

QUICK REFERENCE DATA

Capacitance range	5.0 μ F to 100 μ F
Capacitance tolerance	\pm 5%, \pm 10%
Rated voltage (V_{Rdc})	450, 700, 900, 1100Vdc
Non recurrent surge voltage (V_{pk})	563, 875, 1125, 1375Vdc
Max. repetitive peak voltage (V_{pkr})	1.15 x V_{Rdc} (max. 30min. within one day)
Max. non-repetitive peak current (I_{pkr})	1.5 x I_{pk}
Dissipation factor (DF)	0.0015 at 1KHz($C \leq 30\mu$ F), 0.0020 at 1KHz($C > 30\mu$ F)
Insulation resistance (IR)	3,000s after 1minute of electrification at 100(500)Vdc
Test voltage with terminals (V_{tt})	1.5 x V_{Rdc} applied for 10s
Test voltage with terminals (V_{tc})	3KV 50-60Hz applied for 60s
IEC Climatic category	40/ 105 / 56
Temperature range	-40 $^{\circ}$ C ~ +105 $^{\circ}$ C
Reference	IEC 60384-16 / IEC61071
Potting & Encapsulation material	Qualified in accordance with UL94V-0

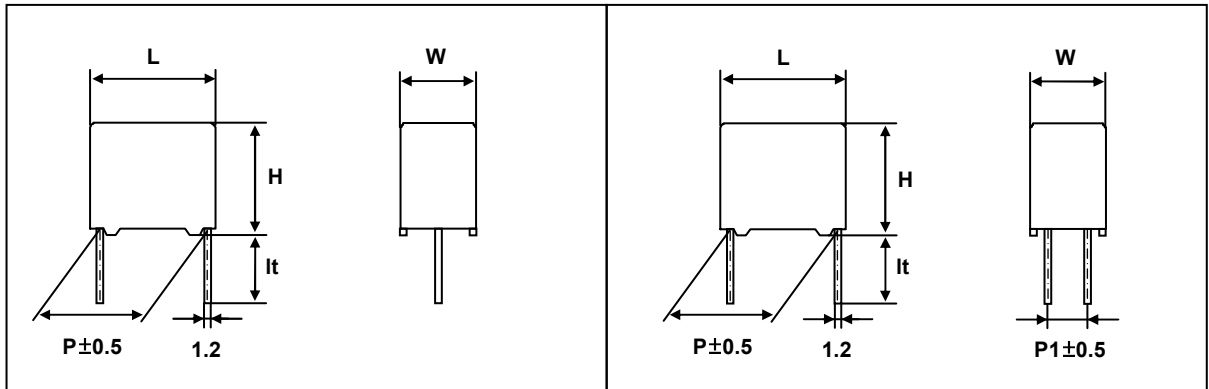
FEATURES	APPLICATIONS
<ul style="list-style-type: none"> . Self-Healing . High capacitance density . High ripple current . Low contact resistance . Low loss dielectric 	<ul style="list-style-type: none"> . dc-link applications. . High frequency, high current applications . Industrial and motor speed control . Welding equipment

- Please refer to caution and warning at <http://www.pilkor.co.kr/download/Introductions.pdf> before using these products.

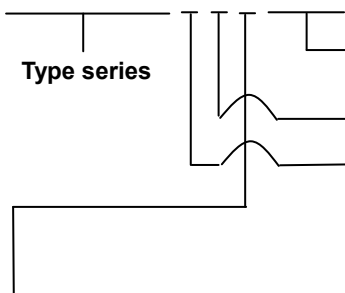
Metallized Polypropylene Film Capacitors (dc-link application)

PCPW 245

Ordering Information



PCPW 245 X X X X X X



Code	Voltage
L	450V
R	700V
S	900V
T	1100V

Code	Original pitch
Q	37.5mm
T	52.5mm

Available versions				Product (I _{max})	
Code	Packing method	C-tol.	Lead length & Height	42.0	57.0
				Pitch (P)	
2	Loose in box	± 10%	It = 5.0±1.0mm	37.5	52.5
3	Loose in box	± 10%	It =25.0±2.0mm	37.5	52.5
4	Loose in box	± 5%	It = 5.0±1.0mm	37.5	52.5
5	Loose in box	± 5%	It =25.0±2.0mm	37.5	52.5

