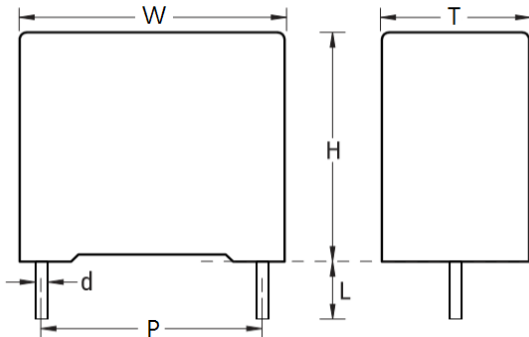


SMEC series

■ Outline Drawing



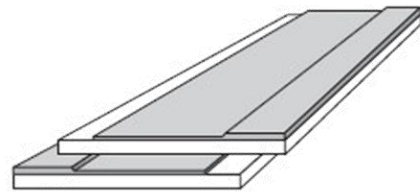
■ Typical Applications

By-passing, blocking, coupling, decoupling
Pulse, logic, timing, oscillator circuits

■ Features

Metalized polyester film,
non-inductive wound construction
Wide capacitance range, small size, and light weight
Long life due to self-healing
Plastic case (UL94V-0), epoxy resin sealing

■ Construction



■ Specifications

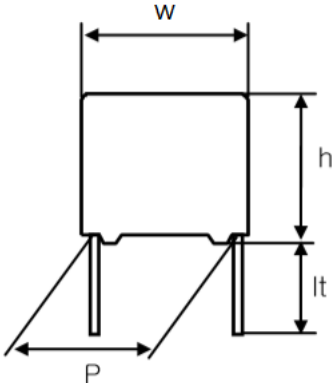
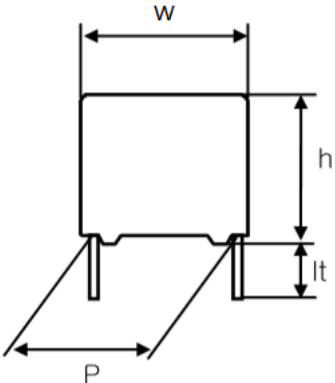
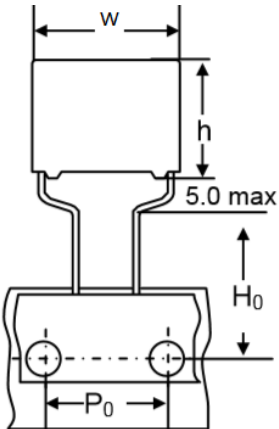
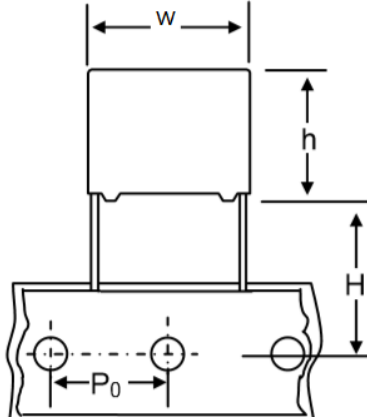
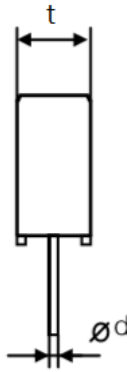
Reference Standard	GB/T 7332 (IEC 60384-2)					
Climatic Category	55/105/56					
Rated Temperature	85°C					
Operating Temperature Range	-40°C~+105°C (+85°C to +105°C: decreasing factor 1.25% per °C for UR)					
Capacitance Range	0.001μF ~ 47μF					
Rated (DC) Voltage	63V	100V	250V	400V	630V	1000V
Capacitance Tolerance	±5%(J) 、 ±10%(K) 、 ±20%(M)					
Voltage Proof	1.5UR (60s)					
Dissipation Factor	≤ 1.0% (25°C, 1kHz)					
Insulation Resistance	UR ≤ 100V	C _R ≤ 0.33μF IR ≥ 15,000MΩ C _R > 0.33μF IR ≥ 5,000S				

SMEC series

■ Product code system

SMEC	J	103	K	0630	D	B	10	23
Type	Internal use	Capacitance	Tolerance	Rated Voltage	Voltage	Lead forming	Lead Pitch	Lead Length
SMEC= Metallized Polyester Capacitor (Boxed)	--	103 =10000pF =10nF =0.01μF	J=±5% K=±10% M=±20%	0063=63V 0100=100V 0160=160V 0250=250V 0400=400V 0630=630V 1000=1000V	D=DC	Shown as Table I	08=7.5mm 10=10mm 15=15mm 23=22.5mm 28=27.5mm	04=3.5mm 15=15mm 23=23mm

■ Table I

Code	B (Straight 15mm)	K (Short)	U (Vertical Kink)
Lead Forming			
Code	T (Taping)	--	--
Lead Forming			--

SMEC series

■ Dimensions (mm)

