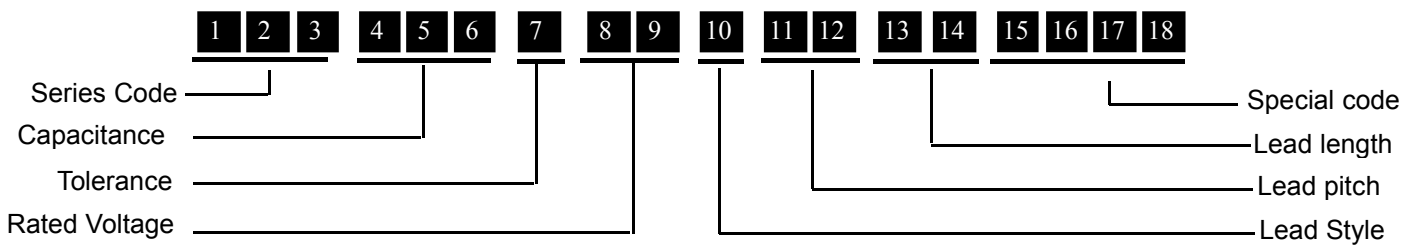


Type: MPK Specification

Part Numbering System



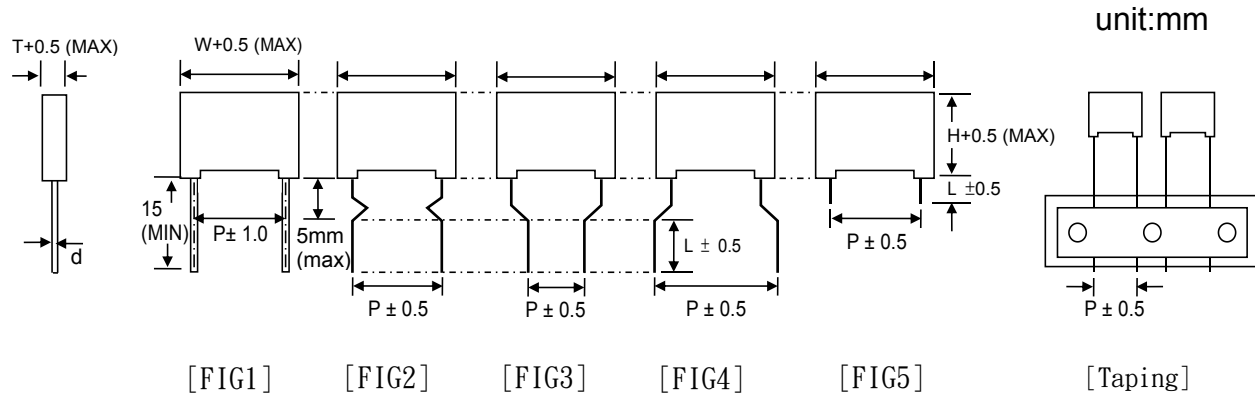
Digit 1~3	Type	MPK													
Digit 4~6	Digit 4~5 indicate the first two figures of the capacitance value and the 6th digit indicate the number of zero added to obtain the rated capacitance in pF. EX.102=1000pF=1nF=0.001μF														
Digit 7	Code		F			G		H		J		K		M	
	Tolerance		±1%			±2%		±3%		±5%		±10%		±20%	
Digit 8~9		A	B	C	D	E	F	G	H	J	K	L	M	N	
	1				20				50	63			1100	15	
	2	100	125	160	200	250	315	400	500	630	800	120		150	
	3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	1200	1400	1500	
		P	Q	R	S	T	U	V	W	X	Y				
	1	240	300	330	440	540	600	700	850	900					
	2	275	305	350	450	520		760							
	3	280	310		480										
Letter and then number indicate AC, but number and then Letter indicate DC. EX.2A=100VDC A2=100VAC															
Digit 10	Code		A			B			C			D		X	
	Lead style		Straight lead			Kink-Cutted			Inward forming			outward forming		straight lead Cutted	
	Code		E			L			T			F		G	
	Taping (Ammo) (直腳 TP,P0=12.7mm)		Taping (Ammo) (直腳 TP, P0=15.0mm)			Taping (Ammo) (同等彎 TP)			Taping (Ammo) (內彎 TP)			Taping (Ammo) (外彎 TP)		Taping (Ammo) (直腳 TP,P0=12.7mm)	
Digit 11~12	Code	P2	P3	P4	P5	P6	P8	P9	PA	PB	PC	PD	PE		
	Pitch	3.5	4.0	4.5	5.0	6.0	7.0	7.5	8.0	9.0	10.0	31.0	15.0		
	Code	PF	PG	PH	PJ	PK	PL	PM	PN	PP	PQ	PR	PS		
	Pitch	20.0	21.0	22.0	22.5	28.5	52.5	27.5	30.0	32.5	41.0	12.5	17.5		
	Code	PT	PU	PV	PW	PX	PY	PZ	PO						
	Pitch	51.0	27.0	37.5	25.0	12.0	35.0	16.0	Axial						
Digit 13~14	Code	L1*	L2	L3	L4	L5	L6	L7*	L8	L9	LA	LB	LC		
	Length	15.0	3.5	4.0	4.5	10.0	15.0	20.0	TP	2.7	8.0	5.0	6.0		
	Code	LD*	LE	LF	LG	LH	LJ*	LK	LL	LM	LN	LP	LQ*		
	Length	26.0	7.5	5.5	12.0	7.0	25.0	13.0	6.5	3.0	9.0	2.5	17.0		
	Code	LR	LS*	LU*	LW*	LX	LY*	LZ*	LV	L0*	LT*	VL*			
	Length	3.8	24.0	27.0	40.0	16.0	30.0	32.0	3.2	Axial	22	33			

