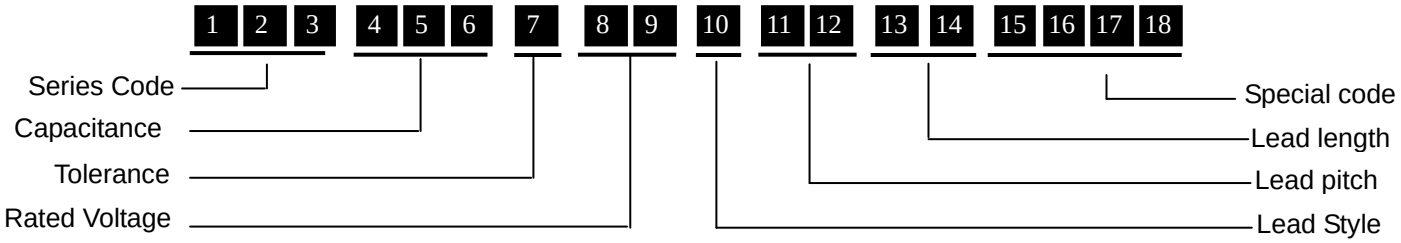
TYPE：MPP SPECIFICATION

ELECTRICAL CHARACTERISTICS



Digit 1~3	Type	PEI	PEN	MEF	MEB	MET	MEA	MEM	MPX	EPI	MFT	MPM	MPC	MPL
		PPI	PPN	MPP	MPB	MPT	MPF	MPH	MPA	PPS	MFP	MPN	MPS	MPK
		MFA	MFB	MPQ	MPR	MET	MES	MFC						
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
	Lead style	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)

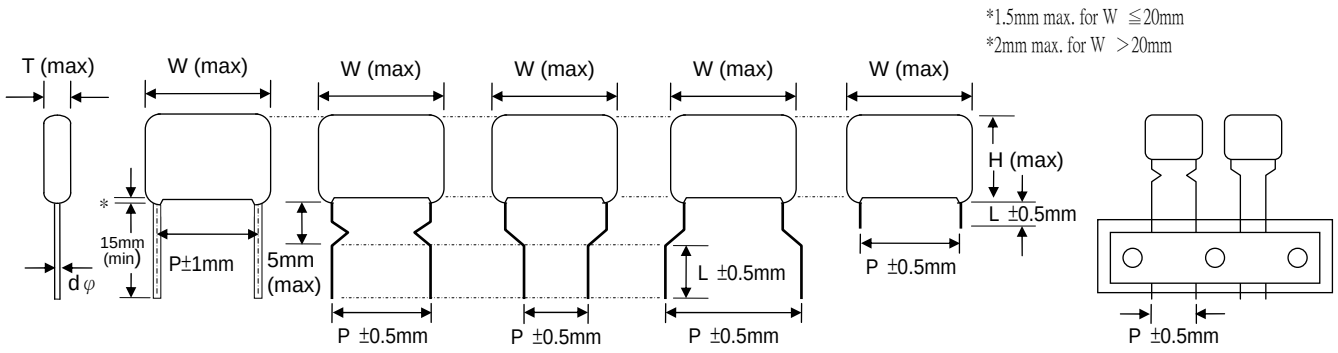
Digit 11~12													
	Code	P2	P3	P4	P5	P6	P8	P9	PA	PB	PC	PD	PE
	Pitch	3.5	4.0	4.5	5.0	6.0	7.0	7.5	8.0	9.0	10.0	31.0	15.0
	Code	PF	PG	PH	PJ	PK	PL	PM	PN	PP	PQ	PR	PS
	Pitch	20.0	21.0	22.0	22.5	28.5	52.5	27.5	30.0	32.5	41.0	12.5	17.5
	Code	PT	PU	PV	PW	PX	PY	PZ	P0				
	Pitch	51.0	27.0	37.5	25.0	12.0	35.0	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
	DT	The different size	HX	HF, The different size (T) & The different Wire	HT	HF, The different size (T)
	ZX	The different size (T) & The different Wire	ZY	The different size (H) & The different Wire		
	DH	The different size(H)				
Digit 17~18	Special Number.					