63Vdc (40Vac)						
Cap. μ F	W	H	T	P	d	Part number
0.47	10.5	8.5	3.5	7.5	0.6	SMEC_474+0063D*08**
0.68	10.5	9	4	7.5	0.6	SMEC_684+0063D*08**
1.0	10.5	11	5	7.5	0.6	SMEC_105+0063D*08**
1.5	10.5	12	6	7.5	0.6	SMEC_155+0063D*08**
1.8	10.5	12	6	7.5	0.6	SMEC_185+0063D*08**
0.10	13	9	4	10	0.6	SMEC_104+0063D*10**
0.15	13	9	4	10	0.6	SMEC_154+0063D*10**
0.22	13	9	4	10	0.6	SMEC_224+0063D*10**
0.33	13	9	4	10	0.6	SMEC_334+0063D*10**
0.47	13	9	4	10	0.6	SMEC_474+0063D*10**
0.68	13	9	4	10	0.6	SMEC_684+0063D*10**
1.0	13	9	4	10	0.6	SMEC_105+0063D*10**
1.5	13	11	5	10	0.6	SMEC_155+0063D*10**
1.8	13	12	6	10	0.6	SMEC_185+0063D*10**
2.2	13	12	6	10	0.6	SMEC_225+0063D*10**
0.68	18	11	5	15	0.8	SMEC_684+0063D*15**
1.0	18	11	5	15	0.8	SMEC_105+0063D*15**
1.5	18	11	5	15	0.8	SMEC_155+0063D*15**
2.2	18	11	5	15	0.8	SMEC_225+0063D*15**
3.3	18	12	6	15	0.8	SMEC_335+0063D*15**
4.7	18	13.5	7.5	15	0.8	SMEC_475+0063D*15**
6.8	18	14.5	8.5	15	0.8	SMEC_685+0063D*15**
10	18	19	11	15	0.8	SMEC_106+0063D*15**
3.3	26.5	16.5	7	22.5	0.8	SMEC_335+0063D*23**
4.7	26.5	16.5	7	22.5	0.8	SMEC_475+0063D*23**
6.8	26.5	16.5	7	22.5	0.8	SMEC_685+0063D*23**
10	26.5	17	8.5	22.5	0.8	SMEC_106+0063D*23**
15	26.5	20	11	22.5	0.8	SMEC_156+0063D*23**
4.7	32	18	9	27.5	0.8	SMEC_475+0063D*28**
6.8	32	18	9	27.5	0.8	SMEC_685+0063D*28**
10	32	18	9	27.5	0.8	SMEC_106+0063D*28**

63Vdc (40Vac)						
Cap. μ F	W	H	T	P	d	Part number
15	32	18	9	27.5	0.8	SMEC_156+0063D*28**
22	32	22	13	27.5	0.8	SMEC_226+0063D*28**
33	32	24.5	15	27.5	0.8	SMEC_336+0063D*28**
47	32	30	16	27.5	0.8	SMEC_476+0063D*28**

100Vdc (63Vac)						
Cap. μ F	W	H	T	P	d	Part number
0.22	10.5	8.5	3.5	7.5	0.6	SMEC_224+0100D*08**
0.33	10.5	9	4	7.5	0.6	SMEC_334+0100D*08**
0.47	10.5	9	4	7.5	0.6	SMEC_474+0100D*08**
0.68	10.5	11	5	7.5	0.6	SMEC_684+0100D*08**
1.0	10.5	12	6	7.5	0.6	SMEC_105+0100D*08**
0.10	13	9	4	10	0.6	SMEC_104+0100D*10**
0.22	13	9	4	10	0.6	SMEC_224+0100D*10**
0.33	13	9	4	10	0.6	SMEC_334+0100D*10**
0.47	13	9	4	10	0.6	SMEC_474+0100D*10**
0.68	13	9	4	10	0.6	SMEC_684+0100D*10**
1.0	13	11	5	10	0.6	SMEC_105+0100D*10**
1.5	13	12	6	10	0.6	SMEC_155+0100D*10**
0.33	18	11	5	15	0.8	SMEC_334+0100D*15**
0.47	18	11	5	15	0.8	SMEC_474+0100D*15**
0.68	18	11	5	15	0.8	SMEC_684+0100D*15**
1.0	18	11	5	15	0.8	SMEC_105+0100D*15**
1.5	18	12	6	15	0.8	SMEC_155+0100D*15**
3.3	18	13.5	7.5	15	0.8	SMEC_335+0100D*15**
4.7	18	14.5	8.5	15	0.8	SMEC_475+0100D*15**

+ = Capacitance tolerance: K=±10%, J=±5%

* = Lead forming

** = Lead length

SMEC series

■ Dimensions (mm)

