0	19.0	13.0	21.5	0.8
0.033	333	15.0	10.5	6.5	11.5	0.7	1.8	185	26.0	19.0	14.0	21.5	0.8
0.039	393	15.0	10.5	6.5	11.5	0.7	2.2	225	30.0	21.0	13.0	26.5	0.8
0.047	473	15.0	10.5	7.0	11.5	0.7	2.7	275	30.0	22.0	14.0	26.5	0.8
0.056	563	15.0	11.0	7.0	11.5	0.7	3.3	335	30.0	23.5	15.0	26.5	0.8
0.068	683	15.0	11.0	7.5	11.5	0.7	3.9	395	36.0	25.0	16.0	31.5	0.8
0.082	823	15.0	11.5	7.5	11.5	0.7	4.7	475	36.0	26.0	18.0	31.5	0.8
0.1	104	15.0	12.0	8.0	11.5	0.7							
0.15	154	15.0	13.0	9.0	11.5	0.7							
0.18	184	15.0	13.0	10.0	11.5	0.7							
0.22	224	20.0	12.0	9.0	16.5	0.7							
0.27	274	20.0	12.0	9.0	16.5	0.7							
0.33	334	20.0	13.5	9.5	16.5	0.7							
0.39	394	20.0	13.5	10.0	16.5	0.7							
0.47	474	20.0	14.5	10.0	16.5	0.7							

METALLIZED POLYESTER FILM CAPACITOR-BOX-MEC

NON - INDUCTIVE, FLAME RETARDANT ENCASED

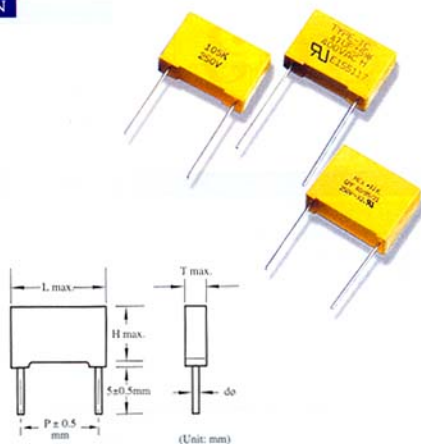
TS02B

INTRODUCTION

1. Non-inductive construction.
2. Self-healing property.
3. Flame-retardant plastic case.
4. High moisture-resistance.
5. Good solderability.

SPECIFICATIONS

OPERATING TEMPERATURE	-40°C TO +85°C
RATED VOLTAGE	DC 63V, 100V, 250V, 400V, 630V
CAPACITANCE RANGE	0.0047 TO 6.8μF
DIELECTRIC STRENGTH	150% of rated voltage for 5 sec.
CAPACITANCE TOLERANCE	±5%, ±10%, ±20%
INSULATION RESISTANCE	C≤0.33μF and ≤100VDCIR≥15,000MΩ C>0.33μF and ≤100VDCIR≥5,000MΩ C≤0.33μF and >100VDCIR≥30,000MΩ C>0.33μF and >100VDCIR≥10,000MΩ
DISSIPATION FACTOR	≤1% (AT 1KHz)



VDC	63VDC	100VDC	250VDC	400VDC	630VDC
SIZE	CASE CODE				
Mfd					
0.0047					C1
0.0068					C1
0.01	B2	B2	B2	C1	C1
0.015	B2	B2	B2	C1	C2
0.022	B2	B2	B3	C1	C3
0.033	B2	B2	B3	C2	D1
0.047	B2	B2	B3	C3	D2
0.068	B2	B3	C1	D1	D3
0.1	B2	B3	C2	D2	E1
0.15	B2	B3	D1	D3	E2
0.22	B3	B4	D1	E1	E3
0.33	B3	B4	D2	E2	F1
0.47	B3	D1	E1	E3	F2
0.68	B4	D2	E2	F1	F3
1.0	B5	D3	E3	F1	
1.5	D2	E2	F1 E3	F2	
2.2	D4	E3	F1		
3.3	E2	E4	F2		
4.7	E3	F2	F3		
6.8	E4	F2			

Dimension	L	T	H	P	dØ
Case Code					
B2	10.5	3.5	8.5	7.5	0.6
B3	10.5	4.0	9.0	7.5	0.6
B4	10.5	5.0	11.0	7.5	0.6
B5	10.5	6.0	12.0	7.5	0.6
C1	13.0	4.0	9.0	10.0	0.6/0.8
C2	13.0	5.0	11.0	10.0	0.6/0.8
C3	13.0	6.0	12.0	10.0	0.6/0.8
D1	18.0	5.0	11.0	15.0	0.8
D2	18.0	6.0	12.0	15.0	0.8
D3	18.0	7.5	14.0	15.0	0.8
D4	18.0	8.5	15.0	15.0	0.8
E1	26.5	6.0	15.0	22.5	0.8
E2	26.5	7.0	16.5	22.5	0.8
E3	26.5	8.5	17.0	22.5	0.8
E4	26.5	10.0	19.0	22.5	0.8
F1	32.0	11.0	20.0	27.5	0.8
F2	32.0	13.0	22.0	27.5	0.8
F3	32.0	15.0	30.0	27.5	0.8

MINIATURE SIZE METALLIZED POLYESTER FILM CAPACITORS

MINIATURE SIZE, MON-INDUCTIVE, EPOXY DIP COATED

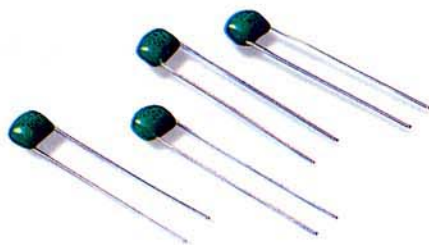
TS03

FEATURES

- The small size can be compared favourably with the staked film capacitor
- Excellent self-healing property and reliability
- Low dissipation factor
- Epoxy resin powder coating provides the identical outer appearance.

S P E C I F I C A T I O N S

RATED VOLTAGE	DC 50/63V,100V,160V,250V,400V
CAPACITANCE RANGE	0.001 TO 10mfd
CAPACITANCE TOLERANCE	±5%, ±10%, ±20%
INSULATION RESISTANCE	C ≤ 0.33Mfd, ≥ 18000MΩ C > 0.10Mfd: ≤ 1.0%(20°C, 1kHz)
DISSIPATION FACTOR	C ≥ 0.10Mfd: ≤ 0.8% C > 0.10Mfd: ≤ 1.0%(20°C, 1kHz)
CONSTRUCTION	Metalized polyester film, epoxy resin coating

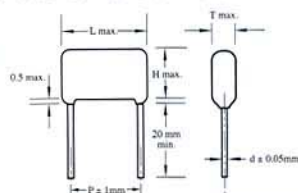


VDC	50/63V																100V											
	p=5mm				p=7.5mm				p=10mm				p=15mm				p=5mm				p=7.5mm				p=10;15mm			
	L	T	H	d	L	T	H	d	L	T	H	d	L	T	H	d	L	T	H	d	L	T	H	d	L	T	H	d
0.001	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0012	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0015	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0018	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0022	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0027	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0033	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0039	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0047	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0056	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0068	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.0082	7.3	4.0	7.0	0.6													7.3	4.0	7.0	0.6								
0.01	7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6									7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6				
0.012	7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6									7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6				
0.015	7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6									7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6				
0.018	7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6									7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6				
0.022	7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6									7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6				
0.027	7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6									7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6				
0.033	7.3	4.5	7.5	0.6	10.2	4.5	8.0	0.6									7.3	4.5	7.5	0.6	10.5	4.5	8.0	0.6				
0.039	7.3	4.5	7.5	0.6	10.2	4.5	8.0	0.6									7.3	4.5	7.5	0.6	10.5	4.5	8.0	0.6				
0.047	7.3	4.5	7.5	0.6	10.2	4.5	8.0	0.6									7.3	4.5	7.5	0.6	10.5	4.5	8.0	0.6				
0.056	7.3	4.5	8.0	0.6	10.2	4.5	8.0	0.6									7.3	4.5	8.0	0.6	10.5	4.5	8.0	0.6				
0.068	7.3	4.5	8.0	0.6	10.2	4.5	8.0	0.6									7.3	4.5	8.0	0.6	10.5	4.5	8.0	0.6				
0.082	7.3	4.5	8.0	0.6	10.2	4.5	8.0	0.6									7.3	4.5	8.0	0.6	10.5	4.5	8.0	0.6				
0.1	7.3	4.5	9.5	0.6	10.2	4.5	8.0	0.6									7.3	4.5	9.5	0.6	10.5	4.5	8.0	0.6				
0.12	7.3	4.5	9.5	0.6	10.2	4.5	8.0	0.6	13.0	4.5	9.0	0.6					7.3	4.5	9.5	0.6	10.5	4.5	8.0	0.6	13.0	4.5	9.0	0.6
0.15	8.0	5.0	10.0	0.6	10.2	4.5	9.0	0.6	13.0	4.5	9.0	0.6					8.0	5.0	10.0	0.6	10.5	4.5	9.0	0.6	13.0	4.5	9.0	0.6
0.18	8.0	5.0	10.0	0.6	10.2	4.5	9.0	0.6	13.0	4.5	9.0	0.6					8.0	5.0	10.5	0.6	10.5	4.5	9.0	0.6	13.0	4.5	9.0	0.6
0.22	8.0	5.0	10.0	0.6	10.2	5.0	9.5	0.6	13.0	5.0	9.5	0.6					8.0	5.5	11.0	0.6	10.5	5.0	9.5	0.6	13.0	5.0	9.5	0.6
0.27	8.0	5.0	10.0	0.6	10.2	5.5	9.5	0.6	13.0	5.0	9.5	0.6					8.0	6.0	11.5	0.6	11.0	5.5	10.0	0.6	13.0	5.0	9.5	0.6
0.33	8.0	5.0	10.0	0.6	10.2	5.5	9.5	0.6	13.0	5.0	10.0	0.6					8.0	6.5	12.0	0.6	11.0	5.5	11.5	0.6	13.0	5.0	10.0	0.6
0.39	8.0	5.0	10.0	0.6	10.2	5.5	9.5	0.6	13.0	5.0	10.0	0.6					8.0	7.0	12.5	0.6	11.0	6.0	11.5	0.6	13.0	5.5	10.5	0.8
0.47	8.0	5.5	10.5	0.6	10.2	5.5	9.5	0.6	13.0	5.0	10.0	0.6					8.0	7.5	13.5	0.6	11.0	6.5	12.0	0.6	13.0	6.0	11.0	0.8
0.56	8.0	5.5	10.5	0.6	10.2	5.5	9.5	0.6	13.0	5.0	10.0	0.6								11.0	7.0	12.0	0.6	13.0	6.5	11.5	0.8	
0.68	8.0	6.0	11.5	0.6	10.2	6.0	9.5	0.6	13.0	5.0	10.0	0.6								11.0	7.5	12.0	0.6	13.0	7.0	12.0	0.8	
0.82	8.0	6.5	11.5	0.6	10.2	6.5	10.0	0.6	13.0	5.0	10.5	0.6								11.0	8.0	12.5	0.6	13.0	7.5	12.5	0.8	
1.0	8.0	7.0	12.0	0.6	10.2	7.0	11.0	0.6	13.0	5.5	10.5	0.8	18.0	5.5	12.0	0.8				11.0	8.5	13.5	0.6	13.0	8.0	12.5	0.8	
1.2	8.0	7.0	12.5	0.6	10.2	7.0	11.5	0.6	13.0	5.5	10.5	0.8	18.0	5.5	12.0	0.8								18.0	8.0	12.5	0.8	
1.5	8.0	7.0	13.0	0.6	11.0	7.0	12.0	0.6	13.0	5.5	11.0	0.8	18.0	5.5	12.0	0.8								18.0	8.0	13.0	0.8	
1.8	8.0	7.5	13.5	0.6	11.0	7.0	12.5	0.6	13.0	6.0	11.5	0.8	18.0	6.0	12.5	0.8								18.0	8.0	13.5	0.8	
2.2	8.0	8.0	14.0	0.6	11.0	7.0	13.0	0.6	13.0	6.5	12.0	0.8	18.0	6.0	12.5	0.8								18.0	8.0	14.5	0.8	
2.7					11.0	7.5	13.5	0.6	13.0	7.0	12.5	0.8	18.0	6.0	12.5	0.6												
3.3					11.0	8.0	14.0	0.6	13.0	7.5	13.0	0.8	18.0	6.0	12.5	0.8												
3.9									13.0	8.0	13.5	0.8	18.0	6.5	12.5	0.8												
4.7									13.0	8.5	14.0	0.8	18.0	6.5	13.0	0.8												
5.6													18.0	7.0	13.5	0.8												
6.8													18.0	7.5	14.0	0.8												
8.2													18.0	8.0	14.5	0.8												
10.0													18.0	8.5	15.0	0.8												