Packing Information

SMALLEST PACKING QUANTITIES (SPQ)	Loose in box	
	It = 5.0 ± 1.0mm	It = 25.0 ± 1.0mm
17.0 x 30.0 x 42.0 18.0 x 31.0 x 42.0 20.0 x 34.0 x 42.0 28.0 x 42.5 x 42.0 30.0 x 43.5 x 42.0		
30.0 x 45.0 x 57.0 35.0 x 50.0 x 57.0		

Metallized Polypropylene Film Capacitors (dc-link application)

PCPW 245

 $V_{Rdc} = 450Vdc$ $V_{pk} = 563 Vdc$

Cap (μF)	b x h x l (mm)	P (mm)	P1 (mm)	dv/dt (V/us)	I _{pk} (A)	I _{rms} ⁽¹⁾ (A)	ESR ⁽²⁾ (m Ω)	Code
								$\pm 5\%$, It = 5 ± 1 mm
20	18.0 X 31.0 X 42.0	37.5	-	21	420	6.8	6.7	PCPW 245QL4206
22	20.0 X 34.0 X 42.0	37.5	-	21	462	8.2	6.0	PCPW 245QL4226
25				21	525	10.0	5.2	PCPW 245QL4256
30	24.0 X 37.0 X 42.0	37.5	-	21	630	12.2	3.8	PCPW 245QL4306
35				21	735	13.5	3.2	PCPW 245QL4356
40	28.0 X 42.5 X 42.0	37.5	-	21	840	14.1	2.9	PCPW 245QL4406
45				21	945	14.4	2.7	PCPW 245QL4456
50	30.0 X 43.5 X 42.0	37.5	-	21	1050	14.7	2.7	PCPW 245QL4506
55	30.0 X 45.0 X 57.0	52.5	-	14	770			PCPW 245TL4556
60				14	840			PCPW 245TL4606
75				14	1050			PCPW 245TL4756
100	35.0 X 50.0 X 57.0	52.5	-	14	1400			PCPW 245TL4107

 $V_{Rdc} = 700Vdc$ $V_{pk} = 875 Vdc$

Cap (μF)	b x h x l (mm)	P (mm)	P1 (mm)	dv/dt (V/us)	I _{pk} (A)	I _{rms} ⁽¹⁾ (A)	ESR ⁽²⁾ (m Ω)	Code
								$\pm 10\%$, It = 5 ± 1 mm
10	17.0 X 30.0 X 42.0	37.5	-	13	130	6.6	9.2	PCPW 245QR4106
12	20.0 X 34.0 X 42.0	37.5	-	13	156	8.2	7.8	PCPW 245QR4126
15	24.0 X 37.0 X 42.0	37.5	-	13	195	9.8	6.0	PCPW 245QR4156
20				13	260	11.8	4.1	PCPW 245QR4206
22	28.0 X 42.5 X 42.0	37.5	-	13	286	12.3	3.7	PCPW 245QR4226
25				13	325	12.9	3.4	PCPW 245QR4256
30	30.0 X 43.5 X 42.0	37.5	-	13	390	13.5	3.1	PCPW 245QR4306
45	30.0 X 45.0 X 57.0	52.5	-	10	450			PCPW 245TR4456
55	35.0 X 50.0 X 57.0	52.5	-	10	550			PCPW 245TR4556
60				10	750			PCPW 245TR4606

 $V_{Rdc} = 900Vdc$ $V_{pk} = 1125 Vdc$

Cap (μF)	b x h x l (mm)	P (mm)	P1 (mm)	dv/dt (V/us)	I _{pk} (A)	I _{rms} ⁽¹⁾ (A)	ESR ⁽²⁾ (m Ω)	Code
								$\pm 10\%$, It = 5 ± 1 mm
8	20.0 X 34.0 X 42.0	37.5	-	16	128			PCPW 245QS4805
10	24.0 X 37.0 X 42.0	37.5	-	16	160			PCPW 245QS4106
12				16	192			PCPW 245QS4126
15	28.0 X 42.5 X 42.0	37.5	-	16	240			PCPW 245QS4156
18	30.0 X 43.5 X 42.0			16	288			PCPW 245QS4186
20	30.0 X 45.0 X 57.0	52.5	-	11	220			PCPW 245TS4206
25				11	275			PCPW 245TS4256
30	35.0 X 50.0 X 57.0	52.5	-	11	330			PCPW 245TS4306
35				11	385			PCPW 245TS4356

