



# 久亦電子有限公司

JOEY ELECTRONICS CO., LTD.

## 塑膠薄膜電容器規格承認書

SPECIFICATION OF PLASTIC FILM CAPACITOR FOR APPROVAL

立创商城

客 戶 名 稱 : 深 圳 市 立 创 电 子 商 务 有 限 公 司  
( Customer )  
項 目 : MES 系 列  
( Item )  
客 戶 料 號 :  
( Customer Part No )  
久 亦 料 號 :  
( Joey Parts No )  
送 樣 日 期 :  
( Date )  
備 注 :  
( Remark )

CUSTOMER APPROVAL 廠商認可

請確認後簽回，若不簽回，視同默認。

PLEASE SIGNATURE AFTER CHECKING , NO SIGNATURE IS EQUAL PRETERMIT.

承認章 ( Approved By )

承認章 ( Approved By )

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# 產品編碼說明 Part number code system

## 1.各型號電容 Capacitor code of types

①②③		④⑤⑥		⑦	⑧⑨		⑩		⑪⑫		⑬	⑭⑮⑯		
M E F		1 0 5		J	2 E		8		A A		8	2 0 M		
品名 Series		額定容量 Rated Cap.		額定電壓 Rated Voltage		腳距碼 (Pitch)P		腳型碼 Forming lead shapes						
型號 Type	代碼 Code	容量(µf) Cap.	代碼 Code	電壓 Voltage	代碼 Code	腳距 P (mm)	代碼 Code	圖形 Fig.	備註 Note (mm)	代碼 Code				
PEI	PEI	0.0010	102	50 VDC	1H	5	2		L≥20 / P±1	AA				
PEN	PEN	0.0011	112	63 VDC	1J	7.5	3		L±1 / P±1	AS				
MEF	MEF	0.0012	122	100 VDC	2A	10	4		L≥20 / P±1	KA				
MET	MET		...	200 VDC	2D	12.5	5		L±1 / P±1	KS				
MEA	MEA	0.010	103	250 VDC	2E	15	6		L≥20 / P1±1	EA				
MEB	MEB	0.011	113	400 VDC	2G	20	8		L±1 / P±1	ES				
PPN	PPN	0.012	123	450 VDC	2L	22.5	9		L≥20 / P1±1	WA				
MPP	MPP		...	500 VDC	2H	25	A		L±1 / P±1	WS				
MPT	MPT	0.100	104	520VDC	2B	27.5	B		L≥20 / P1±1	NA				
MPA	MPA	0.110	114	630 VDC	2J	32.5	D		L±1 / P±1	NS				
MPB	MPB		...	800 VDC	2K	35	E		P+0.8~-0.2	AT				
X1	XX1	1.0	105	1000 VDC	3A	37.5	F		P+0.8~-0.2	KT				
X2	XX2		...	1200 VDC	3B	42.5	H		P+0.8~-0.2	ET				
MinBox	MIB			1250 VDC	3M	3	P		P+0.8~-0.2	ET				
MES	MES			1500 VDC	3C	4	Q		P+0.8~-0.2	ET				
MPS	MPS			1600 VDC	3V	6	S		P+0.8~-0.2	ET				
KPS	KPS			1800 VDC	3W	7	R		P+0.8~-0.2	ET				
MPH	MPH			2000 VDC	3D	8	W		P+0.8~-0.2	ET				
MHS	MHS			2500 VDC	3E	16	X		P+0.8~-0.2	ET				
KHS	KHS			3000 VDC	3F	21	Y		P+0.8~-0.2	ET				
KES	KES			300 VAC	A1	31.5	Z		P+0.8~-0.2	ET				
PPS	PPS			275 VAC	A2	43.5	V		P+0.8~-0.2	ET				
2PS	2PS			100 VAC	A3	橫軸 Axial	0		Axial(L≥28)	LA				
3PS	3PS			160 VAC	A4				Axial軟導線	LX				
4PS	4PS			200 VAC	A5									
5PS	5PS			250 VAC	A6									
6PS	6PS			450 VAC	A7									
VPF	VPF			310VAC	AE									
VPB	VPB			330VAC	A9									
		容差碼 Cap.Tolerance										腳長(mm)		代碼
		F ±1%										3.2		032
		G ±2%										直腳(L≥20)		20M
		H ±3%										編帶(TAP)		000
		J ±5%												
		K ±10%												
		M ±20%												