MINIATURE SIZE METALLIZED POLYESTER FILM CAPACITOR-MER/MEF

MINIATURE SIZE, MON-INDUCTIVE, EPOXY DIP COATED

TS03



VDC	160V												250V												400V											
	p=5mm				p=7.5mm				p=10;15mm				p=5mm				p=7.5mm				p=10;15mm				p=5mm				p=7.5;10;15mm							
	L	T	H	d	L	T	H	d	L	T	H	d	L	T	H	d	L	T	H	d	L	T	H	d	L	T	H	d	L	T	H	d				
0.001	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6								
0.0012	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6								
0.0015	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6								
0.0018	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6								
0.0022	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6								
0.0027	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6								
0.0033	7.3	4.0	7.0	0.6									7.3	4.0	7.5	0.6									7.3	4.0	7.0	0.6								
0.0039	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6								
0.0047	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6								
0.0056	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.5	7.5	0.6								
0.0068	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									7.3	4.5	8.0	0.6								
0.0082	7.3	4.0	7.0	0.6									7.3	4.0	7.0	0.6									8.0	5.0	9.5	0.6								
0.01	7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6					7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6					8.0	5.5	10.0	0.6	10.2	4.5	8.0	0.6				
0.012	7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6					7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6					8.0	5.5	11.0	0.6	10.2	4.5	8.0	0.6				
0.015	7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6					7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6					8.0	6.0	11.5	0.6	10.2	4.5	8.0	0.6				
0.018	7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6					7.3	4.0	7.0	0.6	10.2	4.5	8.0	0.6					8.0	6.5	12.0	0.6	11.0	5.0	9.0	0.6				
0.022	7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6					7.3	4.5	8.0	0.6	10.2	4.5	8.0	0.6					8.0	7.0	13.0	0.6	11.0	5.5	10.0	0.6				
0.027	7.3	4.0	7.0	0.6	10.5	4.5	8.0	0.6					8.0	5.0	8.5	0.6	10.2	4.5	8.0	0.6					8.0	7.5	13.5	0.6	11.0	5.5	10.5	0.6				
0.033	7.3	4.5	7.5	0.6	10.5	4.5	8.0	0.6					8.0	5.5	9.0	0.6	10.2	4.5	8.0	0.6					8.0	8.0	14.0	0.6	11.0	6.0	11.5	0.6				
0.039	7.3	4.5	7.5	0.6	10.5	4.5	8.0	0.6					8.0	6.0	9.5	0.6	11.0	4.5	9.0	0.6										11.0	6.5	12.5	0.6			
0.047	7.3	4.5	7.5	0.6	10.5	4.5	8.0	0.6					8.0	6.0	10.5	0.6	11.0	5.0	9.5	0.6										11.0	7.0	13.0	0.6			
0.056	7.3	4.5	8.0	0.6	10.5	4.5	8.0	0.6					8.0	6.5	11.0	0.6	11.0	5.5	10.0	0.6										11.0	7.5	13.5	0.6			
0.068	7.3	4.5	9.5	0.6	10.5	4.5	8.0	0.6					8.0	7.0	11.5	0.6	11.0	5.5	10.5	0.6										11.0	7.5	14.0	0.6			
0.082	8.0	5.0	10.0	0.6	10.5	4.5	8.0	0.6					8.0	7.0	12.5	0.6	11.0	5.5	11.0	0.6										13.0	7.5	14.0	0.8			
0.1	8.0	5.5	10.5	0.6	10.5	4.5	8.0	0.6	13.0	4.5	9.0	0.6	8.0	7.5	13.5	0.6	11.0	6.0	11.5	0.6	13.0	5.5	11.0	0.8						13.0	8.0	14.0	0.8			
0.12	8.0	5.5	11.0	0.6	10.5	4.5	8.0	0.6	13.0	4.5	9.0	0.6	8.0	8.0	14.0	0.6	11.0	6.5	12.0	0.6	13.0	5.5	11.5	0.8						18.0	8.5	14.0	0.8			
0.15	8.0	6.0	11.5	0.6	10.5	4.5	9.0	0.6	13.0	4.5	9.0	0.6	8.0	8.5	14.5	0.6	11.0	7.0	12.5	0.6	13.0	6.0	12.0	0.8						18.0	8.5	14.0	0.8			
0.18	8.0	6.5	12.0	0.6	10.5	5.0	9.5	0.6	13.0	4.5	9.0	0.6					11.0	7.5	13.0	0.6	13.0	6.5	12.5	0.8						18.0	8.5	14.0	0.8			
0.22	8.0	7.0	13.0	0.6	11.0	5.5	10.0	0.6	13.0	5.0	9.5	0.6					11.0	8.0	14.0	0.6	13.0	7.0	13.0	0.8						18.0	8.5	15.0	0.8			
0.27	8.0	7.5	13.5	0.6	11.0	5.5	11.0	0.6	13.0	5.5	10.0	0.8									13.0	8.0	13.0	0.8												
0.33	8.0	8.0	14.0	0.6	11.0	6.0	11.5	0.6	13.0	5.5	10.5	0.8									18.0	8.0	13.0	0.8												
0.39					11.0	6.5	12.0	0.6	13.0	6.0	11.0	0.8									18.0	8.0	13.5	0.8												
0.47					11.0	7.0	12.5	0.6	13.0	6.5	11.5	0.8									18.0	8.0	14.0	0.8												
0.56					11.0	7.5	13.5	0.6	13.0	7.0	12.5	0.8									18.0	8.0	14.5	0.8												
0.68					11.0	8.0	14.0	0.6	13.0	7.5	13.0	0.8									18.0	9.0	15.5	0.8												
0.82									13.0	8.0	13.5	0.8																								
1.0									18.0	8.0	13.5	0.8																								
1.2									18.0	8.0	13.5	0.8																								
1.5									18.0	8.0	14.5	0.8																								

METALLIZED POLYESTER FILM CAPACITOR-AXIAL-MEA & MET

AXIAL LEAD, WRAP & FILL, FLAT OVAL SHAPE

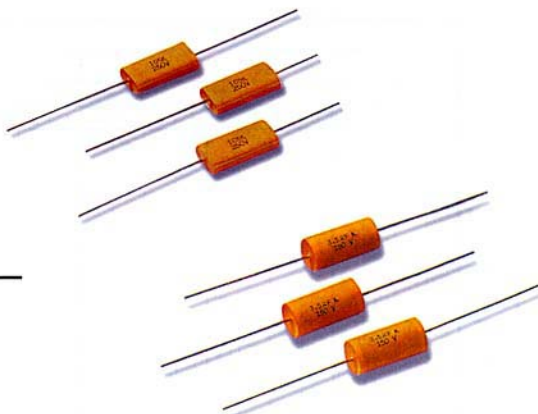
TS04

FEATURES

- High reliability, high capacitance, moisture resistance and excellent electrical characteristics.
- Exterior is sealed by polyester adhesive tape and epoxy resin at both ends to provide superior mechanical strength.
- Widely use in filtering, DC blocking, coupling and general communication equipment, etc.

SPECIFICATIONS

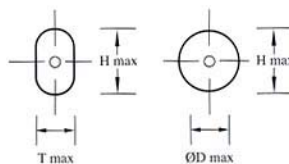
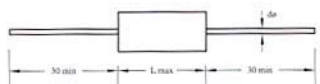
OPERATING TEMPERATURE	-40°C TO + 85°C
RATED VOLTAGE	DC 100V, 250V, 400V, 630V
CAPACITANCE RANGE	0.01 TO 18.0 Mfd
CAPACITANCE TOLERANCE	±5%, ±10%, ±20%
INSULATION RESISTANCE	C<0.33 Mfd R≥15,000 MΩ C≥0.33 Mfd RC≥5,000 MΩC Mfd
DISSIPATION FACTOR	≤0.01 (AT 1KHZ)
DIELECTRIC STRENGTH	150% of rated voltage for 5sec.



L mm	16.0	19.0	27.0	32.0	47.0
dØ mm	0.6	0.6	0.8	0.8	1.0

MEA

Mfd	100 VDC			250 VDC			400 VDC			630 VDC		
	L	T	H	L	T	H	L	T	H	L	T	H
0.01										16.0	4.5	7.0
0.015										16.0	5.0	7.5
0.022										16.0	5.0	8.0
0.033										19.0	5.0	10.0
0.047										19.0	5.0	10.0
0.068										19.0	6.0	11.0
0.1	16.0	4.5	8.0	16.0	4.5	8.0	19.0	5.0	10.0	27.0	6.0	11.0
0.15	16.0	4.5	8.0	16.0	5.0	9.0	19.0	6.5	11.0	27.0	7.5	13.0
0.22	16.0	4.5	8.0	16.0	5.0	9.0	19.0	8.0	13.0	27.0	8.5	14.5
0.33	26.0	4.5	8.0	21.0	5.5	10.5	27.0	8.0	13.0	32.0	9.0	15.0
0.47	26.0	5.0	9.0	21.0	7.0	12.0	27.0	8.0	14.0	32.0	12.0	17.0
0.68	26.0	5.5	10.5	32.0	7.0	12.0	32.0	9.0	16.0	32.0	15.0	20.0
1.0	26.0	6.0	12.0	32.0	7.0	13.0	32.0	10.5	18.5	32.0	17.0	25.5
1.5	26.0	6.5	14.0	32.0	8.5	15.0	32.0	12.0	22.0	47.0	17.5	25.5
2.2	32.0	7.0	14.0	32.0	10.0	16.5	32.0	16.0	24.0	47.0	17.5	25.5
3.3	32.0	9.5	17.0	32.0	12.0	20.5	47.0	16.0	24.0	47.0	21.0	34.0
4.7	32.0	10.0	18.0	32.0	14.0	25.0	47.0	18.0	27.0			
6.8	32.0	11.0	21.0	47.0	14.0	25.0	47.0	22.0	34.0			
8.2	32.0	13.0	23.0	47.0	15.0	25.0	47.0	25.0	36.0			
10.0	32.0	15.0	23.0	47.0	15.5	28.0	47.0	28.0	37.0			
12.0	47.0	15.0	23.0	47.0	17.5	31.0						
15.0	47.0	15.0	28.0	47.0	19.5	34.0						
18.0	47.0	18.0	31.0									



MEA

MET

METALLIZED POLYESTER FILM CAPACITOR-MINI BOX

NON - INDUCTIVE , PLASTIC CASE AND EPOXY RESIN

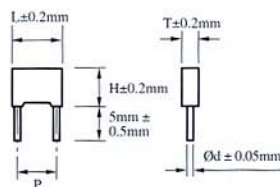
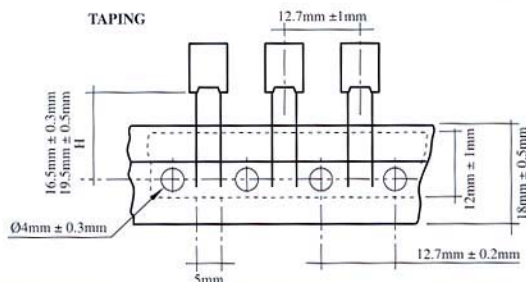
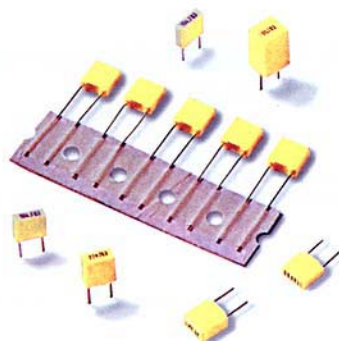
TS05

FEATURES

- Space-saving miniature size.
- Non-inductive construction, Self-healing property.
- Flame-retardant plastic case and epoxy resin (compliance with UL94V-0)
- High-moisture resistance.

SPECIFICATIONS

OPERATING TEMPERATURE	-40°C TO + 85°C
CAPACITANCE RANGE	0.001 TO 1.0 Mfd
CAPACITANCE TOLERANCE	±5%, ±10%
RATED VOLTAGE	DC 50V, 63V, 100V
DISSIPATION FACTOR	1.0% MAX AT 1 KHz, 25°C
INSULATION RESISTANCE	>10000 MΩ (C≤.33μF),
OB OPERATING	>3000 MΩ•μF (C>.33μF)



RATED CAPACITANCE (Mfd)	63V-/40VAC				100V-/63VAC			
	L	T	H	P	L	T	H	P
0.001	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.0015	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.0022	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.0033	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.0047	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.0068	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.01	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.015	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.022	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.033	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.047	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.068	7.2	2.5	6.5	5	7.2	2.5	6.5	5
0.1	7.2	2.5	6.5	5	7.2	3.5	7.5	5
0.15	7.2	3.5	7.5	5	7.2	4.5	9.5	5
0.22	7.2	3.5	7.5	5	7.2	4.5	9.5	5
0.33	7.2	4.5	9.5	5	7.2	5	10	5
0.47	7.2	4.5	9.5	5	7.2	6	10	5
0.68	7.2	6	11	5				
1.0	7.2	6	11	5				

POLYPROPYLENE FILM CAPACITOR-PPI

INDUCTIVE, RADIAL LEAD WELDED CONSTRUCTION, EPOXY COATED

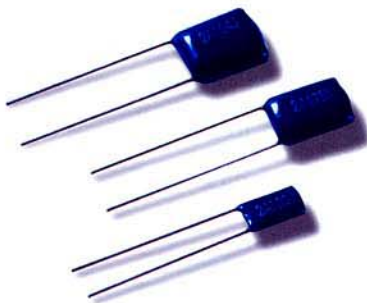
TS06

FEATURES

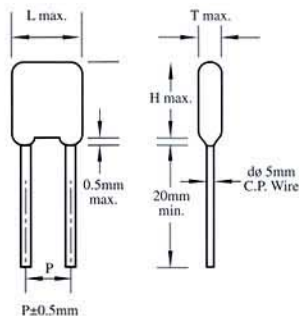
- Comparatively small size saves space of print circuit board
- Temperature dependence indicates characteristic of negative.
- Dissipation Factor is normally low and temperature dependence of capacitance is linear.

SPECIFICATIONS

OPERATING TEMPERATURE	-40°C TO + 85°C
RATED VOLTAGE	DC 50V,100V,200V,400V,630V
CAPACITANCE RANGE	0.001 TO 0.22 Mfd
CAPACITANCE TOLERANCE	±5%, ±10%
INSULATION RESISTANCE	50,000 MΩmin.
DISSIPATION FACTOR	≤0.001 for C≤0.0068
	≤0.002 for C>0.068 Mfd (AT 1KHz)
DIELECTRIC STRENGTH	250% of rated voltage for 5sec.