 $V_{Rdc} = 1100Vdc$ $V_{pk} = 1375 Vdc$

Cap (μF)	b x h x l (mm)	P (mm)	P1 (mm)	dv/dt (V/us)	I _{pk} (A)	I _{rms} ⁽¹⁾ (A)	ESR ⁽²⁾ (m Ω)	Code
								$\pm 10\%$, It = 5 ± 1 mm
5	18.0 X 31.0 X 42.0	37.5	-	20	100	7.1	9.3	PCPW 245QT4505
8	24.0 X 37.0 X 42.0	37.5	-	20	160	9.1	6.9	PCPW 245QT4805
10	28.0 X 42.5 X 42.0	37.5	-	20	200	10.3	5.4	PCPW 245QT4106
12				20	240	11.6	4.3	PCPW 245QT4126
15	30.0 X 45.0 X 57.0	52.5	-	13	195			PCPW 245TT4156
20				13	260			PCPW 245TT4206
25	35.0 X 50.0 X 57.0	52.5	-	13	325			PCPW 245TT4256

⁽¹⁾ Max. at 10KHz, +70°C⁽²⁾ Typical values at 10KHz

CHARACTERISTICS

● Test Voltage

- . Test Voltage (between terminations) : $1.5 \times V_R$ applied for 10s
- . Test Voltage (between leads and case) : 3KV 50-60Hz applied for 60s

● Dissipation Factor

Rated voltage	Capacitance	Dissipation factor ($\times 10^{-4}$)	
		1 kHz	10 kHz
450Vdc / 700Vdc	C \leq 30uF	\leq 15	
900Vdc / 1100Vdc	C > 30uF	\leq 20	