100Vdc (63Vac)						
Cap. μF	W	H	T	P	d	Part number
1.5	26.5	15	6	22.5	0.8	SMEC_155+0100D*23**
2.2	26.5	15	6	22.5	0.8	SMEC_225+0100D*23**
3.3	26.5	15	6	22.5	0.8	SMEC_335+0100D*23**
4.7	26.5	16.5	7	22.5	0.8	SMEC_475+0100D*23**
6.8	26.5	19	10	22.5	0.8	SMEC_685+0100D*23**
10	26.5	22	12	22.5	0.8	SMEC_106+0100D*23**
4.7	32	18	9	27.5	0.8	SMEC_475+0100D*28**
6.8	32	18	9	27.5	0.8	SMEC_685+0100D*28**
10	32	20	11	27.5	0.8	SMEC_106+0100D*28**
15	32	20	11	27.5	0.8	SMEC_156+0100D*28**
22	32	25	13	27.5	0.8	SMEC_226+0100D*28**
33	32	30	16	27.5	0.8	SMEC_336+0100D*28**

250Vdc (160Vac)						
Cap. μF	W	H	T	P	d	Part number
0.068	10.5	8.5	3.5	7.5	0.6	SMEC_683+0250D*08**
0.10	10.5	8.5	3.5	7.5	0.6	SMEC_104+0250D*08**
0.15	10.5	9	4	7.5	0.6	SMEC_154+0250D*08**
0.18	10.5	11	5	7.5	0.6	SMEC_184+0250D*08**
0.22	10.5	11	5	7.5	0.6	SMEC_224+0250D*08**
0.27	10.5	12	6	7.5	0.6	SMEC_274+0250D*08**
0.33	10.5	12	6	7.5	0.6	SMEC_334+0250D*08**
0.033	13	9	4	10	0.6	SMEC_333+0250D*10**
0.047	13	9	4	10	0.6	SMEC_473+0250D*10**
0.068	13	9	4	10	0.6	SMEC_683+0250D*10**
0.10	13	9	4	10	0.6	SMEC_104+0250D*10**
0.15	13	9	4	10	0.6	SMEC_154+0250D*10**
0.22	13	11	5	10	0.6	SMEC_224+0250D*10**
0.33	13	11	5	10	0.6	SMEC_334+0250D*10**
0.39	13	12	6	10	0.6	SMEC_394+0250D*10**

250Vdc (160Vac)						
Cap. μF	W	H	T	P	d	Part number
0.47	13	12	6	10	0.6	SMEC_474+0250D*10**
0.10	18	11	5	15	0.8	SMEC_104+0250D*15**
0.15	18	11	5	15	0.8	SMEC_154+0250D*15**
0.22	18	11	5	15	0.8	SMEC_224+0250D*15**
0.33	18	11	5	15	0.8	SMEC_334+0250D*15**
0.47	18	11	5	15	0.8	SMEC_474+0250D*15**
0.68	18	12	6	15	0.8	SMEC_684+0250D*15**
1.0	18	13.5	7.5	15	0.8	SMEC_105+0250D*15**
1.5	18	14.5	8.5	15	0.8	SMEC_155+0250D*15**
0.22	26.5	15	6	22.5	0.8	SMEC_224+0250D*23**
0.47	26.5	15	6	22.5	0.8	SMEC_474+0250D*23**
0.68	26.5	15	6	22.5	0.8	SMEC_684+0250D*23**
1.0	26.5	15	6	22.5	0.8	SMEC_105+0250D*23**
1.5	26.5	16.5	7	22.5	0.8	SMEC_155+0250D*23**
1.8	26.5	16.5	7	22.5	0.8	SMEC_185+0250D*23**
2.2	26.5	17	8.5	22.5	0.8	SMEC_225+0250D*23**
3.3	26.5	20	11	22.5	0.8	SMEC_335+0250D*23**
1.5	32	18	9	27.5	0.8	SMEC_155+0250D*28**
1.8	32	18	9	27.5	0.8	SMEC_185+0250D*28**
2.2	32	18	9	27.5	0.8	SMEC_225+0250D*28**
3.3	32	18	9	27.5	0.8	SMEC_335+0250D*28**
4.7	32	20	11	27.5	0.8	SMEC_475+0250D*28**
6.8	32	22	13	27.5	0.8	SMEC_685+0250D*28**
10	32	24.5	15	27.5	0.8	SMEC_106+0250D*28**

+ = Capacitance tolerance: K=±10%, J=±5%

* = Lead forming

** = Lead length

SMEC series

■ Dimensions (mm)

400Vdc (200Vac)						
Cap. μF	W	H	T	P	d	Part number
0.022	10.5	8.5	3.5	7.5	0.6	SMEC_223+0400D*08**
0.033	10.5	8.5	3.5	7.5	0.6	SMEC_333+0400D*08**
0.047	10.5	9	4.0	7.5	0.6	SMEC_473+0400D*08**
0.068	10.5	11	5.0	7.5	0.6	SMEC_683+0400D*08**
0.082	10.5	12	6.0	7.5	0.6	SMEC_823+0400D*08**
0.10	10.5	12	6.0	7.5	0.6	SMEC_104+0400D*08**
0.010	13	9	4	10	0.6	SMEC_103+0400D*10**
0.015	13	9	4	10	0.6	SMEC_153+0400D*10**
0.022	13	9	4	10	0.6	SMEC_223+0400D*10**
0.033	13	9	4	10	0.6	SMEC_333+0400D*10**
0.047	13	9	4	10	0.6	SMEC_473+0400D*10**
0.056	13	9	4	10	0.6	SMEC_563+0400D*10**
0.068	13	11	5	10	0.6	SMEC_683+0400D*10**
0.10	13	11	5	10	0.6	SMEC_104+0400D*10**
0.15	13	12	6	10	0.6	SMEC_154+0400D*10**
0.047	18	11	5	15	0.8	SMEC_473+0400D*15**
0.068	18	11	5	15	0.8	SMEC_683+0400D*15**
0.10	18	11	5	15	0.8	SMEC_104+0400D*15**
0.15	18	11	5	15	0.8	SMEC_154+0400D*15**
0.22	18	12	6	15	0.8	SMEC_224+0400D*15**
0.33	18	13.5	7.5	15	0.8	SMEC_334+0400D*15**
0.47	18	14.5	8.5	15	0.8	SMEC_474+0400D*15**
0.56	18	15.5	9.5	15	0.8	SMEC_564+0400D*15**
0.68	18	15.5	9.5	15	0.8	SMEC_684+0400D*15**