Notes: * Straight,length is minimum

Digit 15~16	Code	Explanation	Code	Explanation	Code	Explanation
	CT	The different color,The different size (T)	CW	The different color & The different size (W)	HH	HF, The different size(H)
	HD	HF,The different color	CH	The different color& The different size (H)		
Digit 17~18	Special Number.					

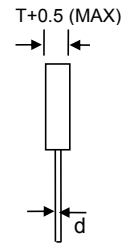
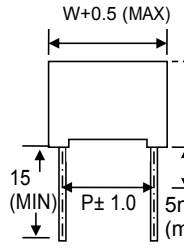
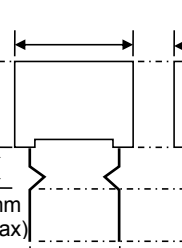
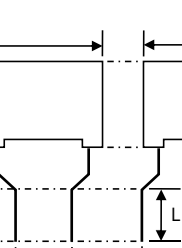
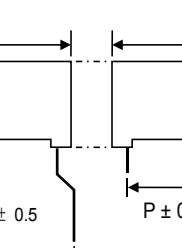
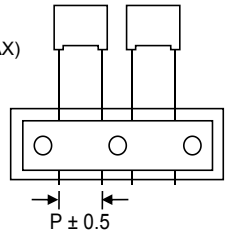
Type: MPK Specification				Dimension				
				unit:mm				
CAP. (μ F)	VOLT. (VDC)	TOL. $\pm\%$	Dimensions unit:mm					SCC P/N
			W	H	T	P	d ϕ ± 0.05	
0.01	1000	5	13.0	9.0	4.0	10.0	0.6	MPK103J3A*PC**CT01
0.012	1000	5	13.0	11.0	5.0	10.0	0.6	MPK123J3A*PC**CT03
0.015	1000	5	13.0	11.0	5.0	10.0	0.6	MPK153J3A*PC**CT03
0.018	1000	5	13.0	11.0	5.0	10.0	0.6	MPK183J3A*PC**CT03
0.022	1000	5	13.0	12.0	6.0	10.0	0.6	MPK223J3A*PC**CT05
0.027	1000	5	13.0	12.0	6.0	10.0	0.6	MPK273J3A*PC**CT05
0.033	1000	5	13.0	12.0	7.0	10.0	0.6	MPK333J3A*PC**CT08
0.039	1000	5	13.0	13.0	7.0	10.0	0.6	MPK393J3A*PC**CT08
0.047	1000	5	13.0	14.0	8.0	10.0	0.6	MPK473J3A*PC**CT11
0.056	1000	5	18.0	13.0	7.0	15.0	0.6	MPK563J3A*PE**ZT08
0.068	1000	5	18.0	13.0	7.0	15.0	0.6	MPK683J3A*PE**ZT08
0.082	1000	5	18.0	13.5	7.5	15.0	0.8	MPK823J3A*PE**CT09
0.1	1000	5	18.0	14.5	8.5	15.0	0.8	MPK104J3A*PE**CT12
0.12	1000	5	18.0	15.0	9.0	15.0	0.8	MPK124J3A*PE**CT14
0.15	1000	5	18.0	16.0	10.0	15.0	0.8	MPK154J3A*PE**CT16
0.18	1000	5	18.0	18.0	10.0	15.0	0.8	MPK184J3A*PE**CT16
0.22	1000	5	26.5	17.0	8.5	22.5	0.8	MPK224J3A*PJ**CT12
0.27	1000	5	26.5	19.0	10.0	22.5	0.8	MPK274J3A*PJ**CT16
0.33	1000	5	26.5	19.0	10.0	22.5	0.8	MPK334J3A*PJ**CT16
0.39	1000	5	26.5	20.0	11.0	22.5	0.8	MPK394J3A*PJ**CT18
0.47	1000	5	26.5	21.5	12.0	22.5	0.8	MPK474J3A*PJ**CT23
0.56	1000	5	26.5	24.0	13.5	22.5	0.8	MPK564J3A*PJ**CT21
0.68	1000	5	32.0	22.0	13.0	27.5	0.8	MPK684J3A*PM**CT20
0.82	1000	5	32.0	25.0	14.0	27.5	0.8	MPK824J3A*PM**CT24
1.0	1000	5	32.0	25.5	16.0	27.5	0.8	MPK105J3A*PM**CT32