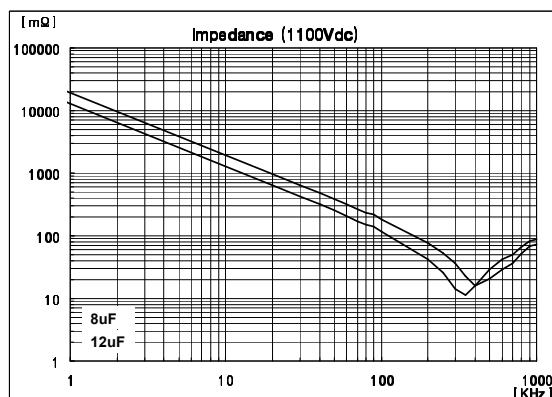
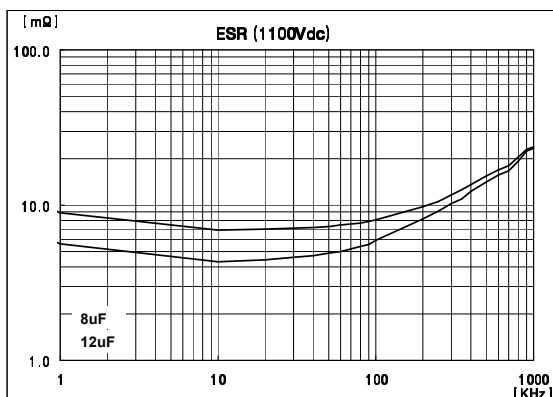
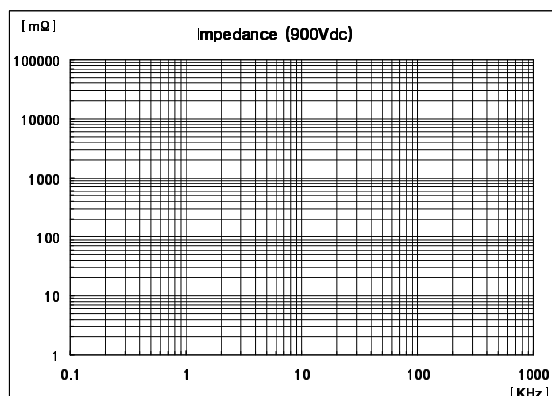
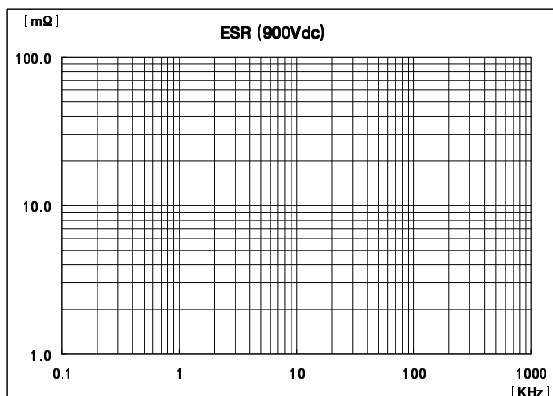
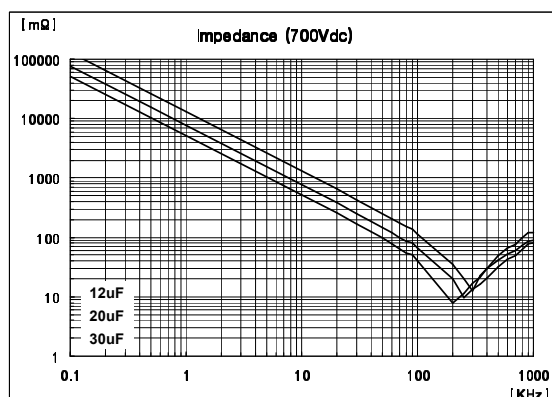
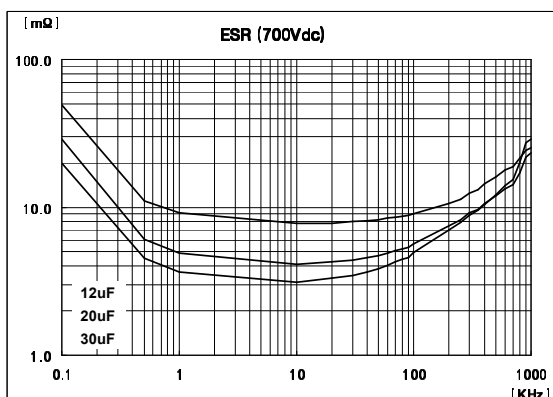
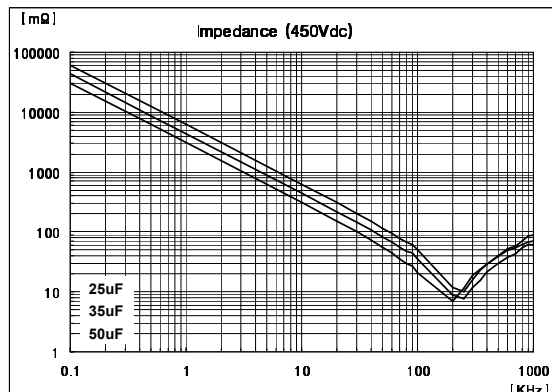
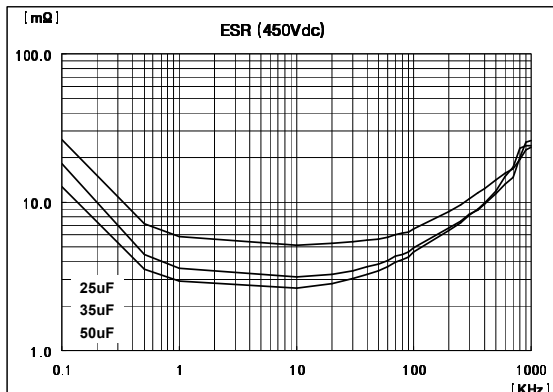
● Insulation Resistance

The insulation resistance is measured after a voltage has been applied for 1minute \pm 5 second.