VDC Mfd (PF)	100 VDC				250 VDC			
	L	T	H	P	L	T	H	P
330	7.0	4.0	10.0	3.5	8.0	4.5	10.5	4.0
390	7.0	4.0	10.0	3.5	8.0	4.5	10.5	4.0
470	7.0	4.0	10.0	3.5	8.0	4.5	10.5	4.0
560	7.0	4.0	10.0	3.5	8.0	4.5	10.5	4.0
680	7.0	4.0	10.0	3.5	8.0	4.5	10.5	4.0
820	7.0	4.0	10.0	3.5	8.0	4.5	10.5	4.0
0.001	7.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0012	7.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0015	7.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0018	7.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0022	7.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0027	7.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0033	7.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0047	7.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0056	7.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0068	8.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.0082	8.0	4.0	11.0	3.5	8.0	4.5	11.0	4.0
0.01	8.0	4.0	13.0	4.0	8.0	4.5	13.0	4.0
0.012	8.0	4.0	13.0	4.0	8.0	4.5	13.0	4.0
0.015	8.0	4.0	13.0	4.0	8.0	4.5	13.0	4.0
0.018	8.0	4.0	13.0	4.0	8.0	4.5	13.0	4.0
0.022	9.0	4.0	13.0	5.0	10.0	5.0	13.0	5.0
0.027	10.0	5.0	13.0	5.0	11.0	6.0	13.0	5.0
0.033	10.0	5.0	14.0	5.0	11.0	6.0	15.0	5.0
0.039	12.0	6.0	14.0	5.0	13.0	7.0	15.0	5.0
0.047	13.0	6.0	14.0	6.0	14.0	7.0	15.0	6.0
0.056	13.0	6.0	16.0	7.0				
0.068	13.0	7.0	16.0	7.0				
0.082	14.0	7.0	19.0	8.0				
0.1	14.0	7.0	19.0	8.0				
0.12	14.0	8.0	20.0	8.0				
0.15	15.0	8.0	20.0	8.0				
0.18	16.0	9.0	20.0	10.0				
0.22	17.0	10.0	20.0	10.0				



METALLIZED POLYPROPYLENE FILM CAPACITOR-MPP

NON-INDUCTIVE, EPOXY DIP COATED, HIGH MOISTURE RESISTANCE

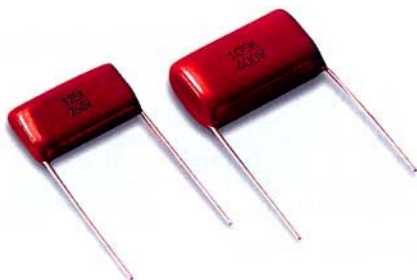
TS07

FEATURES

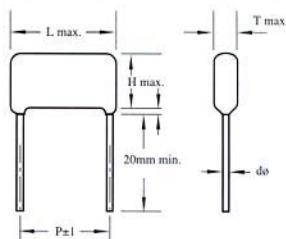
- Highly reliable because of its excellent Self-Healing performance.
- Dissipation Factor is normally low and it is stable against high frequency and change of temperature.
- Recommended for high-frequency circuits like s-curve compensating circuit.

S P E C I F I C A T I O N S

OPERATING TEMPERATURE	-40°C TO + 85°C
RATED VOLTAGE	DC 100V, 250V, 400V, 630V
CAPACITANCE RANGE	0.01 TO 10.0Mfd
CAPACITANCE TOLERANCE	±5%, ±10%, ±20%
INSULATION RESISTANCE	C<0.33 Mfd R>30.000MΩ C≥0.33 Mfd RC≥10.000MΩxMfd
DISSIPATION FACTOR	≤0.002(AT 1 KHz)(Typical 0.001 max) ≤0.002(AT 10KHz) for 0.01<≤0.1 Mfd ≤0.003(AT 10 KHz) for 0.1<≤1.0 Mfd
DIELECTRIC STRENGTH	150% of rated voltage for 5 sec.



L	10.0	13.0	18.0	26.0	31.0
P	7.5	10.0	15.0	22.5	27.0
dϕ	0.6	0.6	0.8	0.8	1.0

[illegible]

METALLIZED POLYPROPYLENE FILM CAPACITOR-X2

NON-INDUCTIVELY (UL940V-0) PLASTIC CASE SEALED WITH EPOXY RESIN

TS08

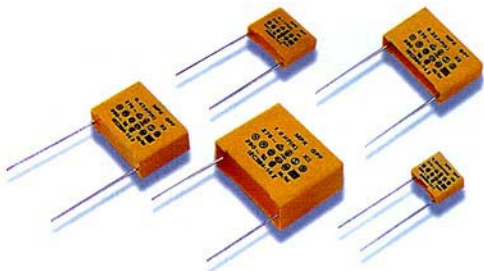
FEATURES

- Provides interference suppression with UL, VDE, CSA, SEMKO, DEMKO, NEMKO, SEV, FIMKO, IMQ, ÖVE, CEBEC, KEMA safety approvals.
- High du/dt capabilities.

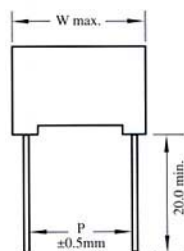
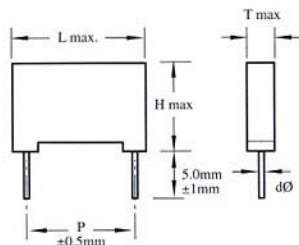
SPECIFICATIONS

VOLTAGE RATING	275/250 VAC
CAPACITANCE RANGE	0.0047 - 1.0 Mfd
CAPACITANCE TOLERANCE	±10% std. ±5%
WORKING VOLTAGE	275/250 VAC. 50/60 Hz
OPERATING TEMPERATURE	-40°C to 85°C
DIELECTRIC STRENGTH	2100 VDC for 1 sec.
DISSIPATION FACTOR	0.08% max at 1KHz 20°C 0.3% max at 10KHz 20°C
INSULATION RESISTANCE	1.R. ≥ 30,000MΩ (C ≤ 0.33μF) 1.R. ≥ 10,000MΩ (C > 0.33μF)

C



Mfd	250 VAC/275 VAC				
	L	H	T	P	dØ
0.0047	13.0	11.0	5.0	10.0	0.6
0.0056	13.0	11.0	5.0	10.0	0.6
0.0082	13.0	11.0	5.0	10.0	0.6
0.01	13.0	11.0	5.0	10.0	0.6
0.012	13.0	11.0	5.0	10.0	0.6
0.015	13.0	11.0	5.0	10.0	0.6
0.018	13.0	11.0	5.0	10.0	0.6
0.022	13.0	11.0	5.0	10.0	0.6
0.027	13.0	12.0	6.0	10.0	0.6
0.033	13.0	12.0	6.0	10.0	0.6
0.039	18.0	11.0	5.0	15.0	0.8
0.047	18.0	11.0	5.0	15.0	0.8
0.056	18.0	12.0	6.0	15.0	0.8
0.068	18.0	12.0	6.0	15.0	0.8
0.082	18.0	13.5	6.0	15.0	0.8
0.1	18.0	13.5	6.0	15.0	0.8
0.12	18.0	13.5	7.5	15.0	0.8
0.15	18.0	14.5	8.5	15.0	0.8
0.15	26.5	16.5	7.0	22.5	0.8
0.18	26.5	16.5	7.0	22.5	0.8
0.22	26.5	16.5	7.0	22.5	0.8
0.27	26.5	17.0	8.5	22.5	0.8
0.33	26.5	19.0	10.0	22.5	0.8
0.39	26.5	19.0	10.0	22.5	0.8
0.47	26.5	19.0	10.0	22.5	0.8
0.47	32.0	20.0	11.0	27.5	0.8
0.56	32.0	20.0	11.0	27.5	0.8
0.6	32.0	20.0	11.0	27.5	0.8
0.68	32.0	20.0	11.0	27.5	0.8
0.82	32.0	22.0	13.0	27.5	0.8
1.0	32.0	25.0	14.0	27.5	0.8
1.0	37.0	24.0	13.5	32.5	0.8



SERIES POLYPROPYLENE FILM CAPACITOR-PPS

EXTENDED FOIL, FLAME RETARDANT EPOXY COATED

FEATURES

- Ideal for high AC current applications, such as CRT deflection for R-F generators and pulse-forming networks.
- Temperature Coefficient is negative and variety linear over the operation temperature.
- Coated with flame retardant epoxy resin which provides protection from humidity and mechanical damage.

TS09

SPECIFICATIONS

OPERATING TEMPERATURE	-40°C TO + 85°C
RATED VOLTAGE	DC 1000V, 1500V and 2000V
CAPACITANCE RANGE	0.001 TO 0.15 Mfd
CAPACITANCE TOLERANCE	±3%, ±5%, ±10%
CORONA FREE VOLTAGE	Please refer to following table.
INSULATION RESISTANCE	50,000MΩ
DISSIPATION FACTOR	0.001 (AT 1KHz)
DIELECTRIC STRENGTH	250% of rated voltage for 5 sec.



CORONA FREE VOLTAGE: VAC min (at 60Hz)

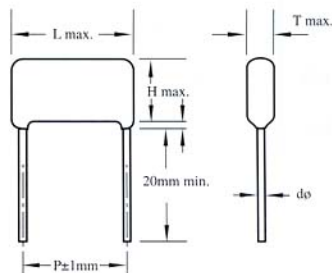
VDC Mfd	0.001-0.0047	0.0068-0.15
1000	400	450
1500	700	750

Maximun pulse rise time (volt/micro-second)

VDC S	15.0	22.0	30.0	35.0
1000	2500	1500	800	
1500	3500	2800	1500	700

for pulses equal to the rated voltage.

VDC Mfd	1000 VDC			1500/1600 VDC			2000 VDC		
	L	T	H	L	T	H	L	T	H
0.001	19.0	6.0	14.0	26.0	6.0	13.0	26.0	7.0	14.5
0.0015	19.0	6.5	14.5	26.0	7.0	14.5	26.0	8.0	16.0
0.0022	19.0	7.0	15.0	26.0	8.0	16.0	26.0	9.0	19.0
0.0033	19.0	7.5	16.0	26.0	9.0	18.0	26.0	10.5	22.0
0.0068	19.0	8.0	17.0	26.0	11.0	20.0	35.0	10.5	23.0
0.0047	26.0	10.0	19.0	26.0	12.0	22.0	35.0	13.0	25.0
0.01	26.0	11.0	20.0	35.0	12.0	23.0	35.0	15.0	27.0
0.015	26.0	12.0	21.0	35.0	14.0	26.0	35.0	18.0	31.0
0.022	26.0	13.0	22.0						
0.033	26.0	14.0	24.0						
0.047	35.0	17.0	26.0						
0.068	35.0	17.0	26.0						
0.1	35.0	19.0	32.0						
0.15	35.0	21.0	34.0						



L mm	19.0	26.0	35.0
P mm	15.0	22.5	32
dØ mm	0.8	0.8	0.5

POLYSTYRENE FILM CAPACITOR-PSA&PSR

INDUCTIVE, AXIAL AND RADIAL, WELDED LEAD STYLE

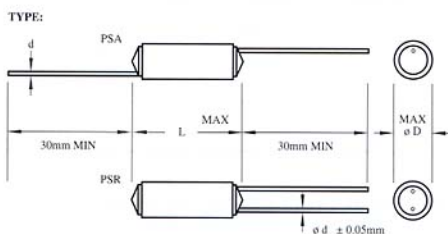
TS10

FEATURES

- Low dissipation factor and high insulation resistance.
- High stability of capacitance and DF versus temperature and frequency.
- High precision of capacitance is available.

SPECIFICATIONS

OPERATING TEMPERATURE	-40°C to 85°C
RATING VOLTAGE	DC 50V, 125V, 500V
DIELECTRIC STRENGTH	250% of rated voltage for 5 sec.
CAPACITANCE RANGE	56 to 10000 PF
CAPACITANCE TOLERANCE	±1%, ±2%, ±5% and ±10%
INSULATION RESISTANCE	50,000MΩ min at 25°C
DISSIPATION FACTOR	≤0.1% at 1 KHz



PF	50 VDC		125 VDC		500 VDC	
	D	L	D	L	D	L
56	5.5	12.0	5.5	12.0	5.5	12.0
68	5.5	12.0	5.5	12.0	5.5	12.0
82	5.5	12.0	5.5	12.0	5.5	12.0
100	5.5	12.0	5.5	12.0	5.5	12.0
120	5.5	12.0	5.5	12.0	5.5	12.0
150	5.5	12.0	5.5	12.0	6.0	12.0
180	5.5	12.0	5.5	12.0	6.0	12.0
220	5.5	12.0	5.5	12.0	6.0	12.0
270	5.5	12.0	5.5	12.0	6.0	12.0
330	5.5	12.0	5.5	12.0	6.5	12.0
390	5.5	12.0	5.5	12.0	6.5	12.0
470	5.5	12.0	5.5	12.0	6.5	12.0
560	5.5	12.0	5.5	12.0	6.5	17.0
680	5.5	12.0	6.0	12.0	6.5	17.0

PF	50 VDC		125 VDC		500 VDC	
	D	L	D	L	D	L
820	6.0	12.0	6.5	12.0	6.5	17.0
1000	6.0	12.0	6.5	17.0	7.0	17.0
1200	6.0	12.0	6.5	17.0	7.5	17.0
1500	6.0	12.0	6.5	17.0	7.5	21.0
1800	6.0	12.0	7.0	17.0	8.0	21.0
2200	6.5	12.0	7.0	17.0	8.0	22.0
2700	7.0	12.0	7.0	17.0	8.5	22.0
3300	7.0	12.0	7.5	19.0	9.5	24.0
3900	7.5	12.0	7.5	19.0	9.5	24.0
4700	8.0	12.0	8.0	19.0	10.0	24.0
5600	8.5	12.0	8.0	19.0	11.0	24.0
6800	9.0	12.0	9.5	19.0	11.0	24.0
8200	9.5	12.0	9.5	22.0	12.0	24.0
10000	10.0	12.0	10.5	22.0	13.0	24.0

MOTOR STARTING CAPACITOR

ELECTRICAL APPARATUS USE METALIZED FILM WITH PRECISELY QUALITY CONTROL.