Type: MPK Specification	Dimension
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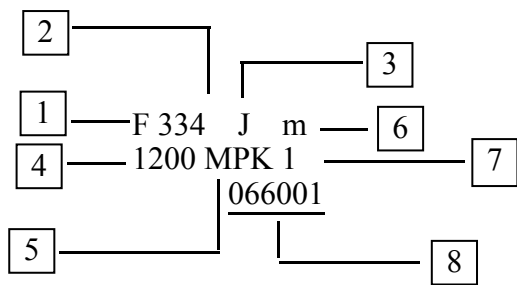


CAP. (uF)	VOLT. (VDC)	TOL. ±%	Dimensions unit:mm					SCC P/N
			W	H	T	P	dφ ±0.05	
0.018	1200	5	18.0	11.0	5.0	15.0	0.6	MPK183J3L*PE**ZT03
0.022	1200	5	18.0	11.0	5.0	15.0	0.6	MPK223J3L*PE**ZT03
0.027	1200	5	18.0	12.0	6.0	15.0	0.6	MPK273J3L*PE**ZT05
0.033	1200	5	18.0	12.0	6.0	15.0	0.6	MPK333J3L*PE**ZT05
0.039	1200	5	18.0	12.5	7.0	15.0	0.6	MPK393J3L*PE**ZT08
0.047	1200	5	18.0	13.0	7.0	15.0	0.6	MPK473J3L*PE**ZT08
0.056	1200	5	18.0	13.5	7.5	15.0	0.6	MPK563J3L*PE**CT09
0.068	1200	5	18.0	14.5	8.5	15.0	0.8	MPK683J3L*PE**CT12
0.082	1200	5	18.0	15.0	9.0	15.0	0.8	MPK823J3L*PE**CT14
0.1	1200	5	18.0	18.0	10.0	15.0	0.8	MPK104J3L*PE**CT16
0.12	1200	5	18.0	18.5	11.0	15.0	0.8	MPK124J3L*PE**CT18
0.15	1200	5	26.5	17.0	8.5	22.5	0.8	MPK154J3L*PJ**CT12
0.18	1200	5	26.5	19.0	10.0	22.5	0.8	MPK184J3L*PJ**CT16
0.22	1200	5	26.5	19.0	10.0	22.5	0.8	MPK224J3L*PJ**CT16
0.27	1200	5	26.5	20.0	11.0	22.5	0.8	MPK274J3L*PJ**CT18
0.33	1200	5	26.5	21.5	12.0	22.5	0.8	MPK334J3L*PJ**CT23
0.39	1200	5	26.5	24.0	13.5	22.5	0.8	MPK394J3L*PJ**CT21
0.47	1200	5	32.0	22.0	13.0	27.5	0.8	MPK474J3L*PM**CT20
0.56	1200	5	32.0	25.0	14.0	27.5	0.8	MPK564J3L*PM**CT24
0.68	1200	5	32.0	25.5	16.0	27.5	0.8	MPK684J3L*PM**CT32