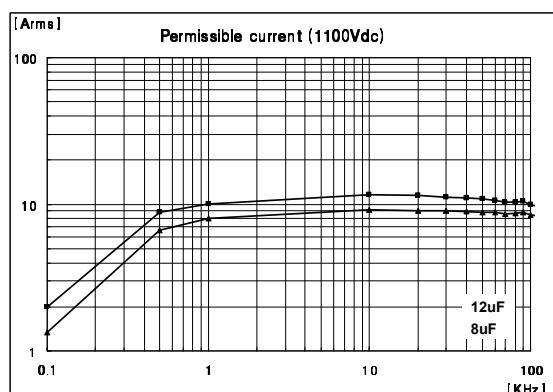
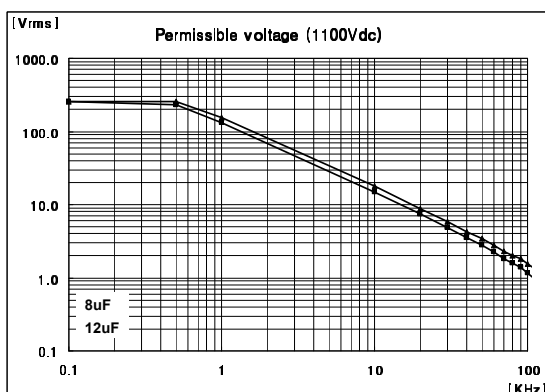
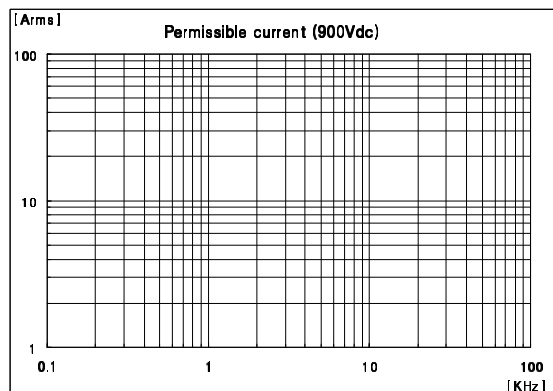
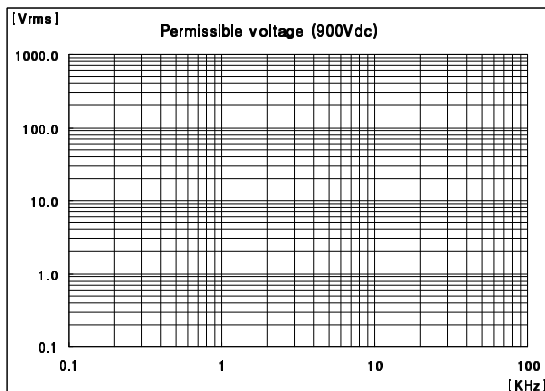
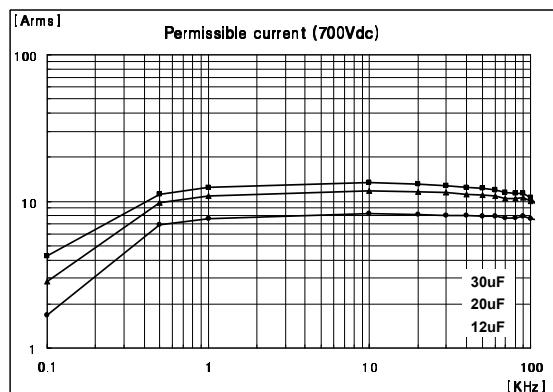
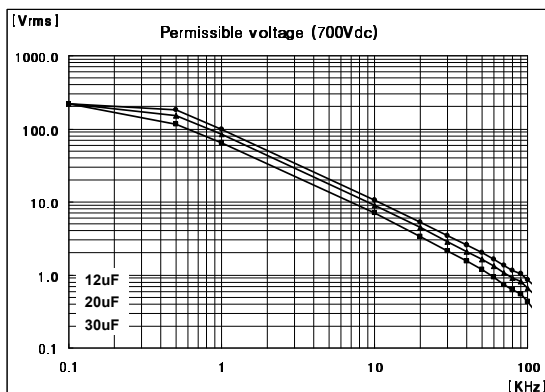
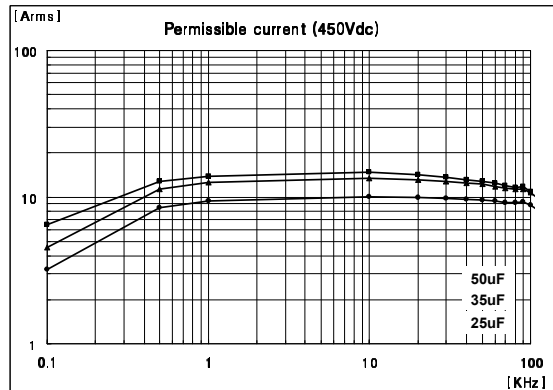
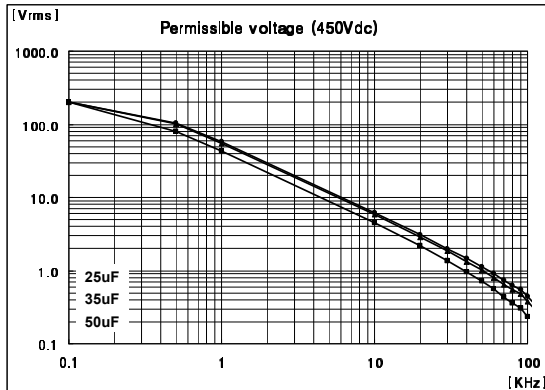
The voltage being $100 \pm 15V$ for the 450V versions and $500V \pm 50V$ for the 700V / 900V / 1100V versions

