

JYH HSU (JEC) ELECTRONICS LTD.,

Approved/Recognized Type

Related Standard		Certificate NO	APProved Monogram
CQC (China)	IEC 60384-14	CQC13001103539	
KC (Korea)	K60384	SU03044-9002	
UL(usa) CSA(Canada)	IEC UL 60384	E356696	
ENEC (EU)	EN 60384-14	ENEC-00984	
VDE (Germany)	EN 60384-14	40038643	
IEC CB	IEC 60384-14	US-33636-UL	

Specifications

Operating Temp.Range	-40℃ to +85℃		
Use temperature range	-40℃ to +125℃		
Applicable Standards	UL, CSA, CQC, ENEC, VDE,KC	X1	Y2
		400VAC	300VAC
Dielectric Withstanding Voltage	Rted Voltage		Test Voltage
	300VAC		1800V-2600 VAC for 1 min.
Dissipation Factor (D.F)	Y5P,Y5U	TANδ(DF) ≤2.5%,measured at 1KHz±10%,1.0 — 5.0 Vrms,25℃	
	Y5V	TANδ(DF) ≤5.0%,measured at 1KHz±10%,1.0 — 5.0 Vrms,25℃	
Capacitance(C)	Range	10 pF to 10000 pF. measured at 1KHz±10%, 1.0 — 5.0 Vrms, 25℃	
	Tolerance	±10%	Y5P
		±10%	Y5U
		±20%	
		±20%	Y5V
InsulationResiatance(IR)	10000 MΩ , 1 min , 500 VDC		
Temperature Characteristics	Type Code	Temp. Coeff.	Temp. Range
	Y5P	±10%	-40℃ to +85℃, -40℃ to +125℃
	Y5V	+30%~-89%	-40℃ to +85℃, -40℃ to +125℃
	Y5U	+22%~-65%	-40℃ to +85℃, -40℃ to +125℃

Part Number Configuration:

JY 102 K 2F Y5P S T 7.5 L

(1) (2) (3) (4) (5) (6) (编带) (7) (8)

(1) AC capacitors, safety

(2) Rated capacitance

(3) Tolerance on rated capacitance

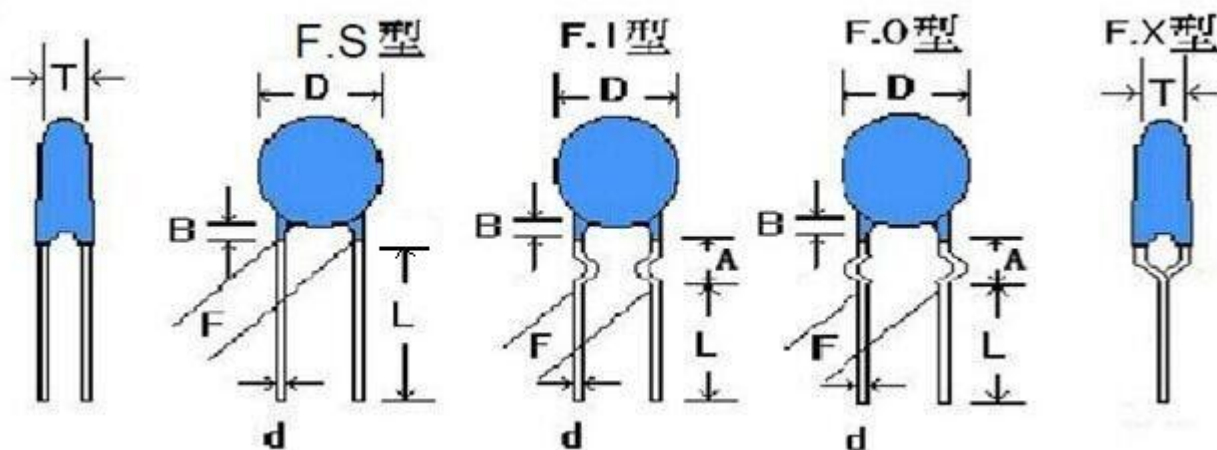
(4) Rated Voltage

(5) Type code : (B)Y5P, (F)Y5V, (E)Y5U

(6) Lead shape: S(直角), I(内弯), O(外弯), X(前后弯)