400Vdc (200Vac)						
Cap. μF	W	H	T	P	d	Part number
0.22	26.5	15	6	22.5	0.8	SMEC_224+0400D*23**
0.33	26.5	15	6	22.5	0.8	SMEC_334+0400D*23**
0.47	26.5	15	6	22.5	0.8	SMEC_474+0400D*23**
0.68	26.5	16.5	7	22.5	0.8	SMEC_684+0400D*23**
1.0	26.5	19	10	22.5	0.8	SMEC_105+0400D*23**
1.5	26.5	22	12	22.5	0.8	SMEC_155+0400D*23**
0.68	32	18	9	27.5	0.8	SMEC_684+0400D*28**
1.0	32	18	9	27.5	0.8	SMEC_105+0400D*28**
1.5	32	20	11	27.5	0.8	SMEC_155+0400D*28**
1.8	32	20	11	27.5	0.8	SMEC_185+0400D*28**
2.2	32	22	13	27.5	0.8	SMEC_225+0400D*28**
3.3	32	24.5	15	27.5	0.8	SMEC_335+0400D*28**
4.7	32	30	16	27.5	0.8	SMEC_475+0400D*28**
6.8	32	33	18	27.5	0.8	SMEC_685+0400D*28**

+ = Capacitance tolerance: K=±10%, J=±5%

* = Lead forming

** = Lead length

SMEC series

■ Dimensions (mm)

630Vdc (220Vac)						
Cap. μF	W	H	T	P	d	Part number
0.0022	10.5	8.5	3.5	7.5	0.6	SMEC_222+0630D*08**
0.0047	10.5	8.5	3.5	7.5	0.6	SMEC_472+0630D*08**
0.0068	10.5	8.5	3.5	7.5	0.6	SMEC_682+0630D*08**
0.010	10.5	8.5	3.5	7.5	0.6	SMEC_103+0630D*08**
0.015	10.5	9	4	7.5	0.6	SMEC_153+0630D*08**
0.022	10.5	11	5	7.5	0.6	SMEC_223+0630D*08**
0.033	10.5	12	6	7.5	0.6	SMEC_333+0630D*08**
0.047	10.5	12	6	7.5	0.6	SMEC_473+0630D*08**
0.0047	13	9	4	10	0.6	SMEC_472+0630D*10**
0.0068	13	9	4	10	0.6	SMEC_682+0630D*10**
0.010	13	9	4	10	0.6	SMEC_103+0630D*10**
0.015	13	9	4	10	0.6	SMEC_153+0630D*10**
0.022	13	9	4	10	0.6	SMEC_223+0630D*10**
0.033	13	11	5	10	0.6	SMEC_333+0630D*10**
0.047	13	11	5	10	0.6	SMEC_473+0630D*10**
0.068	13	12	6	10	0.6	SMEC_683+0630D*10**
0.033	18	11	5	15	0.8	SMEC_333+0630D*15**
0.047	18	11	5	15	0.8	SMEC_473+0630D*15**
0.068	18	11	5	15	0.8	SMEC_683+0630D*15**
0.10	18	12	6	15	0.8	SMEC_104+0630D*15**
0.15	18	13.5	7.5	15	0.8	SMEC_154+0630D*15**
0.22	18	15.5	9.5	15	0.8	SMEC_224+0630D*15**
0.33	18	19	11	15	0.8	SMEC_334+0630D*15**

630Vdc (220Vac)						
Cap. μF	W	H	T	P	d	Part number
0.10	26.5	15	6	22.5	0.8	SMEC_104+0630D*23**
0.15	26.5	15	6	22.5	0.8	SMEC_154+0630D*23**
0.22	26.5	16.5	7	22.5	0.8	SMEC_224+0630D*23**
0.33	26.5	16.5	7	22.5	0.8	SMEC_334+0630D*23**
0.47	26.5	17	8.5	22.5	0.8	SMEC_474+0630D*23**
0.68	26.5	22	12	22.5	0.8	SMEC_684+0630D*23**
0.33	32	18	9	27.5	0.8	SMEC_334+0630D*28**
0.47	32	18	9	27.5	0.8	SMEC_474+0630D*28**
0.68	32	20	11	27.5	0.8	SMEC_684+0630D*28**
1.0	32	20	11	27.5	0.8	SMEC_105+0630D*28**