TS11

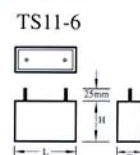
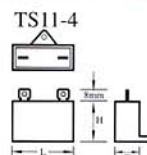
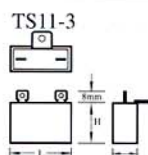
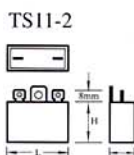
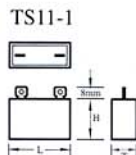
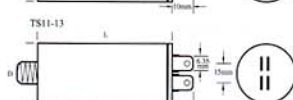
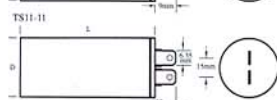
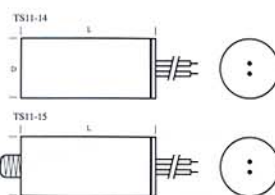
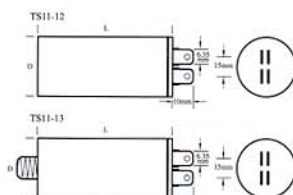
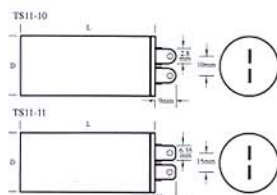
FEATURES

- High safety. High reliability.
- High I.R. (insulation resistance) small size.
- Low D.F. (dissipation factor), lower temperature rise.
- Durability and characteristics of frequency, etc.



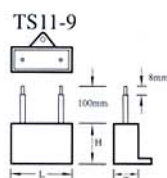
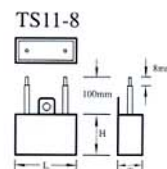
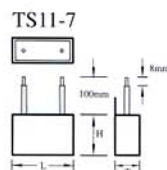
SPECIFICATIONS

OPERATING CONDITION	1) Range of temp: -25°C~+70°C or -40°C~+85°C 2) Max permissible over voltage: W.V X120% 3) Max permissible over current: rated current X130% 50/60, 1K, 10K, 100KHz
CAPACITANCE TOLERANCE	±5%, +10%~-5%, ±10%
RATED VOLTAGE	200~600VAC or 250~1500VDC
DISSIPATION FACTOR	Below 0.3% or 0.1%
INSULATION RESISTANCE	Above 2000MΩ
LIFE TEST	1) Max capacity VA: VA X135% 2) Continue life test: W.V.X120% 1000+~12hr. 3) On-off test: W.V.X 140% on 2sec. Test cycle 100,000+~1,000 times



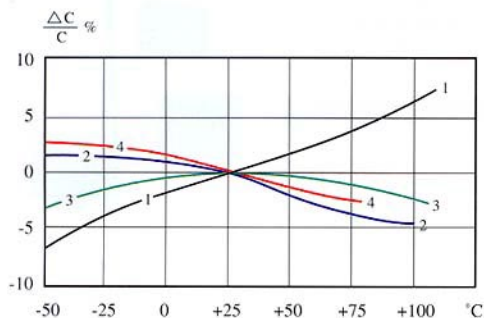
SQUARE TYPE

CAPACITANCE uF	250VAC			300VAC			350VAC			400VAC			450VAC		
	L	T	H	L	T	H	L	T	H	L	T	H	L	T	H
1	32	11	21	37	13.5	25	37	13.5	25	37	13.5	25	37	14.5	24
1.5	32	11	21	37	13.5	25	37	13.5	25	38	18	29	38	18	29
2	32	11	21	37	13.5	25	37	18	29	38	18	29	50	20	30
2.5	32	11	21	37	14.5	26	37	18	29	50	20	30	50	20	30
3	32	13	23.5	37	18	29	37	19	29	50	20	30	51	22	32
3.5	32	13	23.5	37	18	29	50	20	30	50	20	30	58	23	35
4	32	13.5	25	37	19	29	50	20	30	51	22	32	58	23	35
4.5	37	13.5	25	50	20	30	50	20	30	58	23	35	58	23	35
5	37	13.5	25	50	20	30	51	22	32	58	23	35			
5.5	37	13.5	25	50	20	30	51	22	32	58	23	35			
6	37	14.5	26	51	22	32	58	23	35	58	23	35			
6.5	38	18	29	51	22	32	58	23	35	58	23	35			
7	38	18	29	51	22	32	58	23	35						
8	38	18	29	58	23	35	58	23	35						
9	38	19	29	58	23	35									
10	50	20	30	58	23	35									
11	50	20	30	58	23	35									
12	50	20	30												
13	50	20	30												
14	50	20	30												
15	51	22	32												
16	51	22	32												

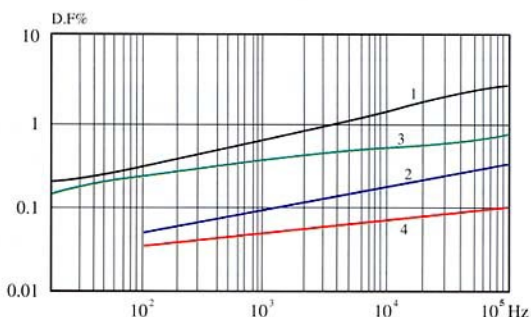
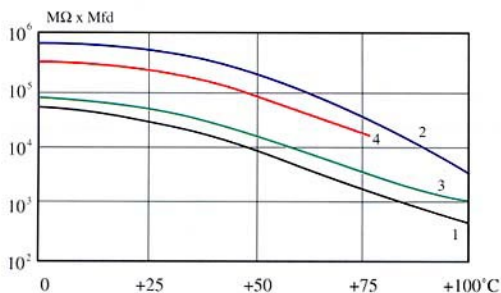
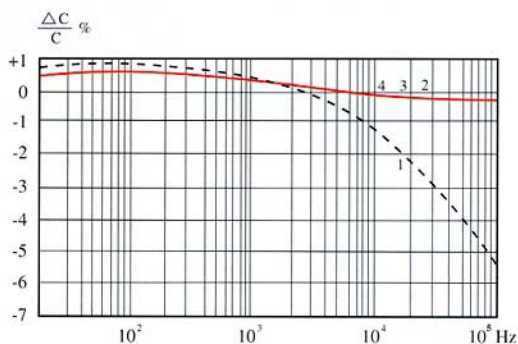


TEMPERATURE AND FREQUENCY CHARACTERISTICS

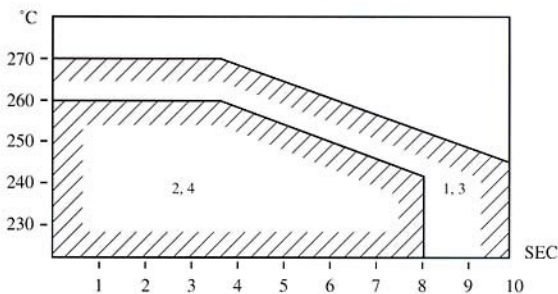
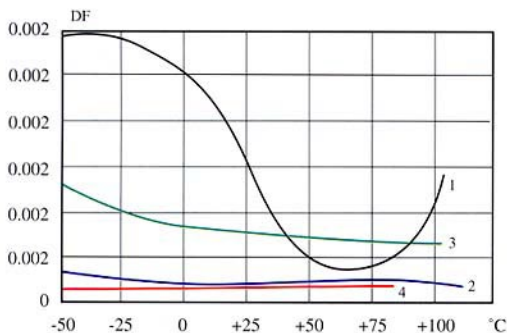
• TEMPERATURE CHARACTERISTICS



• FREQUENCY CHARACTERISTICS



• SOLDERING TEMPERATURE VS TIME



Curve 1: Polyester Type MER, MEA, MET, MEC, MEX, PEN, PEI
Curve 2: Polypropylene Type MPD, PPS, PPN, PPI

Curve 3: Polycarbonate Type MCD, MCK
Curve 4: Polystyrene Type PSI & PSA

ELECTRIC DOUBLE LAYER CAPACITOR - GOLD CAPACITOR

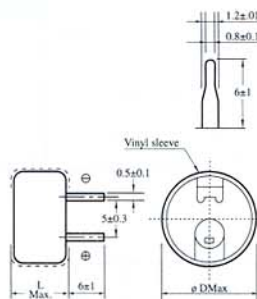
TS12

FEATURES

- Small-sized, large capacity, excellent voltage holding.
- For all ratings, uniform 5 mm pitch of terminal spacing.
- Wider temperature range(-25~+70°C) than battery makes periodic change unnecessary.
- $\phi 3.5 \times 7.5$ size can encase up to 0.33F.
- Ideal for backing up of CMOS's, microcomputers, RAM's and the like used in VCR's, tuners, TV sets, telephone sets and other.



S P E C I F I C A T I O N S							
Operating temperature range(°C)	-25 to + 70						
Capacitance tolerancer(%)	-20 to + 80						
Internal resistance	Capacitance(F)	0.047	0.1	0.22	0.33	0.47	1.0
	Internal resistance(Ω)	120	75	75	73	30	30
Stability at low & high temperature	Percentage of capacitance change		Within ±30% of the value at °C				
	Internal resistance		Less than five times of the value ar 20°C				
Load life (70°C)	Test time		1000 hours				
	Percentage of capacitance change		Within ±30% of the initial measured value				
	Internal resistance		Within four times the initial specified value				
Shelf life (70°C)	Test time :1000 hours : Dame as those for the load life.						



Standard Ratings

Rated voltage (V)	Capcitanace (F)	ϕ D x L(mm)
5.5	0.047	13.5 x 7.5
5.5	0.1	13.5 x 7.5
5.5	0.22	13.5 x 7.5
5.5	0.33	13.5 x 7.5
5.5	0.47	21.5 x 8
5.5	1	21.5 x 8

High Power

Rated voltage (V)	Capcitanace (F)	Real ESR(m Ω)	ϕ D x L(mm)
2.5	0.047	300	8 x 22
2.5	0.047	100	12.5 x 23
2.5	0.047	80	12.5 x 31.5
2.5	0.047	60	18 x 35
2.5	0.047	60	18 x 40
2.5	0.047	30	25 x 40
2.5	0.047	300	35 x 50

Coin Cell

Rated voltage (V)	Capcitanace (F)	ϕ D x L(mm)
2.4	0.33	11 x 1.6
2.4	2.2	18.3 x 2
2.5	0.18	6.8 x 2.1

Miniaturized

Rated voltage (V)	Capcitanace (F)	ϕ D x L(mm)
5.5	0.047	11.5 x 13
		11.5 x 5
		11.5 x 12.4
5.5	0.1	11.5 x 13
		11.5 x 5
		11.5 x 12.4
5.5	0.22	11.5 x 13
		11.5 x 5
		11.5 x 12.4
5.5	0.33	11.5 x 13
		11.5 x 5
		11.5 x 12.4
5.5	1.0	19 x 20.5

High-Temperature -20 + 85°C

Rated voltage (V)	Capcitanace (F)	ϕ D x L(mm)
5.5	0.033	13.5 x 9.5
5.5	0.047	13.5 x 9.5
5.5	0.1	13.5 x 9.5
5.5	0.47	21.5 x 9.5
5.5	0.68	21.5 x 9.5
5.5	1	21.5 x 9.5

Coin Cell High Voltage

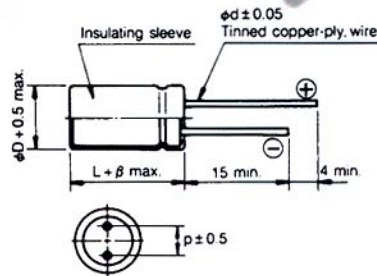
Rated voltage (V)	Capcitanace (F)	ϕ D x L(mm)
6.3	0.047	13.5 x 9.5
6.3	0.1	13.5 x 9.5
6.3	0.47	21.5 x 9.5
6.3	0.68	21.5 x 9.5
6.3	1	21.5 x 9.5

ALUMINUM ELECTROLYTIC CAPACITOR - GENERAL & MINIATURE

STANDARD, HEIGHT 5 & 7 MM, 1000 HRS SERIES

TS13

- TSE11 Series - Standard Size
 TSE07 Series - Mini Size 7 mm height
 TSE05 Series - Super Mini Size 5 mm height



Item	Characteristics									
Operating temperature range	-40 ~ +85°C									
Leakage current max.	I=0.01CV or 4μA whichever is greater (after 1 minute)									
Capacitance tolerance	±20% at 120Hz, 20°C									
Dissipation factor max. (at 120Hz, 20°C)	MV	4	6.3	10	16	25	35,40	50	63	
	tanδ	0.36	0.24	0.20	0.16	0.14	0.12	0.10	0.10	

WV	4	6.3	10	16	25	35	50	63	100
μF									
0.1							5 x 11 4 x 7 3 x 5	5 x 11	5 x 11
0.22							5 x 11 4 x 7 3 x 5	5 x 11	5 x 11
0.33							5 x 11 4 x 7 3 x 5	5 x 11	5 x 11
0.47							5 x 11 4 x 7 3 x 5	5 x 11	5 x 11
1.0							5 x 11 4 x 7 3 x 5	5 x 11	5 x 11
2.2						3 x 5	5 x 11 4 x 7 3 x 5	5 x 11	5 x 11
3.3					3 x 5	4 x 5	5 x 11 4 x 7 4 x 5	5 x 11	5 x 11
4.7				3 x 5	4 x 7 3 x 5	4 x 7 4 x 5	5 x 11 4 x 7 4 x 5	5 x 11	5 x 11
10		3 x 5	4 x 5	4 x 7 4 x 5	5 x 7 5 x 5	4 x 7 5 x 5	5 x 11 5 x 7 6.3 x 5	5 x 11	6.3 x 11
22	3 x 5	3 x 5	4 x 7 5 x 5	4 x 7 5 x 5	5 x 7 6.3 x 5	5 x 7 6.3 x 5	5 x 11 5 x 7 6.3 x 5	6.3 x 11	8 x 12
33	4 x 5	5 x 5	4 x 7 5 x 5	5 x 7 6.3 x 5	5 x 7 6.3 x 5	5 x 7 6.3 x 5	5 x 11 6.3 x 7	6.3 x 11	10 x 12.5
47	4 x 7 4 x 5	4 x 7 6.3 x 5	4 x 7 6.3 x 5	5 x 11 5 x 7 6.3 x 5	5 x 11 5 x 7 6.3 x 7	6.3 x 11	6.3 x 11	8 x 12	10 x 16
100	4 x 7 5 x 5	5 x 7	5 x 11 5 x 7	6.3 x 11 6.3 x 7	6.3 x 11	8 x 12	8 x 12	10 x 12.5	13 x 21
220	6.3 x 7 6.3 x 5	6.3 x 11 6.3 x 7	6.3 x 11 6.3 x 7	8 x 12	8 x 12	10 x 12.5	10 x 16	10 x 20	16 x 25

