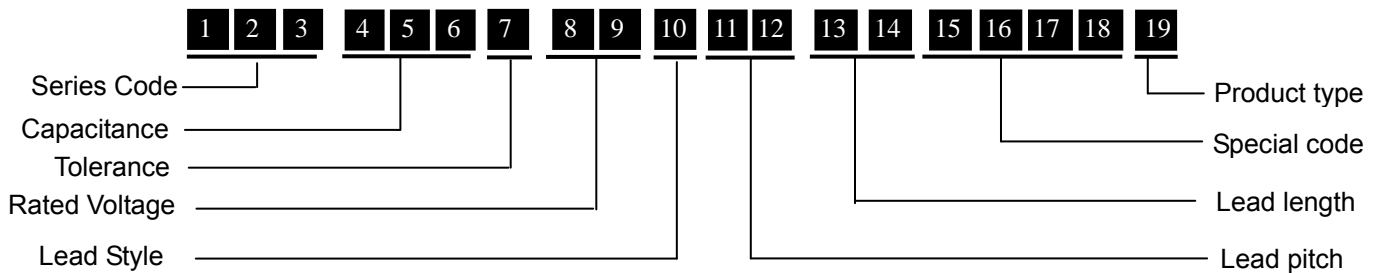


**TYPE : MPX-SP SPECIFICATION**

**Part Numbering System**



Digit 1-3	Type	PEN	MEF	MEB	MET	MEA	MEM	MPX	EPI	MFT	MPM	MPC		
		PPN	MPP	MPB	MPT	MPF	MPH	MPA	PPS	MFP	MPN	MPS		
		MFB	MPQ	MPR	MET	MES	MFC	MPL	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=0.001 μF													
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	
	1				20				50	63			1100	
	2	100	125	160	200	250	315	400	500	630	800	120		
	3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	1200	1400	
		N	P	Q	R	S	T	U	V	W	X	Y		
	1	15	240	300	330	440	540	600	700	850	900			
2	150	275	305	350	450	520		760	1800					
3	1500	280	310			480						3000		
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			S			T		F		G		
	Lead style	Taping (Ammo) (直脚 TP, P0=12.7mm)			Kink-Cutted (special)			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	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	Axia	22	33		

Notes: \* Straight, length is minimum

Digit 15-16	Code	Explanation	Code	Explanation	Code	Explanation
	EG	Power loss & surge testing	HK	HF, Power loss & surge testing		
Digit 17-18	Special Number.					

TYPE : MPX-SP 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		IEC 60384-14 2.1.1
2	額定電壓 Rated Voltage	250VAC,275VAC,310VAC (50/60Hz) 560VDC,630VDC( Max)		IEC 60384-14 2.2.3
3	耐電壓 Withstand Voltage	端子間 Between Terminals	無 Short 現象.	IEC 60384-14 4.2.1
		端子外裝間 Between Terminals & Enclosure		
4	Rated Voltage Pluse slope dv/dt	P:15.0 mm 300v/μs P:22.5 mm 180v/μs P:27.5 mm 120v/μs	Test temp:20°C	
5	絕緣阻抗 Insulation Resistance	C≤0.33μF:15,000MΩ min C>0.33μF:5,000MΩ*μF min	Charge time: 60 ±5sec. Charge voltage: 100VDC Test Temp: 20°C	IEC 60384-14 4.2.5
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 60384-14 4.2.2
7	散逸因數 Dissipation Factor	0.1 %max at 1KHz C≤6.8uF 0.4%max at 1KHz C>6.8uF	Measure voltage at 1 Vrms Test temp: 20°C	IEC 60384-14 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	IEC 60384-14 4.3
		扭轉強度 Bending Strength		
9	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 ±5°C Immersion time: 2±0.5sec. Solder: SnAgCu (Sn:96.5% Ag:3% Cu:0.5%)	IEC 60384-14 4.5
10	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 60384-14 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	