$$RC (\Omega \cdot F) > 3,000 \text{ s}$$

THE GRAPHS OF CHARACTERISTICS



PERMISSIBLE VOLTAGE AND CURRENT AS A FUNCTION OF FREQUENCY



PRODUCT MARKING

Capacitors are marked on the top or on the top and one side with the following information :

- . Rated capacitance code in accordance with IEC 60062
- . Tolerance on rated capacitance : J : $\pm 5\%$ K : $\pm 10\%$
- . Rated (DC) Voltage (e.g. 450 V)
- . Code for dielectric material (MKP)
- . Manufacturer's type designation (PCPW 245)
- . Manufacturer's name (PILKOR)

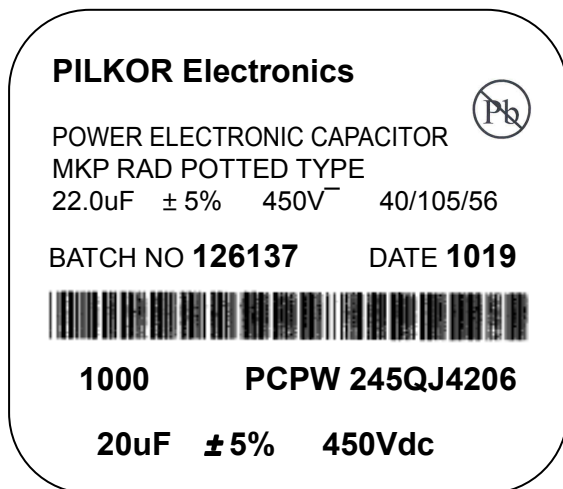
Example of marking

20u	K	450V	PILKOR
PCPW245	MKP	WK...	

Marking on the top or side

PACKAGE MARKING

The package containing the capacitors is marked as shown.



LINE MARKING EXPLANATION

- 1 Manufacturer`s name
- 2 Sub – family
3. Pb free marking(JEDEC-STD-97)
- 4 Type description
- 5 Capacitance value, tolerance,
Voltage and climatic category (IEC)
- 6 Batch no. & production period
year and week code
- 7 Quantity and Product code (13NC)
- 8 Capacitance, tolerance and voltage

Metallized Polypropylene Film Capacitors (dc-link application)