+ = Capacitance tolerance: K=±10%, J=±5%

* = Lead forming

** = Lead length

SMEC series

■ Dimensions (mm)

1000Vdc (300Vac)						
Cap. μF	W	H	T	P	d	Part number
0.001	10.5	9	4	7.5	0.6	SMEC_102+1000D*08**
0.0015	10.5	9	4	7.5	0.6	SMEC_152+1000D*08**
0.0022	10.5	9	4	7.5	0.6	SMEC_222+1000D*08**
0.0033	10.5	9	4	7.5	0.6	SMEC_332+1000D*08**
0.0047	10.5	9	4	7.5	0.6	SMEC_472+1000D*08**
0.0068	10.5	9	4	7.5	0.6	SMEC_682+1000D*08**
0.01	10.5	11	5	7.5	0.6	SMEC_103+1000D*08**
0.015	10.5	12	6	7.5	0.6	SMEC_153+1000D*08**
0.001	13	9	4	10	0.6	SMEC_102+1000D*10**
0.0015	13	9	4	10	0.6	SMEC_152+1000D*10**
0.0022	13	9	4	10	0.6	SMEC_222+1000D*10**
0.0033	13	9	4	10	0.6	SMEC_332+1000D*10**
0.0047	13	9	4	10	0.6	SMEC_472+1000D*10**
0.0056	13	9	4	10	0.6	SMEC_562+1000D*10**
0.0068	13	9	4	10	0.6	SMEC_682+1000D*10**
0.01	13	9	4	10	0.6	SMEC_103+1000D*10**
0.015	13	11	5	10	0.6	SMEC_153+1000D*10**
0.022	13	11	5	10	0.6	SMEC_223+1000D*10**
0.01	18	11	5	15	0.8	SMEC_103+1000D*15**
0.015	18	11	5	15	0.8	SMEC_153+1000D*15**
0.022	18	11	5	15	0.8	SMEC_223+1000D*15**
0.033	18	12	6	15	0.8	SMEC_333+1000D*15**
0.047	18	12	6	15	0.8	SMEC_473+1000D*15**
0.068	18	13.5	7.5	15	0.8	SMEC_683+1000D*15**
0.1	18	14.5	8.5	15	0.8	SMEC_104+1000D*15**
0.033	26.5	15	6	22.5	0.8	SMEC_333+1000D*23**
0.047	26.5	15	6	22.5	0.8	SMEC_473+1000D*23**
0.068	26.5	15	6	22.5	0.8	SMEC_683+1000D*23**
0.1	26.5	15	6	22.5	0.8	SMEC_104+1000D*23**
0.15	26.5	16.5	7	22.5	0.8	SMEC_154+1000D*23**
0.22	26.5	17	8.5	22.5	0.8	SMEC_224+1000D*23**
0.33	26.5	20	11	22.5	0.8	SMEC_334+1000D*23**

1000Vdc (300Vac)						
Cap. μF	W	H	T	P	d	Part number
0.15	32	18	9	27.5	0.8	SMEC_154+1000D*28**
0.22	32	18	9	27.5	0.8	SMEC_224+1000D*28**
0.33	31.5	19.5	10.8	27.5	0.8	SMEC_334+1000D*28**
0.47	31.5	19.5	10.8	27.5	0.8	SMEC_474+1000D*28**
0.68	31	25	14	27.5	0.8	SMEC_684+1000D*28**
1.0	31	29	15.5	27.5	0.8	SMEC_105+1000D*28**
1.5	32	37	22	27.5	0.8	SMEC_155+1000D*28**