TYPE : MPX-SP SPECIFICATION		ELECTRICAL CHARACTERISTICS																	
No	項目 Item	性能 Performance	條件 Test Conditions	參考標準 Reference Standard															
11	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 60384-14 4.7															
12	耐寒性 Cold Resistance	靜電容量變化率 Capacitance Change $\Delta C/C \leq \pm 5\%$ Within $\pm 5\%$	Temperature: $-40 \pm 2^\circ\text{C}$ Duration: 96 $\pm$ 4 hrs	IEC 60384-14 4.11.4															
13	耐熱性 Dry Heat Resistance	絕緣阻抗 Insulation Resistance	50% of minimum specified value	Temperature: $+110 \pm 2^\circ\text{C}$ Duration: 96 $\pm$ 4 hrs															
		靜電容量變化率 Capacitance Change $\Delta C/C \leq \pm 5\%$ Within $\pm 5\%$																	
14	溫度循環 Temperature Cycle	外觀 Appearance	無明顯異常 No abnormality on appearance	Total: 5 cycle <table border="1"> <thead> <tr> <th>Step</th> <th>Temp</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><math>-40 \pm 2^\circ\text{C}</math></td> <td>30 <math>\pm</math>1min</td> </tr> <tr> <td>2</td> <td><math>+25 \pm 2^\circ\text{C}</math></td> <td>3min max</td> </tr> <tr> <td>3</td> <td><math>+110 \pm 2^\circ\text{C}</math></td> <td>30 <math>\pm</math>1min</td> </tr> <tr> <td>4</td> <td><math>+25 \pm 2^\circ\text{C}</math></td> <td>3min max</td> </tr> </tbody> </table>	Step	Temp	Time	1	$-40 \pm 2^\circ\text{C}$	30 $\pm$ 1min	2	$+25 \pm 2^\circ\text{C}$	3min max	3	$+110 \pm 2^\circ\text{C}$	30 $\pm$ 1min	4	$+25 \pm 2^\circ\text{C}$	3min max
		Step	Temp		Time														
		1	$-40 \pm 2^\circ\text{C}$		30 $\pm$ 1min														
		2	$+25 \pm 2^\circ\text{C}$		3min max														
		3	$+110 \pm 2^\circ\text{C}$		30 $\pm$ 1min														
4	$+25 \pm 2^\circ\text{C}$	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																		
靜電容量變化率 Capacitance Change $\pm 5\%$ 以內 Within $\pm 5\%$																			
散逸因數變化量 Dissipation Factor Change	0.3 %max 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: $+40 \pm 2^\circ\text{C}$ Duration: 56Days +48/-0hrs  Measure after exposing at normal state for 4hrs.															
		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 $\Delta C/C \leq \pm 5\%$ Within $\pm 5\%$																	
		散逸因數變化量 Dissipation Factor Change $\Delta DF \leq 0.8\%$ at 10KHz, $C \leq 1.0\mu\text{F}$ $\Delta DF \leq 0.5\%$ at 1KHz, $C > 1.0\mu\text{F}$ (20°C)																	

TYPE : MPX-SP 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: +110 ±2°C Duration:1,000 +48/-0 hrs  Applied Voltage 125% x VR through series resistor of 20~1000Ω/V to the Capacitor  Every 1 hour applying 1,000Vrms voltage of 0.1 seconds  Measure after exposing at normal state for 4 hrs.	IEC 60384-14 4.14
		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	$\Delta C/C \leq \pm 10\%$ Within $\pm 10\%$		
		散逸因數變化量 Dissipation Factor Change	$\Delta DF \leq 0.8\%$ at 10KHz, C $\leq 1.0\mu F$ $\Delta DF \leq 0.5\%$ at 1KHz, C $> 1.0\mu F$ (20°C)		
17	脈衝試驗 Impulse voltage	If any three successive impulses are shown by the oscilloscope monitor to have had a waveform indicating that no self-healing breakdowns or flashovers have taken place in the capacitor, then no further impulses shall be applied and the capacitor shall be counted as conforming.	Each individual capacitor shall be subjected to a maximum of 24 impulses of the same polarity. The time between impulses shall be not less than 10 s. Impulse voltage $C \leq 1.0 \mu F, 2.5KV$ $C > 1.0 \mu F, 2.5KV/\sqrt{C}$	IEC 60384-14 4.13	
18	阻燃性測試 Flammability test	1.每次火焰燃燒后每一試片的燃燒秒數不可超過 10S. Maximum flaming time per specimen per flame application:10 sec. 2.五個試片,兩次火焰燃燒的試片總燃燒秒數不能超過 50S. Maximum total flaming time ,5 specimens,2 ignitions: 50 sec. 3.每一試片最長的燃燒秒數不能超過 30S Maximum after glow time, Per specimen: 30sec.	1.試樣數目:5PCS, Number of specimens : 5pcs 2.火焰燃燒次數:2 Number of ignitions: 2 3.火焰不可燃燒到被夾子固定之上端. Combustion flame cannot be fixed to the upper end of the clip.	UL94	

1.此系列電容器只限用於 $\leq 310VAC$  (頻率 $\leq 100Hz$ ) 或 $\leq 630VDC$ .

2.此產品不適合用於阻容降壓