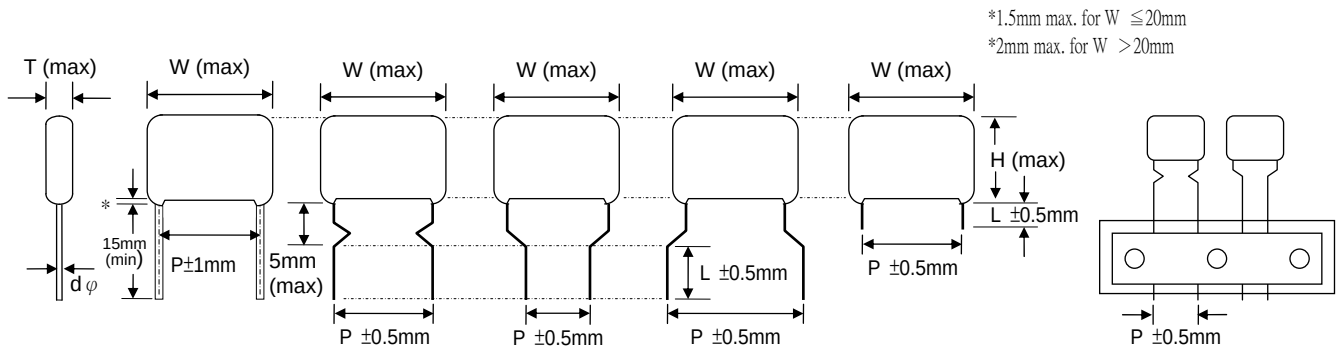
TYPE ：MPP SPECIFICATION	DIMENSION



[FIG1] [FIG2] [FIG3] [FIG4] [FIG5] [Taping]

CAP. (uF)	VOLT. (VDC)	TOL. ±%	DIMENSION unit:mm					SCC P/N
			W	H	T	P	dφ ±0.05	
0.47	100	5	13.0	12.0	7.0	10.0	0.6	MPP474J2A*PC**DT08
0.68	100	5	18.0	11.0	6.5	15.0	0.6	MPP684J2A*PE**ZX07
1.0	100	5	18.0	12.0	7.5	15.0	0.6	MPP105J2A*PE**ZX09
1.5	100	5	18.0	16.0	8.5	15.0	0.8	MPP155J2A*PE**DT12
2.2	100	5	18.0	17.0	10.0	15.0	0.8	MPP225J2A*PE**DT16
3.3	100	5	23.0	19.0	10.5	20.0	0.8	MPP335J2A*PF**DT17
4.7	100	5	23.0	20.5	12.0	20.0	0.8	MPP475J2A*PF**DT23
6.8	100	5	31.0	22.0	11.5	27.5	0.8	MPP685J2A*PM**DT22
10	100	5	31.0	24.0	14.0	27.5	0.8	MPP106J2A*PM**DT24

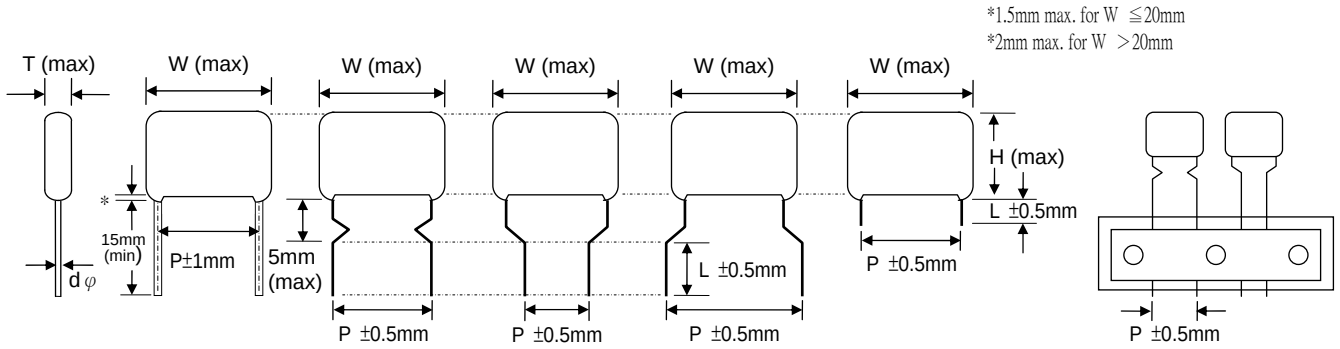
TYPE ：MPP SPECIFICATION	DIMENSION



[FIG1] [FIG2] [FIG3] [FIG4] [FIG5] [Taping]