Type: MPK Specification				Dimension					
[FIG1] [FIG2] [FIG3] [FIG4] [FIG5] [Taping] unit:mm									
CAP. (uF)	VOLT. (VDC)	TOL. ±%	Dimensions unit:mm					SCC P/N	
			W	H	T	P	dφ ±0.05		
0.01	1600	5	18.0	11.0	5.0	15.0	0.6	MPK103J3C*PE**ZT03	
0.012	1600	5	18.0	12.0	6.0	15.0	0.6	MPK123J3C*PE**ZT05	
0.015	1600	5	18.0	12.0	6.0	15.0	0.6	MPK153J3C*PE**ZT05	
0.018	1600	5	18.0	13.0	7.0	15.0	0.6	MPK183J3C*PE**ZT08	
0.022	1600	5	18.0	13.5	7.5	15.0	0.8	MPK223J3C*PE**CT08	
0.027	1600	5	18.0	14.5	8.5	15.0	0.8	MPK273J3C*PE**CT12	
0.033	1600	5	18.0	15.0	9.0	15.0	0.8	MPK333J3C*PE**CT14	
0.039	1600	5	18.0	16.0	10.0	15.0	0.8	MPK393J3C*PE**CT16	
0.047	1600	5	18.0	18.5	11.0	15.0	0.8	MPK473J3C*PE**CT18	
0.056	1600	5	18.0	19.2	11.2	15.0	0.8	MPK563J3C*PE**CT19	
0.068	1600	5	26.5	17.0	8.5	22.5	0.8	MPK683J3C*PJ**CT12	
0.082	1600	5	26.5	17.0	9.0	22.5	0.8	MPK823J3C*PJ**CT14	
0.1	1600	5	26.5	19.0	10.0	22.5	0.8	MPK104J3C*PJ**CT16	
0.12	1600	5	26.5	20.0	11.0	22.5	0.8	MPK124J3C*PJ**CT18	
0.15	1600	5	26.5	21.5	12.0	22.5	0.8	MPK154J3C*PJ**CT23	
0.18	1600	5	26.5	24.0	13.5	22.5	0.8	MPK184J3C*PJ**CT21	
0.22	1600	5	32.0	22.0	13.0	27.5	0.8	MPK224J3C*PM**CT20	
0.27	1600	5	32.0	25.0	14.0	27.5	0.8	MPK274J3C*PM**CT24	
0.33	1600	5	32.0	25.5	16.0	27.5	0.8	MPK333J3C*PM**CT32	
0.39	1600	5	32.0	26.0	18.0	27.5	0.8	MPK393J3C*PM**CT25	