+ = Capacitance tolerance: K=±10%, J=±5%

* = Lead forming

** = Lead length

SMEC series

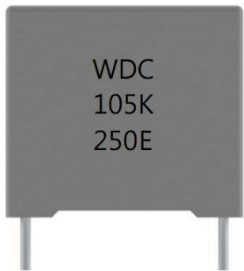

■ Specifications

Test items	Performance	Test Method
Withstand voltage (Between Terminals)	Shall be no abnormality	150% of rated voltage, 60sec
Between terminal and Enclosure	Shall be no abnormality	UR×200%+1000Vac, 60sec.
Insulation resistance (Between Terminals)	$C_R \leq 0.33\mu F$, $IR \geq 15000M\Omega$ $C_R > 0.33\mu F$, $IR \geq 5000S$	Measured at $100 \pm 15Vdc$, For 60sec / $25^\circ C$
Capacitance	Within the tolerance specified	1KHz, 1Vrms Max. at $25^\circ C$
Dissipation Factor	0.01 (1.0%) Max.	1Vrms Max. at $25^\circ C$
Tense Strength of Terminal	No wire breakage and no damage of capacitor	1. Load Force : 1.0 Kg 2. Holding Time : 10 ± 1 sec
Bending Strength of Terminal	No wire breakage and no damage of capacitor	1. Load Force : 0.5 Kg 2. Bending Time : $4 \times 90^\circ$ in 5sec
Solderability	(1) Appearance : No visible damage (2) Covering an area of > solder 95%	1. Solder Temperature : $240 \pm 5^\circ C$ 2. Solder Time : 3 ± 0.5 sec
Heat Shock test	(1) Appearance : No visible damage (2) $\Delta C/C$: $\leq 3\%$ of the initial value (3) DF (tg δ) : Growth less than ≤ 0.004	The terminal of capacitor shall be immersed in the melting solder. a. Solder Temperature: $260 \pm 5^\circ C$ b. Solder Time: 10 ± 1 sec
Cold Resistance	(1) Appearance : No visible damage (2) $\Delta C/C$: $\leq 5\%$ of the initial value (3) DF (tg δ) : Growth less than ≤ 0.005	a. Test Temperature: $-40^\circ C$ b. Test Times: 2Hrs
Dry Heat Resistance	(4) IR : $\geq 50\%$ of clause shall be satisfied	a. Test Temperature: $85^\circ C$ b. Test Times: 16Hrs

SMEC series

Test items	Performance	Test Method
Humidity Resistance	(1) Appearance : No visible damage (2) $\Delta C/C$: $\leq 5\%$ of the initial value (3) DF (tg δ) : Growth less than ≤ 0.002 (4) IR : $\geq 50\%$ of clause shall be satisfied	a. Test Temperature: $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ b. Relative Humidity: 90 ~ 95% c. Test Times: $500 \pm 8\text{Hrs}$ d. Applied voltage: R.V Then recovery at ordinary condition at least 6Hrs
Charge & Discharge	(1) Appearance : No visible damage (2) $\Delta C/C$: $\leq 5\%$ of the initial value (3) DF (tg δ) : Growth less than ≤ 0.005 (4) IR : $\geq 50\%$ of clause shall be satisfied	a. Test Voltage : Rated voltage charge for 0.5 sec. Discharge for 0.5 sec. b. Repeated for 10000 cycles
High Temp Loading test (Continuous)	(1) Appearance : No visible damage (2) DF (tg δ) : Growth less than ≤ 0.004 (3) $\Delta C/C$: $\leq 5\%$ of the initial value (4) IR : $\geq 50\%$ of clause shall be satisfied	a. Test Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ b. Test Times: $1000 \pm 24\text{Hrs}$ c. Apply 125% of the rated voltage Then recovery at ordinary condition at least 6Hrs

■ Mark

Pitch 7.5mm	Pitch $\geq 10\text{mm}$
	
1. WDC is a registered trademark of WINDAY	2. Capacitance: 105 indicates $1.0\mu\text{F}$ or 1000nF
3. Capacitors Tolerance: $K = \pm 10\%$	4. Rated Voltage: 250Vdc, Indicates 250
5. E or ME for Metallized polyester film capacitor	

SMEC series

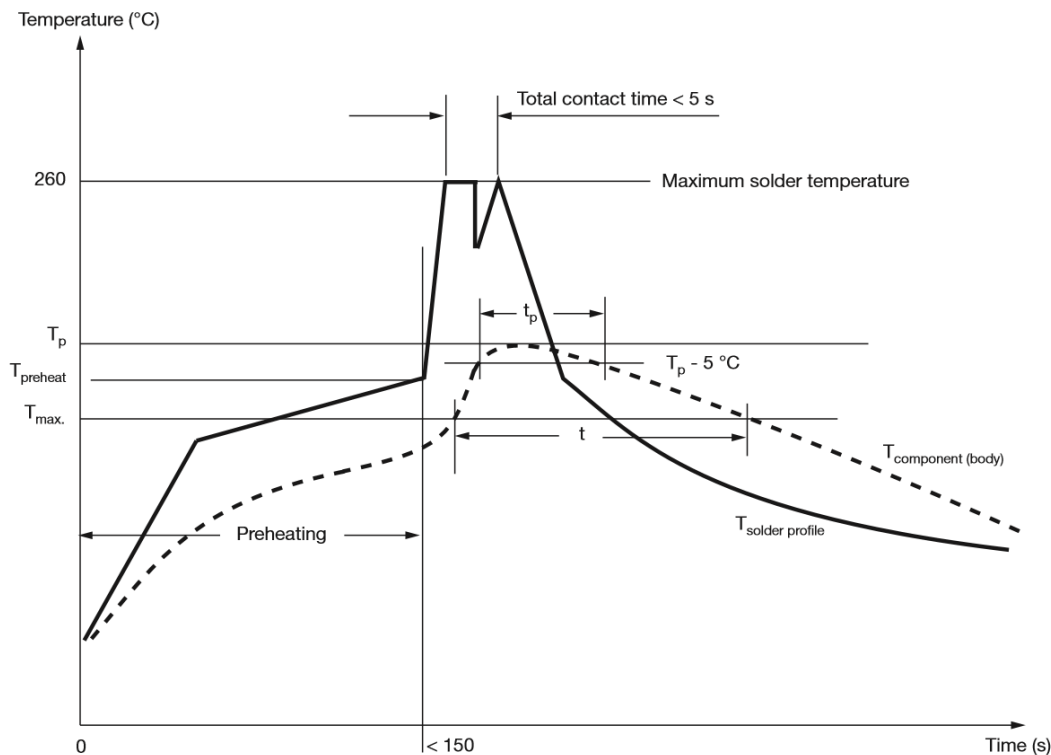
■ Soldering Guidelines for Film Capacitors

WDC recommends that users observe the following guidelines for soldering our film capacitors. Adherence to these recommendations will help to safeguard product specifications and reliability while preventing damage to the capacitors during soldering.