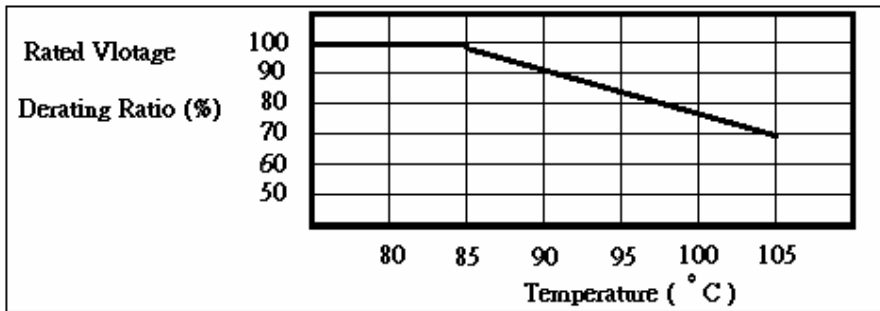
第⑩碼⑬碼為腳距碼  
 第⑩碼為原始腳距碼  
 第⑬碼為整形後腳距碼

一. SCOPE: THIS SPECIFICATION APPLIED TO CAPACITOR FOR TYPE "MES"  
(METALLIZED POLYESTER FILM CAPACITOR).

二. OPERATING TEMPERATURE: - 40°C ~ + 85°C (+ 105°C)

(Derating ratio of rated voltage to + 85°C ~ + 105°C : 1.5% per °C for Rated Voltage)

Rated Voltage: Rated voltage is defined the voltage which shall be capable of applying to capacitors continuously in the operating temperature range. However, rated voltage shall be derated 1.5% at each 1°C in the range of + 85°C ~ + 105°C as shown in the Fig. below.



三. WORKING VOLTAGE: MES ( 400~630VDC )

四. CAPACITANCE RANGE : MES (0.001uF~2.2uF ).

五. CAPACITANCE TOLERANCE : ±1% (F), ±2%(G),±3%(H),±5%(J),±10%(K),±20%(M).

六. CONSTRUCTIONS & SHOW

(一) CONSTRUCTIONS.

A : ELEMENT (METALLIZED POLYESTER FILM. )

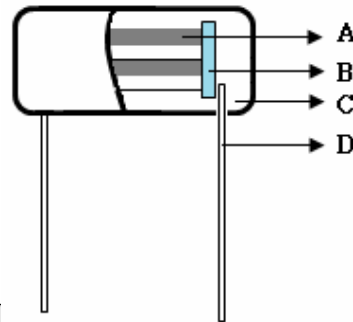
B : METALS(SN.ZN.SB.CU).

C : EPOXY RESIN & WAX

D : WIRE .

(二) SHOWS:

CAPACITOR'S SHOWS, IT'S SHOWN. ATTACHED DRAWIN



七. MARKING:

CAPACITOR IS MARKING ON BODY FOR FOLLOWING ITEMS.

**W 105 K**

**MES 450**

A : CAPACITANCE TOLERANCE.

B : CAPACITANCE.

C : MANUFACTURE'S NAME AND TRADE MARK.

(WE USE "W" AS OUR REGISTERED TRADE MARK.)

D : WORK VOLTAGE.

E : TYPE NAME.