CAP. (uF)	VOLT. (VDC)	TOL. ±%	DIMENSION unit:mm					SCC P/N
			W	H	T	P	dφ ±0.05	
0.10	250	5	13.0	11.0	6.0	10.0	0.6	MPP104J2E*PC**DT05
0.15	250	5	13.0	11.0	6.0	10.0	0.6	MPP154J2E*PC**DT05
0.22	250	5	13.0	12.5	6.5	10.0	0.6	MPP224J2E*PC**DT07
0.33	250	5	13.0	13.5	7.5	10.0	0.6	MPP334J2E*PC**DT09
0.47	250	5	18.0	15.0	8.0	15.0	0.8	MPP474J2E*PE**DT11
0.68	250	5	18.0	15.0	8.0	15.0	0.8	MPP684J2E*PE**DT11
1.0	250	5	18.0	18.0	9.0	15.0	0.8	MPP105J2E*PE**DT14
1.5	250	5	23.0	18.0	9.0	20.0	0.8	MPP155J2E*PF**DT14
2.2	250	5	23.0	20.0	10.5	20.0	0.8	MPP225J2E*PF**DT17
3.3	250	5	31.0	21.0	11.0	27.5	0.8	MPP335J2E*PM**DT18
4.7	250	5	31.0	24.0	13.0	27.5	0.8	MPP475J2E*PM**DT20
6.8	250	5	37.0	25.0	15.0	32.5	0.8	MPP685J2E*PP**DT36
10.0	250	5	37.0	28.5	18.5	32.5	0.8	MPP106J2E*PP**DT37

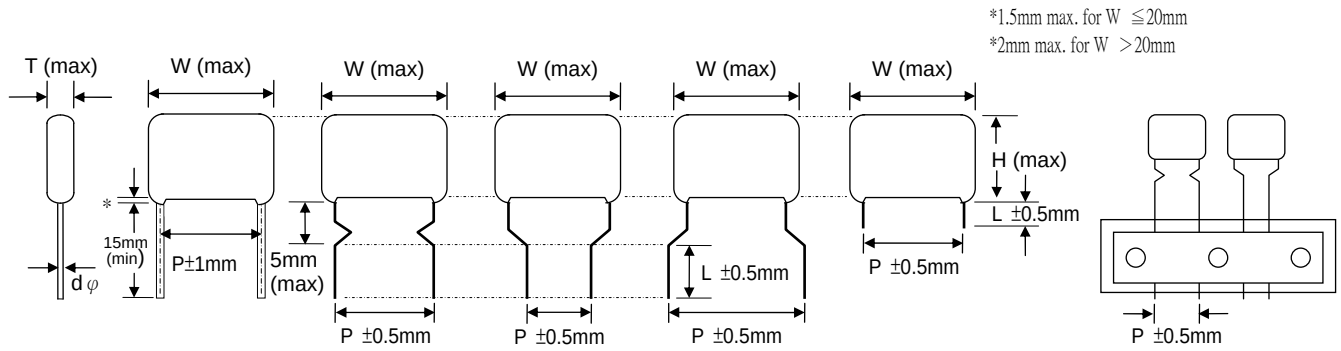
TYPE ：MPP SPECIFICATION	DIMENSION



[FIG1] [FIG2] [FIG3] [FIG4] [FIG5] [Taping]

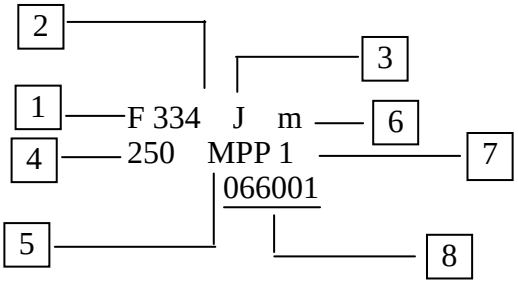
CAP. (uF)	VOLT. (VDC)	TOL. ±%	DIMENSION unit:mm					SCC P/N
			W	H	T	P	dφ ±0.05	
0.022	400	5	13.0	9.5	5.5	10.0	0.6	MPP223J2G*PC**DT04
0.033	400	5	13.0	10.0	6.0	10.0	0.6	MPP333J2G*PC**DT05
0.047	400	5	13.0	11.5	6.5	10.0	0.6	MPP473J2G*PC**DT07
0.068	400	5	13.0	11.5	6.5	10.0	0.6	MPP683J2G*PC**DT07
0.10	400	5	13.0	12.5	7.5	10.0	0.6	MPP104J2G*PC**DT09
0.15	400	5	18.0	13.0	8.0	15.0	0.8	MPP154J2G*PE**DT11
0.22	400	5	18.0	15.5	8.5	15.0	0.8	MPP224J2G*PE**DT12
0.33	400	5	18.0	16.0	9.0	15.0	0.8	MPP334J2G*PE**DT14
0.47	400	5	18.0	17.5	10.5	15.0	0.8	MPP474J2G*PE**DT17
0.68	400	5	23.0	17.0	10.5	20.0	0.8	MPP684J2G*PF**DT17
1.0	400	5	23.0	20.5	12.5	20.0	0.8	MPP105J2G*PF**DT26
1.5	400	5	32.0	21.5	11.0	27.5	0.8	MPP155J2G*PM**DT18
2.2	400	5	32.0	24.0	15.0	27.5	0.8	MPP225J2G*PM**DT36
3.3	400	5	32.0	28.0	18.0	27.5	0.8	MPP335J2G*PM**DT25
4.7	400	5	37.0	29.0	18.5	32.5	0.8	MPP475J2G*PP**DT37

