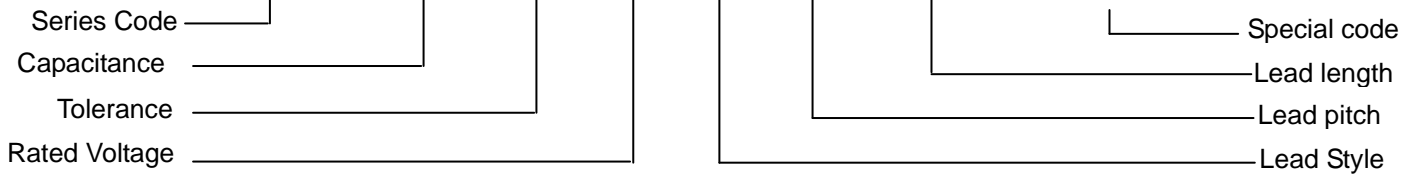


TYPE : MPF SPECIFICATION

ELECTRICAL CHARACTERISTICS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



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=0.001 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	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						

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) (直脚 TP, P0=12.7mm)			Taping (Ammo) (直脚 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	PO				

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	LO*	LT*	VL*	

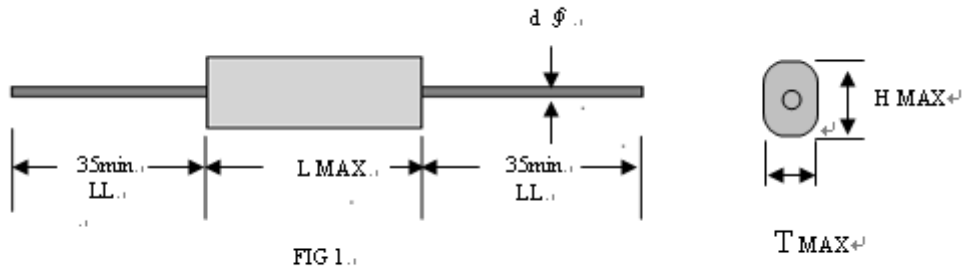
Notes: * Straight,length is minimum

Digit 15-16	Code	Explanation		Code	Explanation		Code	Explanation				
	DT	The different color, The different size (T)		DW	The different color & The different size (W)		EL	Low noise				
	HD	HF, The different color(Black)		DH	The different color & The different size (H)		EE	Low ESR				
Digit 17-18	Special Number.											

TYPE : MPF

SPECIFICATION

DIMENSION



CAP. (μF)	VOLT. (VDC)	TOL. $\pm\%$	DIMENSION unit:mm				SCC P/N
			L	H	T	$d\ \phi$ ± 0.05	
0.10	250	10	15.0	9.0	6.5	0.6	MPF104K2EAP0L0DT07
0.15	250	10	15.0	9.5	7.0	0.6	MPF154K2EAP0L0DT08
0.22	250	10	19.0	9.0	6.0	0.8	MPF224K2EAP0L0DT05
0.33	250	10	19.0	11.0	7.0	0.8	MPF334K2EAP0L0DT08
0.47	250	10	19.0	11.0	7.0	0.8	MPF474K2EAP0L0DT08
0.68	250	10	19.0	12.0	7.5	0.8	MPF684K2EAP0L0DT09
1.0	250	10	27.0	13.5	9.0	0.8	MPF105K2EAP0L0DT14
1.5	250	10	27.0	13.5	9.0	0.8	MPF155K2EAP0L0DT14
2.2	250	10	27.0	16.0	10.0	0.8	MPF225K2EAP0L0DT16
3.3	250	10	33.0	18.0	10.0	0.8	MPF335K2EAP0L0DT16
4.7	250	10	33.0	20.5	12.5	0.8	MPF475K2EAP0L0DT26
6.8	250	10	33.0	24.0	15.0	0.8	MPF685K2EAP0L0DT36

TYPE : MPF

SPECIFICATION

DIMENSION

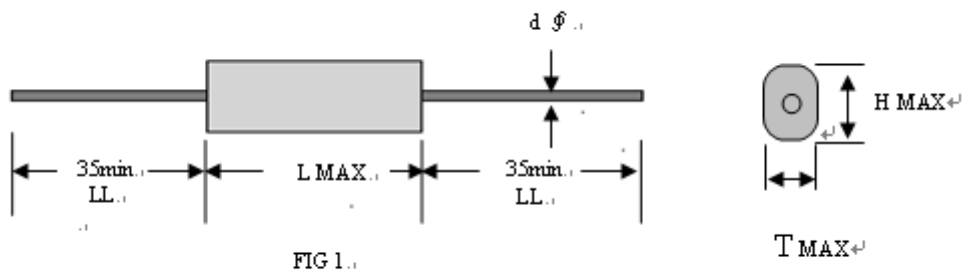


FIG 1.