八. STANDARD TESTING CONDITION:

CAPACITORS MAY BE MEASURED AT TEMPERATURE 20±5°C

AND HUMIDITY:65±5%RH

九. CHARACTERISTICS				
NO.	TEST ITEMS		CHARACTERISTICS	TEST METHOD
(一)	TESTING VOLTAGE (TV)	BETWEEN TERMINALS	NO BREAKDOWN OR FLASHOVER	150% RATED VOLTAGE FOR 2 SEC NOT EXCEED 15 mA FOR CHANGE 150% WORKING VOLTAGE FOR 60 SEC
		BETWEEN & ENCLOSURE TERMINALS	NO BREAKDOWN OR FLASHOVER	
(二)	INSULATION RESISTANCE (IR)	BETWEEN TERMINALS	$C \leq 0.33\mu F \geq 15\ 000M\Omega$ or more	CHARGING TIME : $60 \pm 5$ SEC CHARGING VOLTAGE : 100VDC
		BETWEEN & ENCLOSURE TERMINALS	$1.0\mu F \geq C > 0.33\mu F > 5\ 000M\Omega$ or more $C > 1.0\mu F > 1\ 000M\Omega$ or more	
(三)	CAPACITANCE		PLEASE CONSULT PAGE THREE	FREQUENCY AT 1KHZ TEST VOLTAGE 1 V AT $20 \pm 5^\circ C$
(四)	DISSIPATION FACTOR (DF)		1.0%(MAX) AT 1KHZ	TEST VOLTAGE 1V AT $20 \pm 5^\circ C$
(五)	LOAD STRENGTH	PULL TEST	ELECTRICAL AND MECHANICAL CHARACTERISTICS NO CHANGE.	WIRE 0.5mm LOAD 0.5KG 10SEC WIRE 0.6mm LOAD 0.5KG 10SEC WIRE 0.8mm LOAD 0.5KG 10SEC WIRE 1.0mm LOAD 1.0KG 20SEC ACC.TO IEC 68-2-21, TEST UA.
		BENDING TEST	ELECTRICAL AND MECHANICAL CHARACTERISTICS NO CHANGE.	WIRE 0.5mm LOAD 5N : $4 \times 90^\circ$ WIRE 0.6&0.8mm LOAD 5N : $4 \times 90^\circ$ WIRE 1.0mm LOAD 5N : $4 \times 90^\circ$ ACC.TO IEC 68-2-21, TEST UB
(六)	VIBRATION		ELECTRICAL AND MECHANICAL CHARACTERISTICS NO CHANGE.	FREQUENCY RANGE 10-55-10HZ 2HRS FOR DIRECTION * 3 DIRECTIONS ACC.TO IEC 68-2-6, TEST FC&FD B4
(七)	SOLDERABILITY		AFTER THE IMMERSION COVER SOLDER OF 95% AROUND LEAD SURFACE DIPPING POINT.	SOLDERABILITY TEMP. FOR $245 \pm 5^\circ C$ TIME FOR $2 \pm 0.5$ SEC ACC. TO IEC68-2-20, TEST TA METHOD
(八)	RESISTANCE TO SOLDERING HEAT	CHANGE IN CAPACITANCE	CHANGE IN (max) $< \pm 3\%$	SOLDER TEMP. AT $260 \pm 5^\circ C$ DIPPING TIME FOR $5 \pm 1$ SEC HAND SOLDER TEMP. AT $350 \pm 10^\circ C$ TIME . AT $3 \pm 1$ SEC
		TANGENT OF THE LOSS ANGLE	1.0%(MAX) AT 1KHZ	
		DIELECTRIC STRENGTH	110% WORKING VOLTAGE	
		INSULATION RESISTANCE	$C \leq 0.33\mu F > 15G\Omega$ $1.0\mu f \geq C > 0.33\mu F > 5\ G\Omega$ $C > 1.0\mu f > 1G\Omega$	
		APPEARANCE	NO VISIBLE	