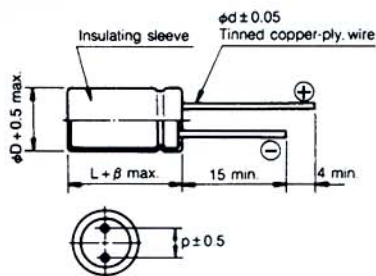
HIGH TEMPERATURE ALUMINUM ELECTROLYTIC CAPACITOR - 105°C

W I D E T E M P E R A T U R E R A N G E S E R I E S

TS14

FEATURES

- Wide operating temperature range of -55 ~ +105°C
- Standard series for general purposes
- Voltage range of 6.3 ~ 450V



Item	Characteristics										
Operating temperature range	WV Temperature range		6.3 ~ 100 -55 ~ +105℃		160 ~ 350 -40 ~ +105℃		400, 450 -25 ~ +105℃				
Leakage current max.	WV≤ 100 I = 0.01C V or 3μA whichever is greater(after 2min) I = 0.03C V or 4μA whichever is greater(after 1min)						WV> 100 I = 0.02C V + 15μA(after 5min)				
Capacitance tolerance	±20% at 120Hz, 20℃										
Dissipation factor max. (at 120Hz, 20℃)	Capacitance>1000μF:tanδincreases by 0.02 for each 1000μF from below value.										
	MV	6.3	10	16	25	35	50	63	100	160~250	350~450
	tanδ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20

WV µF	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
0.47						5 x 11	5 x 11	5 x 11	6.3 x 11	6.3 x 11	6.3 x 11			
0.68						5 x 11	5 x 11	5 x 11	6.3 x 11	6.3 x 11	6.3 x 11			
1.0						5 x 11	5 x 11	5 x 11	6.3 x 11	6.3 x 11	6.3 x 11	8 x 11.5	8 x 11.5	8 x 11.5
1.5						5 x 11	5 x 11	5 x 11	6.3 x 11	6.3 x 11	8 x 11.5	10 x 12.5	10 x 12.5	10 x 12.5
2.2						5 x 11	5 x 11	5 x 11	6.3 x 11	6.3 x 11	8 x 11.5	10 x 12.5	10 x 12.5	10 x 12.5
3.3						5 x 11	5 x 11	5 x 11	8 x 11.5	8 x 11.5	10 x 12.5	10 x 16	10 x 16	10 x 16
4.7						5 x 11	5 x 11	5 x 11	8 x 11.5	10 x 12.5	10 x 12.5	10 x 16	10 x 16	10 x 20
6.8						5 x 11	5 x 11	6.3 x 11	10 x 11.5	10 x 16	10 x 16	10 x 20	10 x 20	13 x 20
10						5 x 11	5 x 11	6.3 x 11	10 x 16	10 x 16	10 x 16	10 x 20	10 x 20	13 x 20
15						5 x 11	6.3 x 11	8 x 11.5	10 x 16	10 x 20	10 x 20	13 x 20	13 x 20	13 x 25
22					5 x 11	5 x 11	6.3 x 11	8 x 11.5	10 x 20	10 x 20	13 x 20	13 x 25	13 x 25	16 x 25
33				5 x 11	5 x 11	6.3 x 11	6.3 x 11	10 x 12.5	13 x 20	13 x 20	13 x 20	16 x 25	16 x 25	16 x 31.5
47			5 x 11	5 x 11	6.3 x 11	6.3 x 11	8 x 11.5	10 x 16	13 x 20	13 x 25	13 x 25	16 x 31.5	16 x 35.5	18 x 40
68		5 x 11	5 x 11.5	6.3 x 11	6.3 x 11	8 x 11.5	10 x 12.5	10 x 20	13 x 25	16 x 25	16 x 25	16 x 35.5	18 x 40	
100	5 x 11	5 x 11	6.3 x 11	6.3 x 11	8 x 11.5	8 x 11.5	10 x 12.5	13 x 12.5	16 x 25	16 x 31.5	16 x 35.5	18 x 40		
150	6.3 x 11	6.3 x 11	6.3 x 11	8 x 11.5	10 x 12.5	10 x 12	10 x 20	13 x 25	16 x 31.5	16 x 40	18 x 40			
220	6.3 x 11	6.3 x 11	8 x 11.5	8 x 11.5	10 x 12.5	13 x 16	13 x 16	16 x 25	16 x 40	18 x 40				
330	6.3 x 11	8 x 11.5	8 x 11.5	10 x 12.5	10 x 16	13 x 20	13 x 20	16 x 25	18 x 40					
470	8 x 11.5	8 x 11.5	10 x 12.5	10 x 16	10 x 20	13 x 25	13 x 25	16 x 31.5						
680	10 x 12.5	10 x 16	10 x 16	13 x 16	13 x 20	16 x 25	16 x 25	18 x 40						
1000	10 x 12.5	10 x 16	10 x 20	13 x 20	13 x 25	16 x 25	16 x 31.5							
1500	10 x 20	10 x 20	13 x 20	13 x 25	16 x 25	16 x 31.5	18 x 40							
2200	13 x 20	13 x 20	13 x 25	16 x 25	16 x 31.5	18 x 35.5								
3300	13 x 20	13 x 25	16 x 25	16 x 31.5	18 x 35.5									
4700	16 x 25	16 x 25	16 x 31.5	18 x 35.5										
6800	16 x 25	16 x 31.5	16 x 40											
10000	16 x 31.5	18 x 35.5												
15000	18 x 35.5													

Case size φD x L (mm)

CERAMIC DISC CAPACITOR

CLASS III SEMI - CONDUCTIVE TYPE

TS15

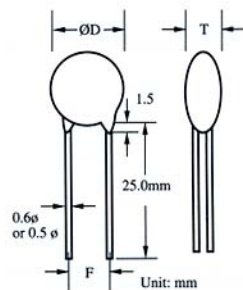
FEATURES

- Linear temperature coefficient of capacitance.
- Stable capacitance change over the specified temperature.
- Low loss at wide range of frequency.
- Cost saving by replacing film capacitors.
- Ultra large capacitance in small sizes.



SPECIFICATIONS

OPERATING TEMPERATURE RANGE	-25°C TO + 85°C
RATED WORKING VOLTAGE	DC 16V, 25V, 50V
TEST VOLTAGE	2 times of the rated voltage
DISSIPATION FACTOR (tan δ)	at 1 KHz, 0.1 Vrms. 25°C
FY	16V 7.5 % max
FY.RY	25/50V 5% max
INSULATION RESISTANCE	(at 25°C)
	16V. 100 MΩuF or 10 MΩuf whichever is less
	25V/50V. 1000 MΩuF or 20 MΩuF whichever is less



Rated Volt. (VDC)	Temp. Char.	Capacitance		Dimensions (mm)		
		Range(pF)	Tolerance	D Ø max	T max	F
16	FY +22 ~ 82% (Y5V)	20000 ~ 100000	±20% & +80-20%	5.5	3.5	5.0
		200000 ~ 220000		10.5		
		22000		5.5		
25		33000 ~ 100000		6.5		
		200000 ~ 220000		10.5		
		22000		5.5		
50	RY ±15% (Y5R)	33000 ~ 47000	±10% & ±20%	6.5	3.5	5.0
		100000				
		6800 ~ 10000		5.5		
		15000 ~ 22000		6.5		
		33000 ~ 47000		7.5		
		68000 ~ 100000		8.5		
		68000 ~ 10000		5.5		
		15000 ~ 22000		6.5		
		33000 ~ 47000		8.5		
		68000		10.5		

CERAMIC DISC CAPACITOR

CLASS I TEMPERATURE COMPENSATION

TS15

FEATURES

- Linear temperature coefficient of capacitance.
- High stability of capacitance.
- Low loss at wide range of frequency.

SPECIFICATIONS

OPERATING TEMPERATURE RANGE	-25°C TO +85°C
RATED WORKING VOLTAGE	DC 50 V, 500 V
TEST VOLTAGE	3 times of the rated voltage
CAPACITANCE	Within the tolerance at 1 MHz, 1 ± 0.2 Vrms, 25°C
Q FACTOR	At 1 MHz, 1 ± 0.2 Vrms, 25°C
	$C \geq 30$ pF $Q \geq 1,000$
	$C < 30$ pF $Q \geq 400 + 20C$ (C: Rated capacitance)
INSULATION RESISTANCE	10,000 MΩmin.

Rated Volt. (VDC)	Temp. Char.	Capacitance		Dimensions (mm)		
		Range(pF)	Tolerance	D Ø max	T max	F
50	CH 0±60 PPM/°C (NPO)	0.5 ~ 47	± 0.25 pF & ± 0.5 pF (Under 10 pF)	5.5	3.5	5.0
		50 ~ 75		6.5		
		82 ~ 100		7.5		
		120 ~ 150	$\pm 5\%$ & $\pm 10\%$ (Over 10 pF)	8.5		
		180 ~ 270		10.5		
		300 ~ 390		12.5		
50	SL +350 ~ -1000 PPM/°C	10 ~ 120	$\pm 5\%$	5.5	3.5	5.0
		150 ~ 240		6.5		
		270 ~ 330		7.5		
		360 ~ 470	& $\pm 10\%$	8.5		
		500 ~ 820		10.5		

CLASS II HIGH DIELECTRIC CONSTANT

FEATURES

- Large capacitance in small sizes.
- Non linear temperature coefficient of capacitance.

SPECIFICATIONS

RATED WORKING VOLTAGE	DC 50 V, 500 V
TEST VOLTAGE	2.5 times of the rated voltage
CAPACITANCE	Within the tolerance at 1 MHz, 1 ± 0.2 Vrms, 25°C
DISSIPATION FACTOR (tanδ)	Y5P, Z5U : tanδ ≤ 2.5%
	Z5V : tanδ ≤ 5%
INSULATION RESISTANCE	10,000 MΩ or 200 MΩ uF, whichever is the smaller

Rated Volt. (VDC)	Temp. Char.	Capacitance		Dimensions (mm)		
		Range(pF)	Tolerance	D Ø max	T max	F
50	B $\pm 10\%$ (Y5P)	100 ~ 2000	$\pm 10\%$ & $\pm 20\%$	5.5	3.5	5.0
		2200 . 2700		6.5		
		3000 . 3300		7.5		
		3900 . 4700		8.5		
		5600 . 6800 10000		10.5		
50	E +22~-56% (Z5U)	2200 . 3300 4700 . 5000	$\pm 20\%$ & +80-20%	5.5	3.5	5.0
		5600 . 6800 8200		6.5		
		10000		7.5		
		12000 . 15000		8.5		
		18000 . 20000 22000		10.5		
50	F +22~-82% (Z5V)	4700 . 5000	+80-20%	5.5	3.5	5.0
		10000 . 15000		6.5		
		18000 . 20000		7.5		
		22000 . 30000		8.5		
		33000 . 40000 47000		10.5		

HIGH VOLTAGE CERAMIC CAPACITOR

TS16

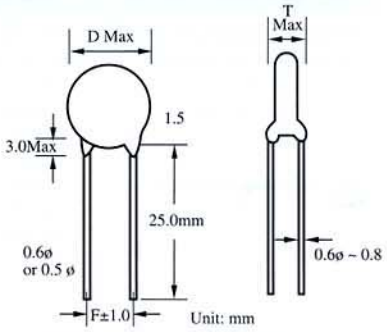
FEATURES

- Use for coupling, and by-pass circuit there are a stable and high reliability products



SPECIFICATIONS

OPERATING CONDITION RANGE	-10°C to +85°C (Z5U, Z5V) -25°C to +85°C (Y5P)
RATED WORKING VOLTAGE	1 KV - 35KVDC
CAPACITANCE RANGE	100 pF - 10,000 pF
TEST VOLTAGE	2 times of the rated voltage.
DISSIPATION FACTOR (tan δ)	at 1 KHz, 1±0.2 Vrms. 25°C
Y5P, Z5U	tan δ ≤ 2.5%
Z5V	tan δ ≤ 5%
INSULATION RESISTANCE	10,000 MΩuF or 200 MΩuf whichever is the smaller



Rated Volt		Temp. Char./Capacitance					Dimension (MM)	
(KV/DC)	SL.	YL.	Y5P (B)	BN	Z5U (E)	Z5V (F)	D.	T.
1 KV	1 - 80		100 - 1000		1000	1500	7	4.0
	81 - 140				2200	3300	8	
			1500				9	
	140 - 240		2200		3300	4700	10	
					4700	5600	11	
	241 - 400				5600		12	
			3300		8200	10000	13	
2 KV			4700		10000		15	5.0
			100 - 680	100 - 270		1000	7	
		220		330 - 470	1000		8	
		270-330	1000	560 - 680	1500		9	
		470	1500	820		2200	10	
		560			2200	3300	11	
		680	2200	1600 - 1200	3300		12	
		820	3300	1500 - 1800		4700	13	
3 KV			1000	2200	4700		15	6.0
			100 - 330		470	680	7	
			470		680	1000	8	
			680		1000		9	
			1000			1500	10	
					1500	2200	11	
			1500		2200		12	
						3300	13	
			2200		3300	4700	15	

MULTILAYER (MONO) CERAMIC CAPACITOR

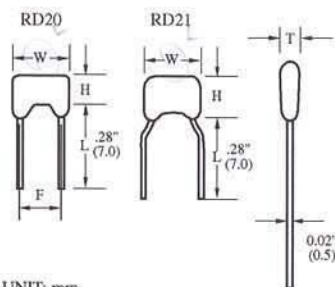
TS17

FEATURES

- Wide application in computer, data processor, telecommunication, industrial control, and instrumentation equipments, etc.
- Built by superior moisture and shock resistant epoxy coating, can be supplied in both bulk or tape and reel package for automatic insertion in printed circuit board.