(7) Pin pitch : 7.5or9.5or10.0

(8) Lead length: 3—30mm



Dimensions and Tolerance

B=3.0mm max for AA

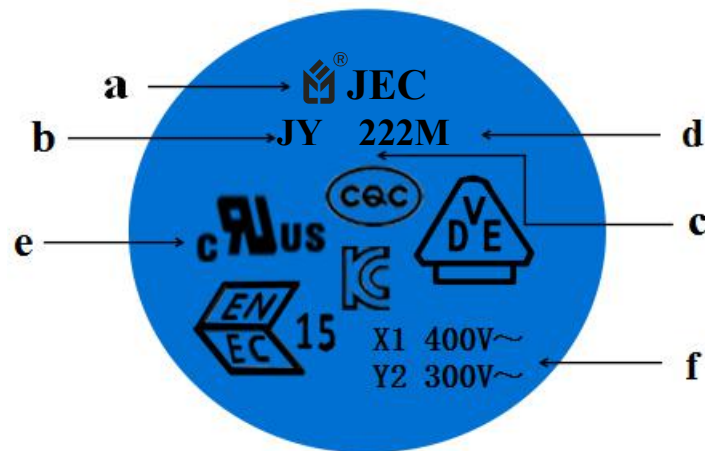
L=3-27mm

承认规格详细参数 (Approved Spec. Data)

品名规格	D (MAX)	F ± 0.8	L (MIN) mm	T ± 0.5 mm	d ± 0.05 mm	DF 值	A mm	B	备注

Marking:

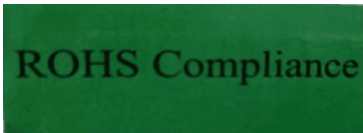
- a. Trademark or Company name  JEC
- b. Product Type JY Series
- c. Nominal Capacitance 222=2200pF,
- d. Tolerance K= $\pm 10\%$, M= $\pm 20\%$
- e. Recognized Type cUL, CQC, VDE, ENEC, KC
- f. Rated Voltage X1=400Vac , Y2=300Vac



1. Packing Quantity:

Packing	Safety	High Voltage	Ceramic
	Capacitor	Capacitor(Y1, Y2)	Capacitor DC
Bulk	1000pcs	1000pcs	1000pcs
Tape Ammo	2000pcs	1500pcs	2000pcs

ROHS Compliance , SVHC

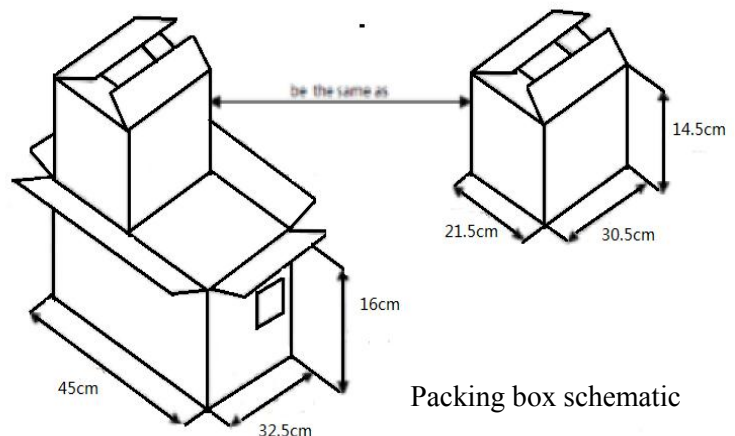


2. Packing information

2.1 the number of plastic bags in each bag is 1000 PCS. Internal label and ROHS qualification label.

2.2 the quantity of each small box is 10k-30k. 1K is a bag. It depends on the product volume.

2.3 each large box can hold two small boxes.