九. CHARACTERISTICS			
NO.	TEST ITEMS	CHARACTERISTICS	TEST METHOD
(九)	LOW TEMPERATURE TEST	CHANGE IN CAPACITANCE	CHANGE IN (max) $< \pm 3\%$
		TANGENT OF THE LOSS ANGLE	1.0%(MAX) AT 1KHZ
		DIELECTRIC STRENGTH	110% WORKING VOLTAGE
		INSULATION RESISTANCE	$C \leq 0.33\mu F > 15G\Omega$ $1.0\mu f \geq C > 0.33\mu F > 5 G\Omega$ $C > 1.0\mu f > 1G\Omega$
		APPEARANCE	NO VISIBLE
(十)	HIGH TEMPERATURE TEST	CHANGE IN CAPACITANCE	CHANGE IN (max) $< \pm 5\%$
		TANGENT OF THE LOSS ANGLE	1.0%(MAX) AT 1KHZ
		DIELECTRIC STRENGTH	110% WORKING VOLTAGE
		INSULATION RESISTANCE	$C \leq 0.33\mu F > 15G\Omega$ $1.0\mu f \geq C > 0.33\mu F > 5 G\Omega$ $C > 1.0\mu f > 1G\Omega$
		APPEARANCE	NO VISIBLE
(十一)	TEMPERATURE CYCLE	CHANGE IN CAPACITANCE	CHANGE IN (max) $< \pm 10\%$
		TANGENT OF THE LOSS ANGLE	1.0%(MAX) AT 1KHZ
		DIELECTRIC STRENGTH	110% WORKING VOLTAGE
		INSULATION RESISTANCE	$C \leq 0.33\mu F > 15G\Omega$ $1.0\mu f \geq C > 0.33\mu F > 5 G\Omega$ $C > 1.0\mu f > 1G\Omega$
		APPEARANCE	NO VISIBLE
			ACC TO IEC 68-2-14 METHOD TESTCYCLES NO            TEMP            TIME 1            + 20°C $\pm 2^\circ C$ 30m 2            - 40°C $\pm 2^\circ C$ 30m 3            + 20°C $\pm 2^\circ C$ 30m 4            + 85°C $\pm 2^\circ C$ 30m 5            + 20°C $\pm 2^\circ C$ 30m THEN RECOVERY AT ORDINARY CONDITION 2 HORUS
(十二)	HUMIDITY RESISTANCE LOADING TEST	CHANGE IN CAPACITANCE	CHANGE IN (max) $< \pm 10\%$
		TANGENT OF THE LOSS ANGLE	1.0%(MAX) AT 1KHZ
		DIELECTRIC STRENGTH	110% WORKING VOLTAGE
		INSULATION RESISTANCE	$\Delta IR / IR \leq 50\%$
		APPEARANCE	NO VISIBLE
			ACC TO IEC 68-2-14 METHOD HUMIDITY OF 90~95% RH TEMP : 40 $\pm 2^\circ C$ APPLIED VOLTAGE : R.V DURATION : 500 + 24/ - 0 HOURS THEN RECOVERY AT ORDINARY CONDITION 16 HORUS
(十三)	HIGH TEMPERATURE LOADING	CHANGE IN CAPACITANCE	CHANGE IN (max) $< \pm 3\%$
		TANGENT OF THE LOSS ANGLE	1.0%(MAX) AT 1KHZ
		DIELECTRIC STRENGTH	110% WORKING VOLTAGE
		INSULATION RESISTANCE	$C \leq 0.33\mu F > 15G\Omega$ $1.0\mu f \geq C > 0.33\mu F > 5 G\Omega$ $C > 1.0\mu f > 1G\Omega$
		APPEARANCE	NO VISIBLE
			VOLTAGE OF 110% OF RATED VOLTAGE 50 TO 60Hz SHALL BE APPLIED TO THE CAPACITOR FOR 1000 + 48/0 H THROUGH SERIAL RESISTOR OF 20 TO 1000 $\Omega$ PER 1V AT THE TEST TEMPERATURE OF 85 $\pm 2^\circ C$ THEN RECOVERY AT ORDINARY CONDITION 16 HORUS

十. TESTING EQUIPMENT 檢測設備:

(一) CAPACITANCE AND 容量和損耗角 (CAP& DF) :

1. UAD TECH 1689 LCR METER.
2. TAI WAN ZENTECH 1062 LCR METER.
3. TAI WAN ZENTECH 1063 LCR METER.
4. TAI WAN ZENTECH 1075 LCR METER.