TS17R - RADIAL

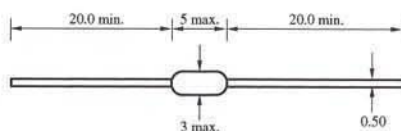
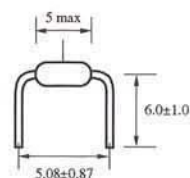
RATED VOLT. (VDC)	TEMP CHAR.	CAPACITANCE		DIMENSIONS(MM)			
		RANGE(pF)	TOL.	LMAX	HMAX	T max	F
50	C 0±30 ppm/°C COG (NPO)	10~3300	±5% & ±10%	5.08	5.08	3.18	2.54 ±1.0
							5.08 ±1.0
100	C 0±30 ppm/°C COG (NPO)	10~3300	±5% & ±10%	5.08	5.08	3.18	2.54 ±1.0
							5.08 ±1.0
50	R +15% (X7R)	220~1000000	±5% & ±10%	5.08	5.08	3.18	2.54 ±1.0
							5.08 ±1.0
	F +22 -82% (Y5V)	10000~150000	±20% & +80-20%	5.08	5.08	3.18	2.54 ±1.0
							5.08 ±1.0
100	R +15% (X7R)	220~68000	±10% & ±20%	5.08	5.08	3.18	2.54 ±1.0
							5.08 ±1.0



UNIT: mm

TS17A - AXIAL

RATED VOLT. (VDC)	TEMP CHAR.	CAPACITANCE		DIMENSIONS(MM)	
		RANGE(pF)	TOL.	L max	D max
50	C 0±30 ppm/°C COG (NPO)	10~750	±5% & ±10%	5.0	3.0
	±15% R(X7R)	560~15000	±10% & ±20%		
	+22-82% F (Y5V)	1000~100000	±20% & +80-20%		



MULTILAYER CERAMIC CHIP CAPACITOR - SMD

TS18

DIELECTRICS & VALUES

NPO X7R Y5V consult product pages of catalog for cap ranges and voltage rating

TERMINATIONS

Silver / palladium, Silver

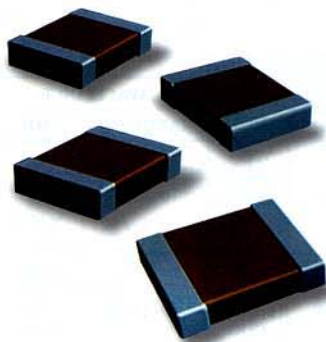
PACKING

bulk, tape and reel (0402, 0603, 0805, 1206)

Size	L x W in mm	T in mm	MB in mm
0603	0.063" x 0.032" 1.6 x 0.8	0.032" 0.8	0.016" ± 0.01" 0.4 ± 0.25
0805	0.08" x 0.05" 2.03 x 1.27	0.05" 1.27	0.02" ± .01" 0.5 ± 0.25
1206	0.125" x 0.06" 3.18 x 1.6	0.06" 1.52	0.03" ± 0.01" 0.75 ± 0.25
1210	0.125" x 0.10" 3.18 x 2.4	0.065" 1.65	0.03" ± 0.01" 0.75 ± 0.25

Dimensional Tolerance is ±.010(±0.25mm)

Thickness Dimension is max; units typically thinner.



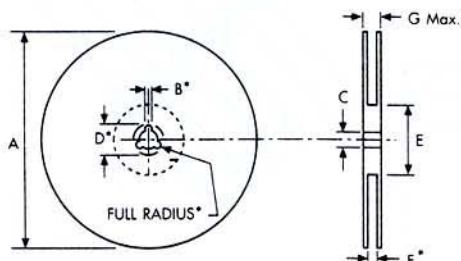
PACKAGING (CHIP TYPE)

Dimensional (mm)

A	B	C	D	E	F	G
178± 2.0	3.0	13± 0.5	Ø32	50MIN Ø78±1	10.0± 1.5	14.9 12±2.0

Dimensional (mm)

A	B	C	D	E	F	G	G
8.0± 0.2	3.5± 0.05	1.75± 0.1	2.0± 0.1	4.0± 0.1	1.5 ^{+0.1} ₋₀	0.3 MAX	2.0 MAX

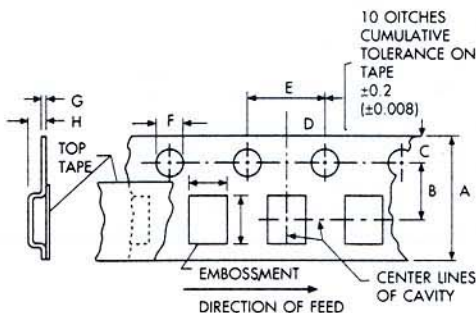


* DRIVE SPOKES OPTIONAL
IF USED ASTERISKED
DIMENSIONS APPLY.

SIZE	L	W
0805	2.4±0.2	1.65±0.2
1206	3.6±0.2	2.0±0.2

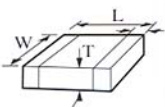
Packaging

Size code	piece / reel
0805	4000
1206	4000



Bulk Package

2000 pcs/bag or according to the customer require

1210						1206						0805						0603							
SIZE 						SIZE 						SIZE 						SIZE 							
*L 0.125						*L 0.125						*L 0.08						*L 0.063							
*W 0.10						*W 0.06						*W 0.05						*W 0.032							
**T(Max) 0.065						**T(Max) 0.06						**T(Max) 0.05						**T(Max) 0.032							
Min E/B 0.03						Min E/B 0.03						Min E/B 0.02						Min E/B 0.016							
Z5U	X7R	NPO	Z5U	X7R	NPO	Z5U	X7R	NPO	Z5U	X7R	NPO	Z5U	X7R	NPO	Z5U	X7R	NPO								
Y5V			Y5V			Y5V			Y5V			Y5V			Y5V			VDCW	END						
50V			50V			50V			50V			50V			50V			(Max)	BAND						
25V			25V			25V			25V			25V			25V										
100V			100V			100V			100V			100V			100V										

TANTALUM CAPACITOR - DIPPED

RESIN COATED, INFLAMMABLE AND MOISTURE RESISTANT EPOXY POWDER

TS19

FEATURES

- Dipped radial lead capacitor.
- Encapsulated with self extinguishing yellow epoxy resin.
- The special encapsulation system avoids epoxy resin run down on the leads.
- Standard lead spacing: 2.54 - 5.08mm. (wire dia.: 0.5mm)

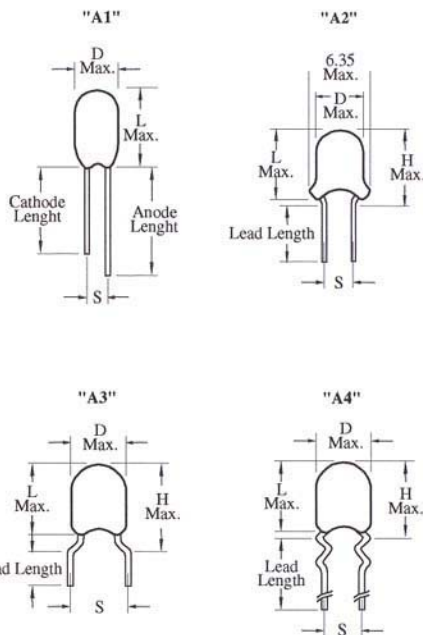
SPECIFICATIONS

TEMPERATURE RANGE	-55°C to +85°C
NOMINAL CAPACITANCE CR	0.1 to 330 μ F
CAPACITANCE TOLERANCE	$\pm 10\%$, $\pm 20\%$
RATED VOLTAGE	DC 3 to 50V
DISSIPATION FACTOR Tg 8 (at 120Hz)	$\leq 10\% \rightarrow CR \leq 100\mu F$ 12% $> 100\mu F$



CASE SIZES

VR (V)	6.3	10	16	20	25	35
CR (μ F)						
0.10						A
0.15						A
0.22						A
0.33						A
0.47						A
0.68						A
1.0					A	A
1.5					A	A
2.2			A		A	B
3.3		A	A	B	B	B
4.7	A	A	B	B	B	C
6.8	A	B	B	C	C	D
10	B	B	C	C	C	D
15	B	C	C	D	D	E
22	C	C	D	D	D	E
33	C	D	D	E	E	F
47	D	D	E	E	E	F
68	D	D	E	F	F	
100	D	E	F	F		
150	E	E	F			
220	E	F				
330	F					



DIMENSIONAL CONFIGURATIONS

UNIT: mm

CASE CODE	DIAMETER D (Max.)	LENGTH L (Max.)	SEATED HEIGHT H (Max.)*	LEAD SIZE	
				AWG NO.	NOM. DIA
A	4.4	7.11	8.64	24	0.51
B	5	7.62	9.14	24	0.51
C	5.5	9.14	10.67	24	0.51
D	6	10.16	11.68	24	0.51
E	8.6	12.5	14.02	24	0.51
F	9.6	16.5	18.03	24	0.51

* Maximum Seated Height is identical to Maximum Length for unit ordered with Lead Style 'A'.

CHIP TANTALUM CAPACITOR - SMD

SOLID ELECTROLYTE, HIGH VOLUMETRIC EFFICIENCY, STABLE ELECTRIC PERFORMANCES

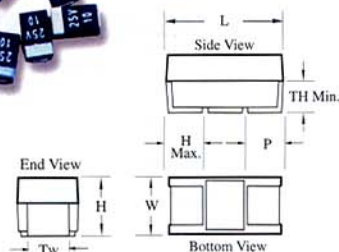
TS20

FEATURES

- Molded case available in six case codes
- Compatible with all popular "High Volume" automatic pick and place equipment
- Optical character recognition qualified

SPECIFICATIONS

OPERATING TEMPERATURE	-55°C to +85°C. (To +125°C with voltage derating.)
CAPACITANCE RANGE	0.1µF to 330µF.
CAPACITANCE TOLERANCE	±20%, ±10% standard. ±5% available as special.
VOLTAGE RATING	4 VDC to 50 VDC.
RESISTANCE TO SOLDER HEAT	260°C ± 5°C for 30 ± 0.5 seconds.
COEFFICIENT THERMAL EXPANSION	75 x 10 ⁻⁶ inch/inch/°C.



DIMENSIONAL CONFIGURATIONS

UNIT: mm

CASE CODE	EIA SIZE	L	W	H	P	T _w	T _H (Min.)
A	3216	3.2 ± .2	1.6 ± .2	1.6 ± .2	.8 ± .3	1.2 ± .1	0.7
B	3528	3.5 ± .2	2.8 ± .2	1.9 ± .2	.8 ± .2	2.2 ± .1	0.7
C	6032	6. ± .3	3.2 ± .3	2.5 ± .3	6 ± .3	2 ± .1	1
D	7343	7.3 ± .3	4.3 ± .3	2.8 ± .3	7.3 ± .3	2.4 ± .1	1
E	7343H	7.3 ± .3	4.3 ± .3	4 ± .3	7.3 ± .3	2.4 ± .1	1
J	5845	5.8 ± .2	4.5 ± .2	3.1 ± .2	5.8 ± .2	3.1 ± .1	1

RATINGS AND CASE SIZES

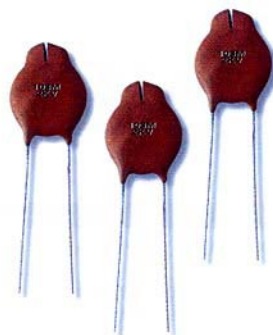
[illegible]

S P A R K C A P A C I T O R

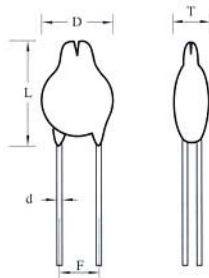
TS21

APPLICATIONS

Spark gap capacitors are designed to provide a reliable discharge path for stray, transient overvoltages and static voltage build-up. The construction of the spark gap enable the circuit designer to reduce costs by specifying lower voltage components with the assurance that over-voltage conditions will be prevented.



SPECIFICATIONS						
Capacitance (C)	Range	Range				
	Tolerance	Code	K	M	U	V
			±10%	±20%	Guaranted Max.Value	Guaranted Min.Value
Dissipation Factor(DF)	2.5%Max.					
Insulation Resistance(IR)	7500MΩMin. or R x C >75Ω•F					
Voltage	Working Voltage	1KV DC	1.5KV DC	2KV DC	2.5KV DC	3KV DC
	Arc. Voltage	1-2KV DC	2-3KV DC	2.5-3.5KV DC	3-4KV DC	4-6KV DC
Operating Temp. Range	+10~+85°C	Z5U				
	-30~+85°C	Y5P				
Encapsulaton	Phenolic coated with wax impregnated					



Dimensions and Tolerance:

D = 3.0mm max

d = 0.65mm ± 0.05mm

F = 7.5 or 10 ± 1.0mm

L = 25mm min. or 5 ± 1mm for P/N-A

DIMENSION (mm)

Capacitance Mfd (pF)	Voltage	Lead Spacing (LS)	Dia. (D)	Length (L)	Thickness (T)
0.75	1000V	6.35	9.0	13	6.35
0.75	1500V	6.35	9.0	13	6.35
0.75	2000V	6.35	9.0	13	6.35
0.001	2000V	9.50	12.0	26	6.35
0.004	3000V	9.50	24.0	27	6.35
0.01	1500V	9.50	20.0	26	6.35
0.01	2000V	9.50	20.0	26	6.35
0.01	2500V	9.50	20.0	26	6.35
0.02	1000V	9.50	24.0	27	6.35

SAFETY STANDARD RECOGNIZED CAPACITOR - Y

FOR ACROSS THE LINE AND LINE BY-PASS APPLICATED

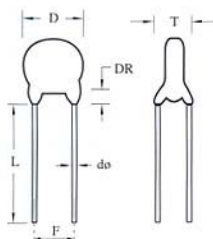
TS22

FEATURES

- Ideal for across the line applications
- Compact size
- Cost effective product
- Safety standards recognized

SPECIFICATIONS

OPERATING TEMPERATURE RANGE	-25°C TO + 85°C
CAPACITANCE RANGE	100pF TO 10000pF
CAPACITANCE TOLERANCE	±10%, ±20%, +80-20%
RATED VOLTAGE	AC 125V, 250V, 400V
TEMPERATURE COEFFICIENT	±10% for B(Y5P), +30to-80% for FY (Y5V)
DISSIPATION FACTOR (tan δ)	B: 2.5% max. at 20°C and 1 KHz, 1±0.2 Vrms.
INSULATION RESISTANCE AT 20°C	FY: 50max. at 20°C and 1 KHz, 1±0.2 Vrms.
DIELECTRIC STRENGTH	10000MΩ at 5000VDC for 1 minute. 2600 VAC for 60 seconds.