CAP. (μF)	VOLT. (VDC)	TOL. $\pm\%$	DIMENSION unit:mm				SCC P/N
			L	H	T	dφ ± 0.05	
0.047	400	10	15.0	9.0	6.0	0.6	MPF473K2GAP0L0DT05
0.068	400	10	15.0	9.5	6.0	0.6	MPF683K2GAP0L0DT05
0.10	400	10	15.0	10.0	6.5	0.6	MPF104K2GAP0L0DT07
0.15	400	10	19.0	11.5	7.0	0.8	MPF154K2GAP0L0DT08
0.22	400	10	19.0	12.0	7.5	0.8	MPF224K2GAP0L0DT09
0.33	400	10	19.0	13.0	7.5	0.8	MPF334K2GAP0L0DT09
0.47	400	10	19.0	15.0	9.0	0.8	MPF474K2GAP0L0DT14
0.68	400	10	27.0	14.0	8.0	0.8	MPF684K2GAP0L0DT11
1.0	400	10	27.0	17.0	9.5	0.8	MPF105K2GAP0L0DT15
1.5	400	10	33.0	18.0	10.0	0.8	MPF155K2GAP0L0DT16
2.2	400	10	33.0	21.5	12.0	0.8	MPF225K2GAP0L0DT23
3.3	400	10	33.0	25.0	15.0	0.8	MPF335K2GAP0L0DT36

TYPE : MPF

SPECIFICATION

DIMENSION

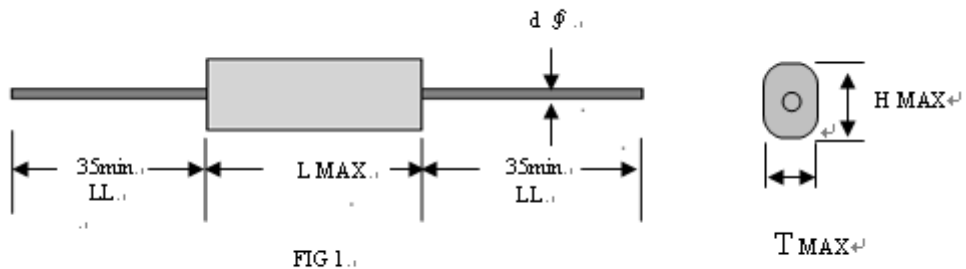
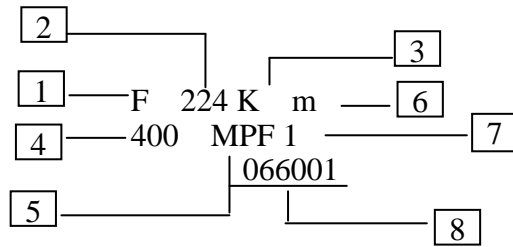


FIG 1.

CAP. (μF)	VOLT. (VDC)	TOL. $\pm\%$	DIMENSION unit:mm				SCC P/N
			L	H	T	$d\ \phi$ ± 0.05	
0.022	630	10	15.0	9.0	6.0	0.6	MPF223K2JAP0L0DT05
0.033	630	10	15.0	9.5	6.5	0.6	MPF333K2JAP0L0DT07
0.047	630	10	15.0	11.0	7.5	0.6	MPF473K2JAP0L0DT09
0.068	630	10	19.0	11.0	7.5	0.8	MPF683K2JAP0L0DT09
0.10	630	10	19.0	11.5	7.5	0.8	MPF104K2JAP0L0DT09
0.15	630	10	19.0	13.5	9.0	0.8	MPF154K2JAP0L0DT14
0.22	630	10	27.0	13.0	8.5	0.8	MPF224K2JAP0L0DT12
0.33	630	10	27.0	16.0	9.5	0.8	MPF334K2JAP0L0DT12
0.47	630	10	27.0	18.5	11.0	0.8	MPF474K2JAP0L0DT18
0.68	630	10	33.0	19.5	11.5	0.8	MPF684K2JAP0L0DT22
1.0	630	10	33.0	22.5	14.5	0.8	MPF105K2JAP0L0DT49
1.5	630	10	33.0	27.0	17.5	0.8	MPF155K2JAP0L0DT41

● Marking

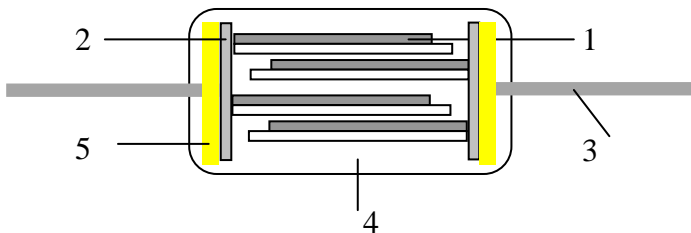


- | | | | |
|--------------------|------------------|---------------|---|
| 1 : Company symbol | 2 : Capacitance | 3 : Tolerance | 4 : Rated voltage |
| 5 : Type name | 6 : Year / Month | 7 : Week | 8 : Production batch number
(P ≥ 10.0mm, H ≥ 13.0mm) |

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 : Metal spray(Zn+Tin/Zn)
- 3 : Lead wire
- 4 : Mara tape(UL510)
- 5 : Epoxy resin (UL94V-0 · B)

TYPE : MPF 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		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≤0.33 μF	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>0.33 μF	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°C ±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 : MPF 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 border="1" data-bbox="970 1106 1342 1272"> <thead> <tr> <th>Step</th> <th>Temp</th> <th>Time</th> </tr> </thead> <tbody> <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> </tbody> </table> 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
		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 : MPF SPECIFICATION		ELECTRICAL CHARACTERISTICS		
No	項目 Item	性能 Performance	條件 Test Conditions	參考標準 Reference Standard
16	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°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)

STRONG COMPONENTS CO.,LTD