TYPE ：MPP SPECIFICATION	DIMENSION



CAP. (uF)	VOLT. (VDC)	TOL. ±%	DIMENSION unit:mm					SCC P/N
			W	H	T	P	dφ ±0.05	
0.010	630	5	13.0	9.5	5.5	10.0	0.6	MPP103J2J*PC**DT04
0.015	630	5	13.0	10.5	6.0	10.0	0.6	MPP153J2J*PC**DT05
0.022	630	5	13.0	11.5	7.0	10.0	0.6	MPP223J2J*PC**DT08
0.033	630	5	13.0	12.5	7.0	10.0	0.6	MPP333J2J*PC**DT08
0.047	630	5	18.0	12.5	7.5	15.0	0.6	MPP473J2J*PE**ZX09
0.068	630	5	18.0	13.0	8.0	15.0	0.8	MPP683J2J*PE**DT11
0.10	630	5	18.0	14.0	8.0	15.0	0.8	MPP104J2J*PE**DT11
0.15	630	5	18.0	16.5	9.5	15.0	0.8	MPP154J2J*PE**DT15
0.22	630	5	23.0	16.5	9.0	20.0	0.8	MPP224J2J*PF**DT14
0.33	630	5	23.0	19.0	10.5	20.0	0.8	MPP334J2J*PF**DT17
0.47	630	5	32.0	20.0	11.5	27.5	0.8	MPP474J2J*PM**DT22
0.68	630	5	32.0	23.0	13.0	27.5	0.8	MPP684J2J*PM**DT20
1.00	630	5	32.0	25.5	15.5	27.5	0.8	MPP105J2J*PM**DT31
1.50	630	5	37.0	28.5	17.5	32.5	0.8	MPP155J2J*PP**DT41
2.20	630	5	37.0	32.0	21.5	32.5	0.8	MPP225J2J*PP**DT60

Marking



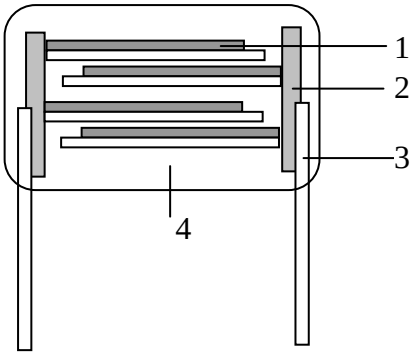
1	：Company symbol	2	：Capacitance	3	：Tolerance	4	：Rated voltage
5	：Type name	6	：Year / Month	7	：Week	8	：Production batch number (P≧10mm)

Year	Month	Mark	Year	Month	Mark	Year	Month	Mark	Year	Month	Mark
	1	A		1	N		1	a		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
2017	5	E	2018	5	S	2019	5	e	2020	5	s
2021	6	F	2022	6	T	2023	6	f	2024	6	t
2025	7	G	2026	7	U	2027	7	g	2028	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. Metal spray.
3. Lead wire
4. Epoxy resin. (UL94V-0、B)

TYPE：MPP SPECIFICATION	ELECTRICAL CHARACTERISTICS

No	項 目 Item		性 能 Performance		條 件 Test Conditions	參考標准 Reference Standard
1	使用溫度範圍 Operating Temperature Range		-40°C ～ +110°C (+85℃ to 110℃:decreasing Factor 1.25%per℃ for VR(DC)			IEC 60384-16 **2.1.12.2.5**
2	額定電壓 Rated Voltage		100VDC,250VDC,400VDC, 630VDC			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≦0.33μF	VR≦100V 50,000 MΩ VR＞100V 100,000 MΩ	Charge time: 60 ±5sec. Charge voltage: VR < 100VDC: 50VDC VR < 500VDC: 100VDC VR ≧ 500VDC. 500VDC Test Temp: 20°C	IEC 60384-16 4.2.4
			C＞0.33μF	VR≦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 ±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℃ ±5°C Immersion time: 2±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	△C/C≦±5% Within ±5%		Temperature: -40 ±2°C Duration: 96±4 hrs	IEC 60384-16 4.10.4

TYPE：MPP SPECIFICATION	ELECTRICAL CHARACTERISTICS

No	項 目 Item		性 能 Performance	條 件 Remark	參考標准 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 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**
		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：MPP SPECIFICATION			*ELECTRICAL CHARACTERISTICS*		
No	**項 目 Item**		**性 能 Performance**	**條 件 Remark**	**參考標准 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	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≦ 0.2%at 10KHz(20°C)		

電容儲存條件:

溫度: +5 ~ +35℃

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

STRONG COMPONENTS CO.,LTD