Dimensions and Tolerance:

D = 3.0mm max

d = 0.65mm ± 0.05mm

F = 7.5 or 10 ± 1.0mm

L = 25mm min. or 5 ± 1mm for P/N-A



Capacitance pF	Temp. Char	TOLERANCE	DIMENSION (mm)		
			D.MAX	F	T MAX
100 PF	B ±10% (Y5P)	±10%	10	7.5	6.0
150 PF			10	7.5	
330 PF			10	7.5	
470 PF			10	7.5	
580 PF			10	7.5	
680 PF			10	7.5	
1000 PF			13	7.5	
1000 PF	FY +30~-80% (Y5V)	±20%	10	7.5	
1500 PF			12	7.5	
2200 PF			12	7.5	
3300 PF			15	10	
3900 PF			16	10	
4700 PF			16	10	
10000 PF			20	10	

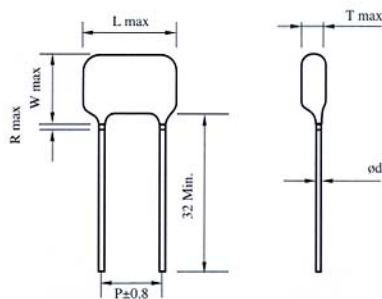
M I C A C A P A C I T O R

HIGH RELIABILITY AND STABILITY, COMPACT AND HIGH MOISTURE-RESISTANCE

TS23

S P E C I F I C A T I O N S

CAPACITANCE RANGE	1pF - 22,000pF
TOLERANCE	$\pm 0.5\text{pF}$, $\pm 1\%$, $\pm 2\%$, $\pm 5\%$ ~ $\pm 20\%$
RATED VOLTAGE	DC 50V, 100V, 300V, 500V
OPERATING TEMPERATURE	-55°C ~ 125°C
INSULATION RESISTANCE	For C<10,000pF more than 10M^5 after one Minute application of 100VDC at 25°C For C>10,000pF more than 10M^4 after one Minute application of 100VDC at 25°C
Withstanding voltage	Rated voltage x 2 (VDC) within 1-5 seconds



UNIT: mm

TYPE	RATED V V DC	CAPACITANCE PF	L	W	T	R	P	D
DM5	100 300	1 ~ 270 1 ~ 100	7.5	7.5	5.0	3	3	0.4
DM10	100 300 500	1 ~ 390 1 ~ 300 1 ~ 240	10.0	9.5	5.5	3	4	
DM15	100 300 500	1 ~ 1,200 1 ~ 820 1 ~ 510	12.0	10.5	6.0	3	6	0.4
DM19	100 300 500	820 ~ 8,200 620 ~ 6,200 510 ~ 5,100	18.0	15.5	9.0	3.5	9	0.8
DM20	100 300 500	820 ~ 18,000 620 ~ 12,000 510 ~ 10,000	21.0	16.5	11.0	3.5	11	
DM30	100 300 500	6,200 ~ 39,000 6,200 ~ 30,000 6,200 ~ 22,000	21.0	23.5	12.0	4	11	1.0
DM42	100 300 500	22,000 ~ 100,000 22,000 ~ 68,000 22,000 ~ 51,000	38.0	25.5	13.0	4	25	

CERAMIC TRIMMER CAPACITOR - 3MM - SMD

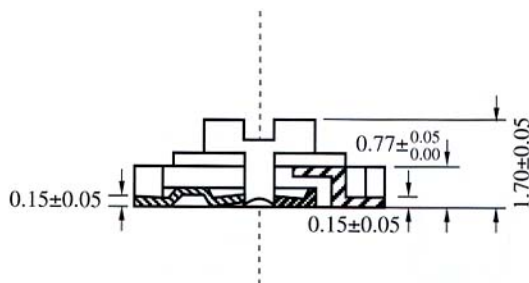
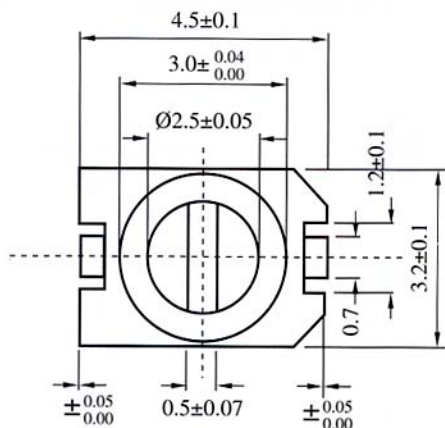
TSC03

FEATURES

- Miniature and low profile capacitors
- Color-coded case according to its capacitance range for easy visual identification.
- Mountable by an automatic placer
- Reflow soldering applicable
- Easy adjustment using a conventional screwdriver

SPECIFICATIONS

OPERATING TEMPERATURE RANGE	-25°C to +85°C
RATED WORKING VOLTAGE	100VDC
DIELECTRIC WITHSTANDING VOLTAGE	220V DC
INSULATION RESISTANCE	10^4 M ohm min.
ROTATION TORQUE	15~1000g.cm



UNIT: mm

PART NUMBER	CAPACITANCE (pF)		TEMPERATURE COEFFICIENT (ppm/°C)	Q(1MHz, Cmax) (min.)	CASE COLOR
	Min. (+0%)	Max. (+100% (-0%))			
TSC 03-030	1.7	3.0	NPO±300	300	BLUE
TSC 03-060	2.5	6.0	NPO±300	500	BLUE
TSC 03-100	3.5	10.0	N 750±300	500	WHITE
TSC 03-200	5.5	20.0	N 1200±300	300	RED
TSC 03-300	7.5	30.0	N 1600±300	300	GREEN

CERAMIC TRIMMER CAPACITOR - 6MM

TSC-06 (F, S, R) SERIES

FEATURES

As well as applications to small sized electronic apparatus, this series is designed for easy handling and is available with a variety of adjustment method (top, bottom, side and double sides).

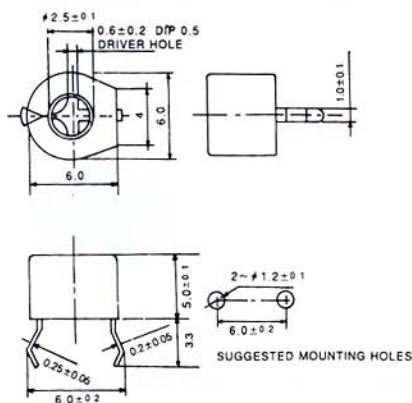
- wide mounting sizes and types of adjustment available
- lots of capacity ranges, 2pF through 90pF
- sturdy mechanical structure against vibration or shock

SPECIFICATIONS

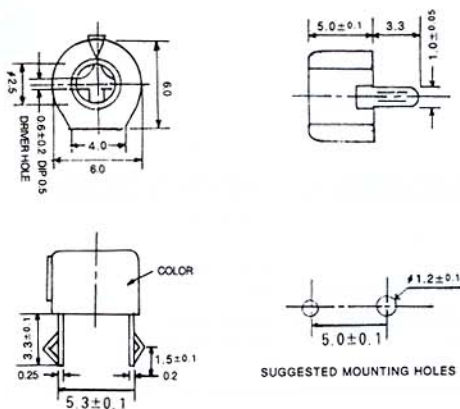
INSULATION RESISTANCE	10 MΩ at 250VDC
WITHSTAND VOLTAGE	400VDC
WORKING VOLTAGE	200VDC
ROTATION TORQUE	35 to 200 gr-cm
OPERATING TEMPERATURE	-30°C to +85°C



• FORMING TYPE

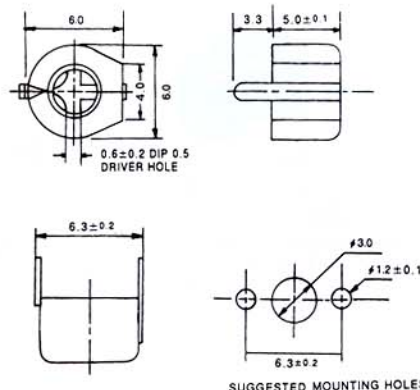


• STRAIGHT TYPE



UNIT: mm

• REAR ADJUSTING TYPE



PART NO.	MIN. CAP. (PF)	MAX. CAP. (PF)	TEMP. COEFF. PPM/°C	Q FACTOR @ 1MHz Cmax	COLOR
TSC (F,S,R)06-050	2.0 max	5 +100 -0	NPO ±200	>500	BLUE
TSC (F,S,R)06-100	3.0 max	10 +100 -0	N470 ±300	>500	WHITE
TSC (F,S,R)06-200	4.2 max	20 +50 -0	N750 ±300	>500	RED
TSC (F,S,R)06-300	6.2 max	30 +50 -0	N750 ±500	>500	GREEN
TSC (F,S,R)06-400	6.8 max	40 +50 -0	N1200 ±500	>300	YELLOW
TSC (F,S,R)06-500	9.8 max	50 +50 -0	N1200 ±500	>300	BROWN
TSC (F,S,R)06-600	10.2 max	60 +50 -0	N1200 ±500	>200	BROWN

CERAMIC TRIMMER CAPACITOR - 5MM

TSC-05 (N, R, V) SERIES

FEATURES

As well as applications to small sized electronic apparatus, this series is designed for easy handling and is available with a variety of adjustment method (top, bottom, side and double sides).

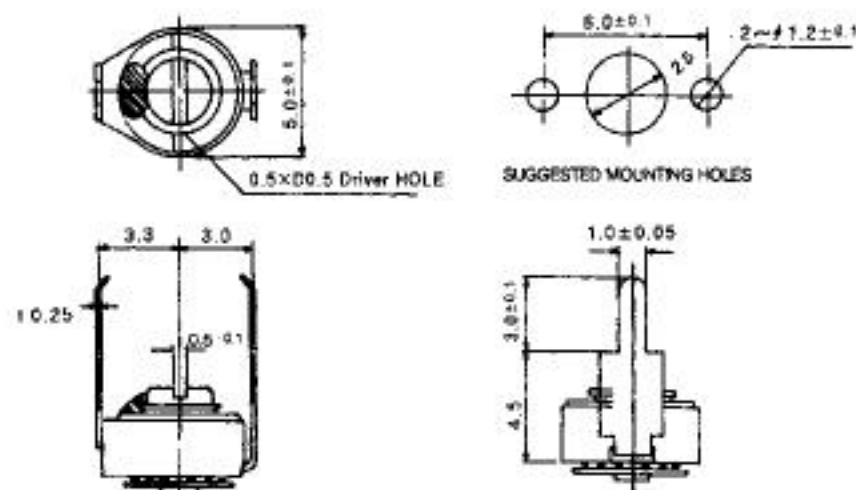
- wide mounting sizes and types of adjustment available
- lots of capacity ranges, 2pF through 90pF
- sturdy mechanical structure against vibration or shock

SPECIFICATIONS

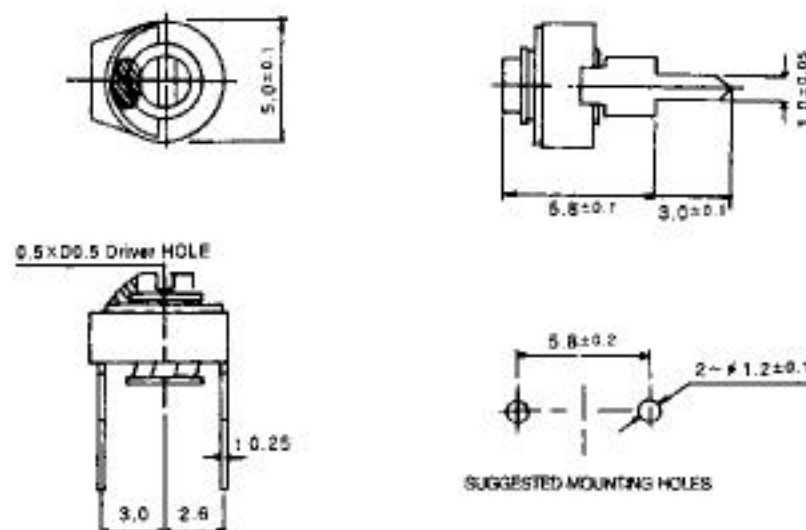
INSULATION RESISTANCE	10 MΩ at 250VDC
WITHSTAND VOLTAGE	400VDC
WORKING VOLTAGE	200VDC
ROTATION TORQUE	35 to 200 gr-cm
OPERATING TEMPERATURE	-30°C to +85°C