SOLDERING GUIDELINES AND RECOMMENDED WAVE SOLDERING PROFILE

With regard to the resistance to soldering heat and the solderability, our products comply with "IEC 60384-1" and the additional type specifications. The recommended wave soldering profile for our leaded components is defined as follows:

■ Wave Soldering Recommendations



T_p : Peak temperature of the component body (top)

$T_{max.}$: Maximum application temperature of the component

The PSL (Process Sensitivity Level) is classified according JEDEC standard J-STD-075 "Classification of Non-IC Electronic Components for Assembly Processes" and summarized in following tables per product family and pitch size of the component:

SERIES	PRODUCT PITCH SIZE							
	5 mm	7.5 mm	10 mm	15 mm	20/22.5 mm	27.5 mm	31.5 mm	37.5 mm
SMEC	--	(2),(4)	(1),(3)	(1),(3)	(1),(3)	(1),(3)	(1),(3)	(1),(3)

(1) No risk

(2) Risk for parameter change if PSL is not strictly followed

(3) The component has a preheat limitation of 150 °C

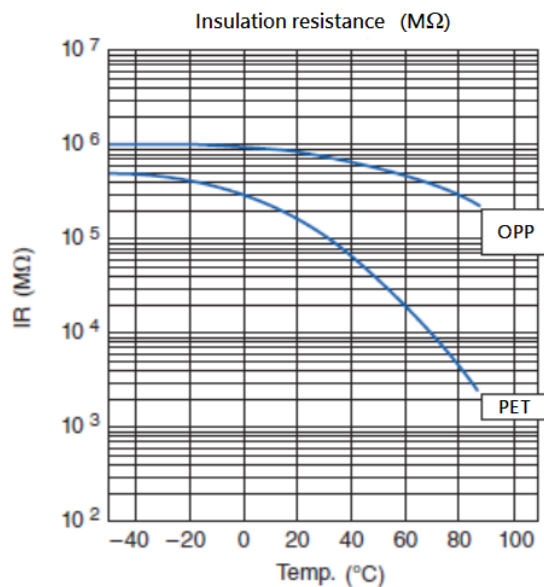
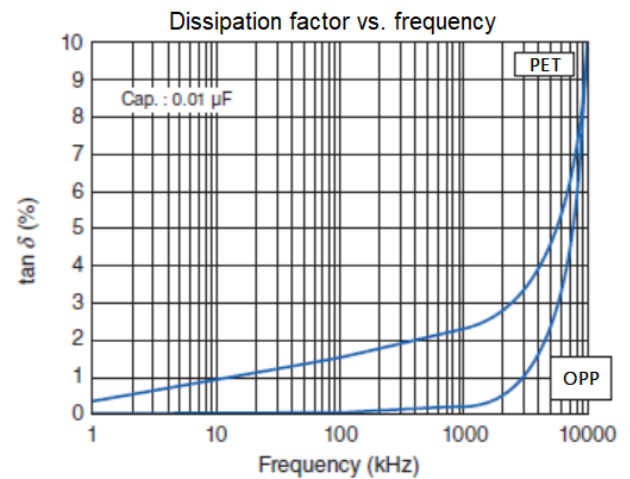
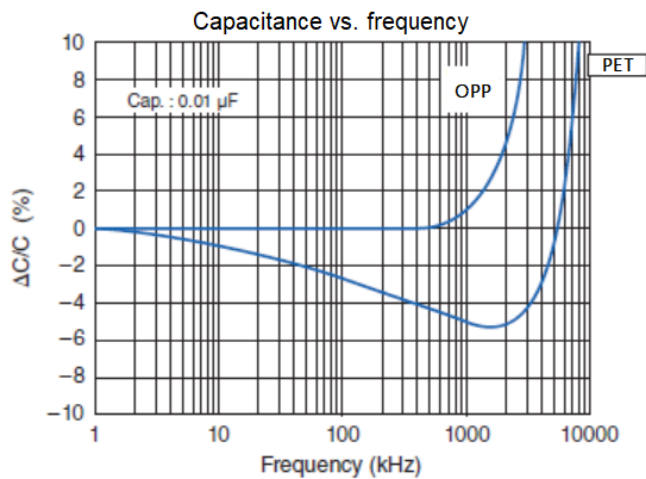
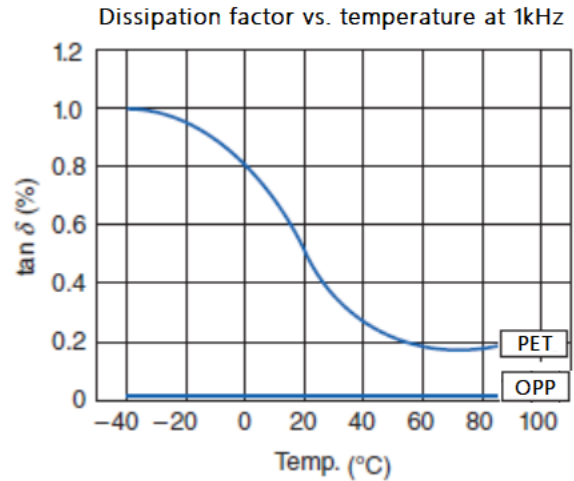
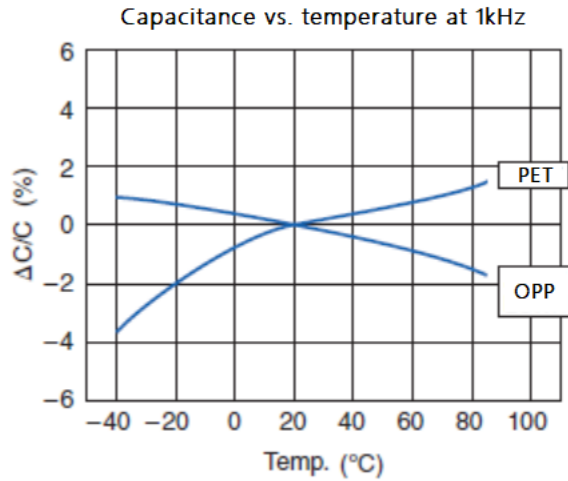
(4) Temperature is measured at the body top and must be kept as follows:

During preheating: $T_{max.} \leq 125^\circ C$

During soldering: $T_p \leq 135^\circ C$, $t_p \leq 30\ s$, $t \leq 50\ s$

SMEC series

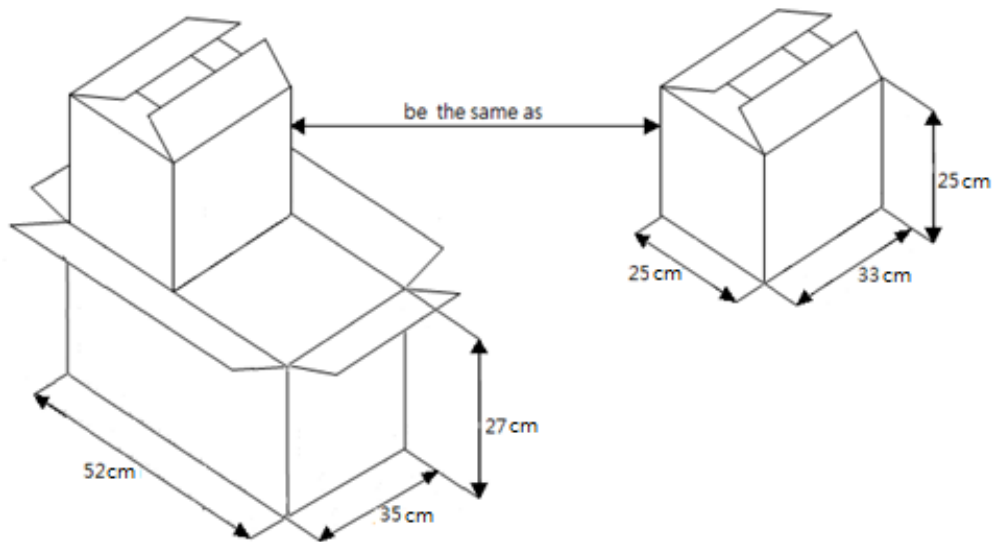
■ Typical graphs



PET :	Metallized Polyester film capacitor
OPP :	Metallized Polypropylene film capacitor

SMEC series

■ Packaging



Size (mm)	Pcs / Bag	Pcs / Inner carton (L33:cm XH:25cm X T:25cm)	Pcs / Out box (L52:cm XH:27cm X T:35cm)
13 * 12 * 6	500	5000	10000
18 * 12 * 6	500	5000	10000
18 * 13.5 * 7.5	300	3000	6000
18 * 15.5 * 9.5	300	3000	6000
18 * 19 * 10.8	200	2000	4000
26.5 * 15 * 6	200	2000	4000
26.5 * 17 * 8.5	200	2000	4000
26.5 * 19 * 10	200	1600	3200
26 * 20 * 11	200	1400	2800
26 * 21.5 * 12	200	1200	2400
26.5 * 23 * 13	200	1200	2400

■ Storage conditions and duration

Packaged capacitors should be kept in clean, ventilated, dry coffers, not near the heat source, not subject to direct sunlight, is strictly prohibited and chemical reagents, acid and harmful gas storage together.

Capacitor at a temperature within the range 20 ~ 25 °C, humidity less than 50% of the state of storage for one year.