Type: MPK Specification				Dimension									
				unit:mm									
													
				[FIG1]	[FIG2]	[FIG3]	[FIG4]	[FIG5]	[Taping]				
CAP. (uF)	VOLT. (VDC)	TOL. ±%	Dimensions unit:mm					SCC P/N					
			W	H	T	P	dφ ±0.05						
0.0047	2000	5	18.0	11.0	5.0	15.0	0.6	MPK472J3D*PE**ZT03					
0.0056	2000	5	18.0	11.0	5.0	15.0	0.6	MPK562J3D*PE**ZT03					
0.0068	2000	5	18.0	12.0	6.0	15.0	0.6	MPK682J3D*PE**ZT05					
0.0082	2000	5	18.0	12.0	6.0	15.0	0.6	MPK822J3D*PE**ZT05					
0.01	2000	5	18.0	13.0	7.0	15.0	0.6	MPK103J3D*PE**ZT08					
0.012	2000	5	18.0	13.5	7.5	15.0	0.8	MPK123J3D*PE**CT09					
0.015	2000	5	18.0	14.5	8.5	15.0	0.8	MPK153J3D*PE**CT12					
0.018	2000	5	18.0	15.0	9.0	15.0	0.8	MPK183J3D*PE**CT14					
0.022	2000	5	18.0	17.0	8.5	15.0	0.8	MPK223J3D*PE**CT12					
0.027	2000	5	18.0	18.0	10.0	15.0	0.8	MPK273J3D*PE**CT16					
0.033	2000	5	18.0	19.2	11.2	15.0	0.8	MPK333J3D*PE**CT19					
0.039	2000	5	26.5	17.0	8.0	22.5	0.8	MPK393J3D*PJ**CT12					
0.047	2000	5	26.5	17.0	9.0	22.5	0.8	MPK473J3D*PJ**CT14					
0.056	2000	5	26.5	19.0	10.0	22.5	0.8	MPK563J3D*PJ**CT16					
0.068	2000	5	26.5	19.0	10.0	22.5	0.8	MPK683J3D*PJ**CT16					
0.082	2000	5	26.0	20.0	11.0	22.5	0.8	MPK823J3D*PJ**CT18					
0.1	2000	5	26.5	21.5	12.0	22.5	0.8	MPK104J3D*PJ**CT23					
0.12	2000	5	26.5	24.0	13.5	22.5	0.8	MPK124J3D*PJ**CT21					
0.15	2000	5	32.0	22.0	13.0	27.5	0.8	MPK154J3D*PM**CT23					
0.18	2000	5	32.0	25.0	14.0	27.5	0.8	MPK184J3D*PM**CT24					
0.22	2000	5	32.0	25.5	16.0	27.5	0.8	MPK224J3D*PM**CT32					

Marking

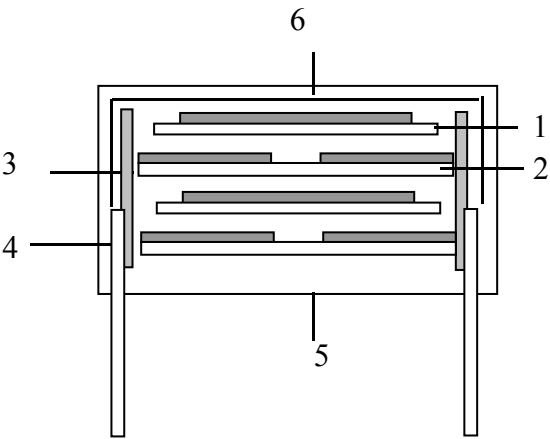


1 : Company symbol	2 : Capacitance	3 : Tolerance	4 : Rated voltage
5 : Type name	6 : Year / Month	7 : Week	8 : Production batch number (P≥10mm)

Year	Month	Mark	Year	Month	Mark	Year	Month	Mark	Year	Month	Mark
2017 2021 2025 ...	1	A	2018 2022 2026 ...	1	N	2019 2023 2027 ...	1	a	2020 2024 2028 ...	1	n
	2	B		2	P		2	b		2	p
	3	C		3	Q		3	c		3	q
	4	D		4	R		4	d		4	r
	5	E		5	S		5	e		5	s
	6	F		6	T		6	f		6	t
	7	G		7	U		7	g		7	u
	8	H		8	V		8	h		8	v
	9	J		9	W		9	j		9	w
	10	K		10	X		10	k		10	x
	11	L		11	Y		11	l		11	y
	12	M		12	Z		12	m		12	z

周期 4 年一個輪迴,如 CODE:A,代表:2017 年 1 月,2021 年 1 月,2025 年 1 月,2029 年 1 月,2033 年 1 月...
 CODE:B,代表:2017 年 2 月,2021 年 2 月,2025 年 2 月,2029 年 2 月,2033 年 2 月...