(二) INSULATION RESISTANCE 絕緣阻抗 (IR) :

1. DAN BRIDGE 602 METER
2. ZENTECH 705 IR METER.

(三) DIELECTRIC STRENGTH 耐電壓 (TV) :

1. ZENTECH 902
2. TAI WAN EXTECH 7450

(四) AUTO SORTING MACHINES 自動分選機(選別機)

1. TAI WAN URANUS SORTING AUTOMATIC
2. TAI WAN WELL DELL SORTING AUTOMATIC

(五) CHARACTERISTICS OF PERMISSIBLE CURRENT TO FREQUENCY

許容電流與頻率特性

1. CHROMA PROGRAMMABLE HF AC TESTER MODEL 11805  
可程式高頻交流測試器11805
2. CHROMA DIGIT MULTIMETER 12061  
六位半數位多功能電表
3. CHROMD CAPACITOR LEAKAGE CURRENT / IR METER MODEL11200  
電容漏電流/絕緣電阻表11200

(六) RoHS & WITHOUT HALOGEN

RoHS和無鹵產品

1. SHIMADZU EDX-LE

十一. ACCEPTABLE QUALITY LEVEL 允收標準 (AQL):

AQL IS ACCORDING TO MIL-STD-105E-II, BY LOT GOING INSPECTION.

允收標準(AQL)是根據MIL-STD-105E-II抽樣方試檢驗

(一) APPEARANCE AQL : 1.0 AC

外觀不良低於1.0為允收

(二) DIMENSIONS AQL: 1.0 AC

尺寸不良低於1.0為允收

(三) MECHANICAL CHARACTERISTICS AQL: 1.0 AC

機械特性不良低於1.0為允收

(四) ELECTRICAL CHARACTERISTICS AQL: 0.065 (INCLUDE CAP,DF,TV,IR)

電器特性不良低於 0.065 (包括 CAP,DF,TV,IR)

十二. Product electrical characteristic graph 產品電氣特性圖

溫度性能

Temperature Characteristics



頻率性能

Frequency Characteristics





十五. Manufacturers製造商：JOEY ELECTRONICS CO,LTD. 久亦電子有限公司。  
Origin , including 產地：CHINA P .R .C 中國

十六. The compliance with enviroment requirement 環保要求符合性

- 16.1 Compliance with the requirement of RoHS.符合RoHS要求。
- 16.2 Compliance with the requirement of REACH.符合REACH要求。
- 16.3 Without Halogen ( as required ) 符合無鹵 ( 如要求 )。

十七. Storage conditions 存儲條件：

- 17.1 It should be noted that the solderability of the terminals may be deteriorated when Stored bardly in an atmosphere for a long periods.  
請注意，長時間暴露在空氣中會導致引線焊接性能衰減。
- 17.2 It shouldn't be located in particularly high temperature and high humidity , it must Submit to the following conditions ( keeping in the original package) :  
不能放置在高溫和高濕環境中，請遵循以下存儲條件 ( 原包裝下保存 )  
Temperature 溫度：35°C MAX.  
Relative humidity 相對濕度：80% MAX.
- 17.3 Storage period : (from the manufacturing date marked on the label in pachege bag )  
Loose : 12months MAX.  
存儲時間：( 包裝袋上標注的生產日期為準 ) 最長12個月。

十八. Characteristics and test conditions 電氣特性和測試條件：

Test condition : Unless otherwise specified , the standard range of atmospheric Conditions for marking measurements and test is as follows Ambient  
Temperature 環境溫度：15~35°C  
Relaive humidity 相對濕度：25~75%  
If there may be any doubt on the results , measurements shall be made within the Following limits.  
如對測試結果有任何疑問，則按以下限制測試：  
Ambient temperature 環境溫度：20 ~ 25 °C  
Relative humidity 環境濕度：60 ~ 70% .