TEST REQUIREMENTS

No	ITEM	TEST Conditions	REQUIREMENTS												
1	Capacitance	1) Temperature : $25 \pm 2^{\circ}\text{C}$ 2) Frequency : $1\text{kHz} \pm 200\text{Hz}$ 3) Test voltage : $5V_{\text{rms}}$ Max.	Shall be with in prescribed tolerance range												
2	Dissipation factor	1) Temperature : $25 \pm 2^{\circ}\text{C}$ 2) Frequency : $1\text{kHz} \pm 200\text{Hz}$ 3) Test voltage : $5V_{\text{rms}}$ Max.	DF < 0.0015 (for $C \leq 30\mu\text{F}$) DF < 0.0020 (for $C > 30\mu\text{F}$)												
3	Dielectric strength	Lead-lead : $1.5 \times V_{\text{Rdc}}$, 10s Lead-case : $3\text{KV}(50\sim 60\text{Hz})$, 60s	no breakdown, flash over (cut-off current 10mA)												
4	Insulation Resistance	at 100V, 1min for $V_{\text{Rdc}} < 500\text{V}$ at 500V, 1min for $V_{\text{Rdc}} \geq 500\text{V}$	$RC (\Omega \cdot \text{F}) > 3,000 \text{ s}$												
5	Damp heat steady state	$40 \pm 2^{\circ}\text{C}$, 90~95%RH, 56days	$\Delta C/C < \pm 3\%$ at 1KHz $\Delta \text{DF} < 0.0010$ at 1KHz IR < 50% of specified limit												
6	Endurance	$85 \pm 2^{\circ}\text{C}$: $1.25 \times V_{\text{Rdc}}$, 1000hrs $105 \pm 2^{\circ}\text{C}$: $1.0 \times V_{\text{Rdc}}$, 1000hrs	$\Delta C/C < \pm 5\%$ at 1KHz $\Delta \text{DF} < 0.0010$ at 1KHz IR < 50% of specified limit												
7	Rapid change of temperature	$-40 \pm 2^{\circ}\text{C}$ = lower category temp. $+105 \pm 2^{\circ}\text{C}$ = upper category temp. Duration t= 30min 5 cycles	Visual : No abnormality $\Delta C/C < \pm 3\%$ at 1KHz $\Delta \text{DF} < 0.0010$ at 1KHz IR < 50% of specified limit												
8	Robustness of termination	1) 【Lead pull test】 <table border="1"> <thead> <tr> <th>Dia.(mm)</th> <th>Load (N)</th> <th>Time (sec)</th> </tr> </thead> <tbody> <tr> <td>$0.5 < d \leq 1.2$</td> <td>10</td> <td>$10 \pm 1(\text{s})$</td> </tr> </tbody> </table> 2) 【Lead bend test(2cycle)】 <table border="1"> <thead> <tr> <th>Dia.(mm)</th> <th>Load (N)</th> <th>Time (sec)</th> </tr> </thead> <tbody> <tr> <td>$0.5 < d \leq 1.2$</td> <td>5</td> <td>0.51(s)</td> </tr> </tbody> </table>	Dia.(mm)	Load (N)	Time (sec)	$0.5 < d \leq 1.2$	10	$10 \pm 1(\text{s})$	Dia.(mm)	Load (N)	Time (sec)	$0.5 < d \leq 1.2$	5	0.51(s)	No abnormality such as cutting, slack of termination
Dia.(mm)	Load (N)	Time (sec)													
$0.5 < d \leq 1.2$	10	$10 \pm 1(\text{s})$													
Dia.(mm)	Load (N)	Time (sec)													
$0.5 < d \leq 1.2$	5	0.51(s)													
9	Solderability	Non-activated colophony flux 501 Solder bath temp. : $245 \pm 5^{\circ}\text{C}$ Immerse time : $2 \pm 0.5\text{s}$	Good tinning as evidenced by free flowing of the solder with wetting of the terminations (>95%)												
10	Resistance to soldering heat	Solder bath temp. : $260 \pm 5^{\circ}\text{C}$ Dipping time : $10 \pm 0.5\text{s}$	Visual : No abnormality $\Delta C/C < \pm 3\%$ at 1KHz $\Delta \text{DF} < 0.0010$ at 1KHz IR < 50% of specified limit												
11	Vibration	10Hz to 55Hz Amplitude : 0.75mm or acceleration 98m/s^2 6hrs	Visual : No abnormality $\Delta C/C < \pm 3\%$ at 1KHz $\Delta \text{DF} < 0.0010$ at 1KHz IR < 50% of specified limit												