Construction



1. Metallized polypropylene film
2. Metallized polypropylene film
3. Metal spray.
4. Lead wire
5. Epoxy resin. (UL94V-0、B)
6. PBT Case. (UL94V-0、B)

Type: MPK Specification			Electrical Characteristics		
No	項 目 Item		性 能 Performance	條 件 Test Conditions	參考標準 Reference Standard
1	使用溫度範圍 Operating Temperature Range		-40°C ~ +110°C (+85°C to 110°C:decreasing Factor 1.25%per°C for VR(DC)		IEC 60384-16 2.1.12.2.5
2	額 定 電 壓 Rated Voltage		1000VDC,1200VDC,1600VDC, 2000VDC		IEC 60384-14 2.2.3
3	耐電壓 Withstand Voltage	端 子 間 Between Terminals	無 Short 現象.	Rated voltage x 160% 10 sec Charge and discharge current shall not exceed 10 mA	IEC 60384-16 4.2.1
		端子外裝間 Between Terminals & Enclosure			
5	絕 緣 阻 抗 Insulation Resistance		C $\leq$ 0.33 μ F VR $\leq$ 100V 50,000 M Ω VR > 100V 100,000 M Ω	Charge time: 60 $\pm$ 5sec. Charge voltage: VR < 100VDC: 50VDC VR < 500VDC: 100VDC VR $\geq$ 500VDC: 500VDC Test Temp: 20°C	IEC 60384-16 4.2.4
			C>0.33 μ F VR $\leq$ 100V 15,000 S VR>100V 30,000 S		
6	靜 電 容 量 Capacitance		於 指 定 範 圍 內 Within specified tolerance	at 1 KHz $\pm$ 10% Measure voltage at 1 Vrms Test temp: 20°C	IEC 60384-16 4.2.2
7	散 逸 因 數 Dissipation Factor		0.1 %max at 1KHz	Measure voltage at 1 Vrms Test temp: 20°C	IEC 60384-16 4.2.3
8	端子強度 Terminal Strength	抗拉強度 Pull Strength	端 子 不 鬆 斷 No cutting or slack of terminals	Wire diameter: 0.6&0.8mm Load: 1 kg, time: 10 sec. Wire diameter: 1.0 mm Load: 2 kg, time: 20 sec.	IEC 60384-16 4.3
		扭轉強度 Bending Strength		Wire diameter:0.6&0.8 mm 1.0&1.2 mm 90° x 4 time	
9	耐 震 性 Vibration Proof		無 明 顯 異 常 No abnormality of the appearance	Frequency range 10-55-10-55 Hz Amplitude: 0.75 mm, 2 hrs/direction for 3 directions	IEC 60384-16 4.7
10	焊 錫 附 著 性 Solder ability		導線浸入後的表面至少需附著 95% 的新焊錫 At least 95% of the surface of the lead wire dipped into is covered with new solder.	Solder temp: 245°C $\pm$ 5°C Immersion time: 2 $\pm$ 0.5sec. Solder: SnAgCu (Sn:96.5% Ag:3% Cu:0.5%)	IEC 60384-16 4.5
11	耐 寒 性 Cold Resistance	靜電容量化率 Capacitance Change	$\Delta C/C \leq \pm 5\%$ Within $\pm 5\%$	Temperature: -40 $\pm$ 2°C Duration: 96 $\pm$ 4 hrs	IEC 60384-16 4.10.4