• REAR ADJUSTING TYPE

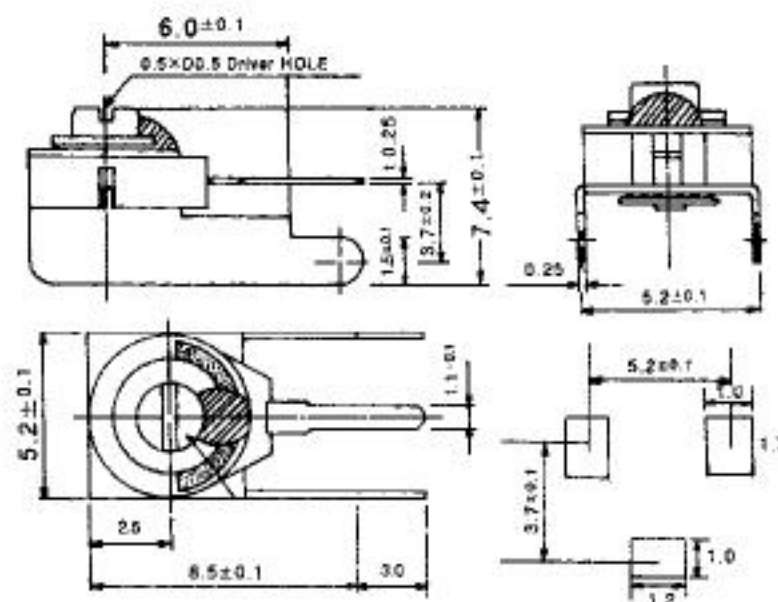


• NORMAL TYPE



UNIT: mm

• VERTICAL TYPE



PART NO.	MIN. CAP. (PF)	MAX. CAP. (PF)	TEMP. COEFF. PPM/°C	Q FACTOR @ 1MHz Cmax
TSC (N,R,V)05-030	1.0 max	3.0 ⁺¹⁰⁰ ₋₀ %	NPO ±120	>300
TSC (N,R,V)05-050	2.0 max	5.0 ⁺¹⁰⁰ ₋₀ %	NPO ±250	>300
TSC (N,R,V)05-100	3.0 max	10.0 ⁺¹⁰⁰ ₋₀ %	N750 ±250	>300
TSC (N,R,V)05-200	4.8 max	20.0 ⁺⁷⁰ ₋₀ %	N1500 ±250	>300
TSC (N,R,V)05-300	5.5 max	30.0 ⁺⁵⁰ ₋₀ %	N1000 ±250	>200
TSC (N,R,V)05-400	6.8 max	40.0 ⁺⁵⁰ ₋₀ %	N2200 ±250	>200
TSC (N,R,V)05-500	9.0 max	50.0 ⁺⁵⁰ ₋₀ %	N2200 ±500	>200
TSC (N,R,V)05-600	12.0 max	60.0 ⁺⁵⁰ ₋₀ %	N2200 ±500	>200
TSC (N,R,V)05-700	14.0 max	70.0 ⁺⁵⁰ ₋₀ %	N2200 ±500	>200



Suntan

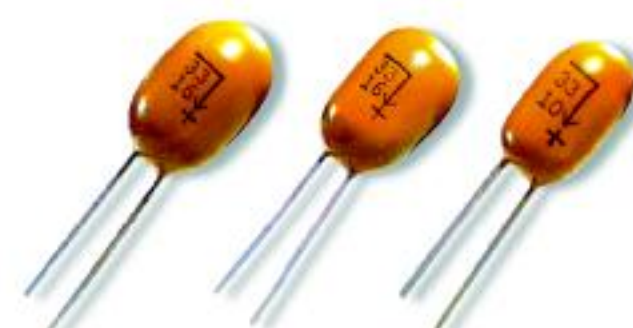
HIGH-PRECISION CAPACITOR

E . R . C . R A D I A L T Y P E C A P A C I T O R

TS ERC

APPLICATIONS

ERC is an newly invented device with an epoxy resin coating. This specially designed coating provides additional protection in the areas such as low leakage current and low impedance, exception well sealed, moisture-proof, leak-proof, acid and alkali resistance, high temperature resistance, longer usage life, good stability, ect.



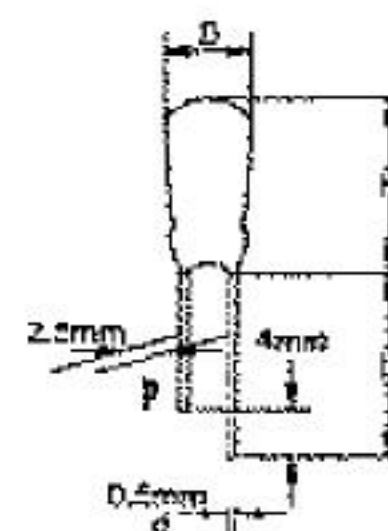
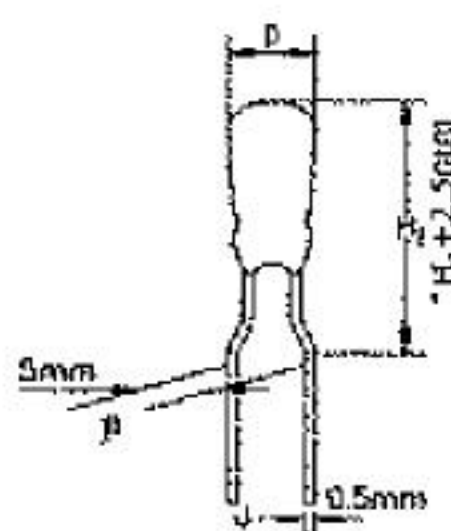
◆ Specifications

I T E M S		P E R F O R M A N C E C H A R A C T E R I S T I C S																								
1	Capacitance Range	0.1μF to 470μF																								
2	Capacitance Tolerance (%)	±20(M), ±10(K)																								
3	Temperature range (°C)	-40°C to 105°C																								
4	Rated working voltage range	6.3V to 50V																								
5	Leakage current (μA)	Less than 0.0022CV or 0.5 whichever is larger (after five minutes)																								
6	Tangent of loss angle (Tan δ) (120Hz)	<table><tr><td>Capacitance(μF)</td><td>0.1~1</td><td>1.5~6.8</td><td>10~68</td><td>100~470</td></tr><tr><td>Tan δ</td><td>0.06</td><td>0.08</td><td>0.09</td><td>0.12</td></tr></table>					Capacitance(μF)	0.1~1	1.5~6.8	10~68	100~470	Tan δ	0.06	0.08	0.09	0.12										
Capacitance(μF)	0.1~1	1.5~6.8	10~68	100~470																						
Tan δ	0.06	0.08	0.09	0.12																						
7	Stability at low and high temperature	<table><tr><td>Temperature</td><td colspan="2">-40°C</td><td colspan="2">+105°C</td></tr><tr><td>Leakage Current</td><td colspan="2">---</td><td colspan="2">less than or equal to 0.1CV 5μA whichever is larger</td></tr><tr><td>Change of Capacitance</td><td colspan="2">within±12%</td><td colspan="2">within±12%</td></tr><tr><td>Tan δ</td><td colspan="2">less than or equal to the value in No.6+0.02</td><td colspan="2">less than or equal to the value in No.6+0.02</td></tr></table>					Temperature	-40°C		+105°C		Leakage Current	---		less than or equal to 0.1CV 5μA whichever is larger		Change of Capacitance	within±12%		within±12%		Tan δ	less than or equal to the value in No.6+0.02		less than or equal to the value in No.6+0.02	
Temperature	-40°C		+105°C																							
Leakage Current	---		less than or equal to 0.1CV 5μA whichever is larger																							
Change of Capacitance	within±12%		within±12%																							
Tan δ	less than or equal to the value in No.6+0.02		less than or equal to the value in No.6+0.02																							
8	Endurance (85°C)	<table><tr><td>Test time</td><td colspan="4">2000h</td></tr><tr><td>Lestage current</td><td colspan="4">125% or less of the value in No 5</td></tr><tr><td>Change in Capacitance</td><td colspan="4">Within ±20% of initial value</td></tr><tr><td>Tan δ</td><td colspan="4">Less than equal to the value in No.6</td></tr></table>					Test time	2000h				Lestage current	125% or less of the value in No 5				Change in Capacitance	Within ±20% of initial value				Tan δ	Less than equal to the value in No.6			
Test time	2000h																									
Lestage current	125% or less of the value in No 5																									
Change in Capacitance	Within ±20% of initial value																									
Tan δ	Less than equal to the value in No.6																									
9	Shelf Life	<table><tr><td>Test time</td><td colspan="4">500h</td></tr><tr><td>Lestage current</td><td colspan="4">150% or less of the value in No 5</td></tr><tr><td>Change in Capacitance</td><td colspan="4">Within ±20% of initial value</td></tr><tr><td>Tan δ</td><td colspan="4">Less than equal to the value in No.6</td></tr></table>					Test time	500h				Lestage current	150% or less of the value in No 5				Change in Capacitance	Within ±20% of initial value				Tan δ	Less than equal to the value in No.6			
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Tan δ	Less than equal to the value in No.6																									

Note: CV in the table is the products of rated Capacitance C (μ F) and rated voltage V(V)

◆ Lead spacing and Wire diameter (mm)

Dø	4.5	5.5	6.5	8.5	10.5
P	2.5±0.5			3.5±0.5	5.0±0.5
dø	0.5				





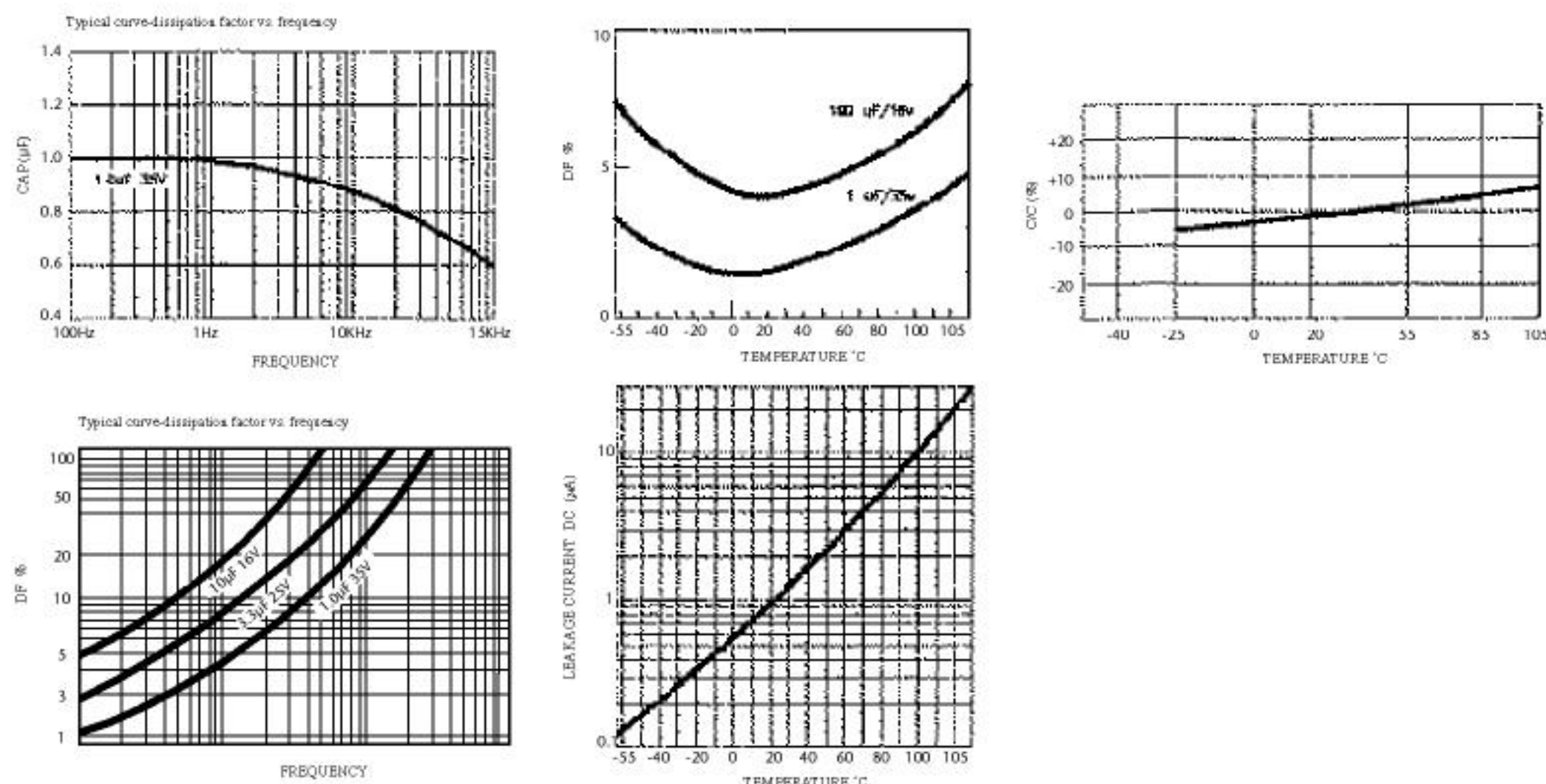
Suntan

HIGH-PRECISION CAPACITOR

E . R . C . R A D I A L T Y P E C A P A C I T O R

TS ERC

◆ Electrical Characteristics



◆ Standard Ratings

V		6.3	10	16	25	35	50
Code for rated Voltage		FC	AO	AF	BE	CE	EO
Parameter	Code for capacitance	Outside dimension (mm) DXL	Outside dimension (mm) DXL	Outside dimension (mm) DXL	Outside dimension (mm) DXL	Outside dimension (mm) DXL	Outside dimension (mm) DXL
0.1	104	—	—	—	—	—	4.5X10
0.15	154	—	—	—	—	—	4.5X10
0.22	224	—	—	—	—	—	4.5X10
0.33	334	—	—	—	—	—	4.5X10
0.47	474	—	—	—	—	—	4.5X10
0.68	684	—	—	—	—	—	4.5X10
1	105	—	—	—	—	—	4.5X10
1.5	155	—	—	—	—	4.5X10	5.5X10
2.2	225	—	—	4.5X10	4.5X10	4.5X10	5.5X10
3.3	335	—	—	4.5X10	4.5X10	4.5X10	5.5X10
4.7	475	4.5X10	4.5X10	4.5X10	4.5X10	5.5X10	5.5X10
6.8	685	4.5X10	4.5X10	4.5X10	5.5X10	6.5X10	6.5X10
10	106	4.5X10	4.5X10	4.5X10	5.5X10	6.5X10	6.5X10
15	156	5.5X10	5.5X10	5.5X10	6.5X10	6.5X10	6.5X10
22	226	5.5X10	5.5X10	5.5X10	6.5X10	6.5X10	6.5X10
33	336	5.5X10	5.5X10	6.5X10	6.5X10	6.5X10	6.5X10
47	476	6.5X10	6.5X10	6.5X10	8.5X12	8.5X12	
68	686	6.5X10	6.5X10	8.5X12	8.5X12	10.5X15	
100	107	6.5X10	8.5X12	10.5X15	10.5X18		
150	157	8.5X12	10.5X15	10.5X18			
220	227	8.5X12	10.5X15	10.5X18			
330	337	10.5X15	10.5X18				
470	477	10.5X18					

Note: V in the table is rated voltage . μF is rated capacitance.

Values outside this standard range may be available on request without appropriate release or qualification, we reserves the right to supply capacitors to a higher voltage rating, in the same case size, than that ordered.