Type: MPK Specification			Electrical Characteristics																	
No	項 目 Item		性 能 Performance	條 件 Test Conditions	參考標準 Reference Standard															
12	焊錫耐熱性 Resistance to Soldering heat	外 觀 Appearance	無 明 顯 異 常 No abnormality on appearance	Solder temp: 265 ±5°C Immersion time: 10±0.5sec.	IEC 60384-16 4.4															
		耐 電 壓 Withstand Voltage	依 項 目 3 Comply with item 3																	
		靜電容量變化率 Capacitance Change	△C/C≦±3% Within ±3%																	
		散逸因數 Dissipation Factor	於 項 目 7 範 圍 以 內 Within spec of item 7 above.																	
		絕緣阻抗 Insulation Resistance	Same as the spec of item 5 above																	
13	耐 熱 性 Dry Heat Resistance	絕 緣 阻 抗 Insulation Resistance	50% of minimum specified value	Temperature: +110 ±2°C Duration: 96±4 hrs	IEC 60384-16 4.10.2															
		靜電容量變化率 Capacitance Change	△C/C≦±5% Within±5%																	
14	溫度循環 Temperature Cycle	外 觀 Appearance	無 明 顯 異 常 No abnormality on appearance	Total: 5 cycle <table><tr><td>Step</td><td>Temp</td><td>Time</td></tr><tr><td>1</td><td>-40±2°C</td><td>30 ±1min</td></tr><tr><td>2</td><td>+25±2°C</td><td>3min max</td></tr><tr><td>3</td><td>+110±2°C</td><td>30 ±1min</td></tr><tr><td>4</td><td>+25±2°C</td><td>3min max</td></tr></table>	Step	Temp	Time	1	-40±2°C	30 ±1min	2	+25±2°C	3min max	3	+110±2°C	30 ±1min	4	+25±2°C	3min max	IEC 60384-16 4.6
		Step	Temp		Time															
		1	-40±2°C		30 ±1min															
		2	+25±2°C		3min max															
		3	+110±2°C		30 ±1min															
4	+25±2°C	3min max																		
耐電壓 Withstand Voltage	依 項 目 3 Comply with item 3																			
絕 緣 阻 抗 Insulation Resistance	50% of minimum specified value																			
散 逸 因 數 Dissipation Factor Change	△DF≦ 0.3%at 1KHz(20°C)																			
15	穩態濕熱試驗 Damp heat , Steady state	外 觀 Appearance	無 明 顯 異 常 No abnormality on appearance 印 字 可 辨 識 Marking to be legible	Humidity: 90~95% RH Temperature: +40 ±2°C Duration: 56Days +48/-0hrs Measure after exposing at normal state for 1.5±0.5hrs.	IEC 60384-16 4.11															
		耐 電 壓 Withstand Voltage	依 項 目 3 Comply with item 3																	
		絕 緣 阻 抗 Insulation Resistance	50% of minimum specified value																	
		靜電容量變化率 Capacitance Change	△C/C≦±5% Within ±5%																	
		散逸因數變化量 Dissipation Factor Change	△DF≦ 0.1% at 1KHz(20°C)																	

Type: MPK Specification			Electrical Characteristics	
No	項目 Item	性能 Performance	條件 Test Conditions	參考標準 Reference Standard
16	高溫負荷 Endurance Test	外觀 Appearance	無明顯異常 No abnormality on appearance 印字可辨識 Marking to be legible Temperature: +85 ±2°C Duration: 1,000 +48/-0 hrs Applied Voltage 125% x V _R through series resistor of 20~1000Ω/V to the Capacitor Measure after exposing at normal state for 4 hrs.	IEC 60384-16 4.12
		耐電壓 Withstand Voltage		
		絕緣阻抗 Insulation Resistance		
		靜電容量變化率 Capacitance Change		
		散逸因數變化量 Dissipation Factor Change		
17	充放電 Charging and discharging	靜電容量變化率 Capacitance Change	Times: 10 000 Duration of charging: 0.5s Duration of discharging : 0.5s Charging voltage: rated voltage Charging resistance: 220/CR(Ω) Discharging resistance: R=10/ CR(Ω) or 20(whichever is the greater) CR: rated capacitance (μF)	IEC 60384-16 4.13
		散逸因數變化量 Dissipation Factor Change		
		絕緣阻抗 Insulation Resistance		
18	高濕/負荷 試驗 Humidity Bias Test	耐電壓 Withstand Voltage	Humidity: 90~95%RH Temperature: 40±2°C Applied Voltage 100%×V _{RDC} Duration: 1000±24hrs Through series resistor of 20~1000Ω/V to the Capacitor Measure after exposing at Normal state for 4 hrs	AEC-Q200
		絕緣阻抗 Insulation Resistance		
		靜電容量變化率 Capacitance Change		
		散逸因數變化量 Dissipation Factor Change		

電容儲存條件:

溫度: +5 ~ +35°C

濕度: ≤ 75% RH

電容儲存時間:

依周期計算有效期: 兩年. (超出兩年產品電氣特性需重新選別及檢查產品外觀)