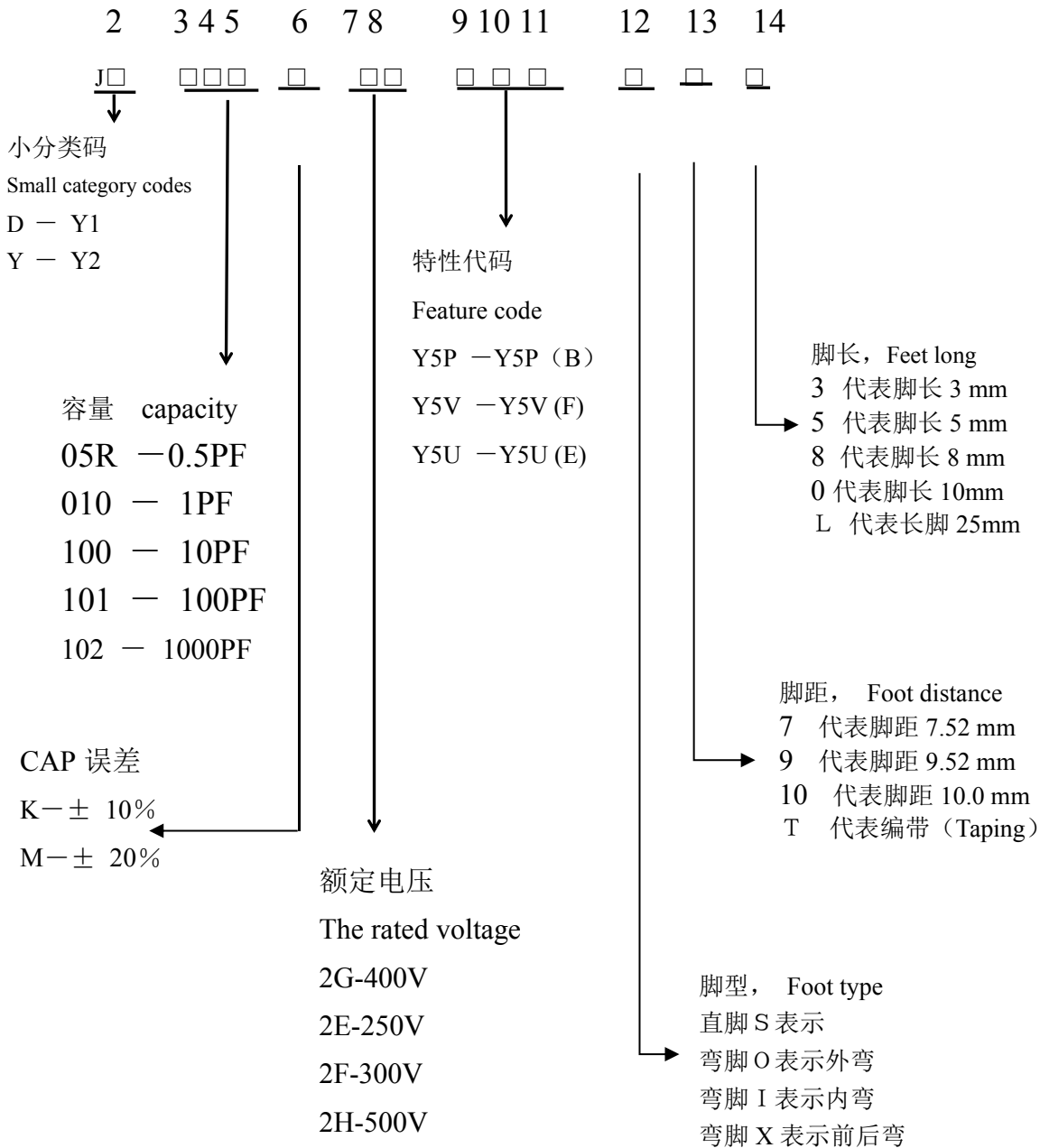
Packing box schematic

JYH HSU (JEC) ELECTRONICS LTD.,

料號編碼規定如下:

成品之編碼原則上以十五碼完成, 亦以阿拉伯數字與英文字母混合編成, 第二碼至第十一碼與瓷片相同。
第一碼以 J 代表自製 (取 JEC 商標第一字)

The coding of the finished product is in principle 15 codes, which are mixed with Arabic numerals and English letters Sizes 2 to 11 are the same as the tiles The first code is represented by J (take the first word of JEC trademark)。



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Capacitance and Dimensions:

Part Number	T.C.	CAP.	TOL.	Dimension(mm)				
				D max	F±0.8mm			T max Φ d(±0.05)
JY10K2FY5P To JY82K2FY5P	±10% (Y5P)	10pF To 82PF	K ±10%	6.3	7.5	9.5	10	5.0 0.55
JY101K2FY5P		100PF		6.3				
JY151K2FY5P		150PF		6.3				
JY221K2FY5P		220PF		6.3				
JY331K2FY5P		330PF		6.3				
JY471K2FY5P		470PF		6.8				
JY561K2FY5P		560PF		7.7				
JY681K2FY5P		680PF		7.7				
JY102K2FY5P		1000PF		8.8				
JY102M2FY5U	+22 ~-65% (Y5U)	1000PF	M ±20%	6.3				
JY152M2FY5U		1500PF		7.7				
JY222M2FY5U		2200PF		9.3				
JY332M2FY5U		3300PF		10.3				
JY472M2FY5U		4700PF		11.5				
JY102M2FY5V	+30 ~-89% (Y5V)	1000PF		6.3				
JY152M2FY5V		1500PF		6.3				
JY222M2FY5V		2200PF		6.8				
JY332M2FY5V		3300PF		8.5				
JY392M2FY5V		3900PF		9.3				
JY472M2FY5V		4700PF		9.3				
JY562M2FY5V		5600PF		10.2				
JY682M2FY5V		6800PF		11.5				
JY103M2FY5V		10000PF		13.7				

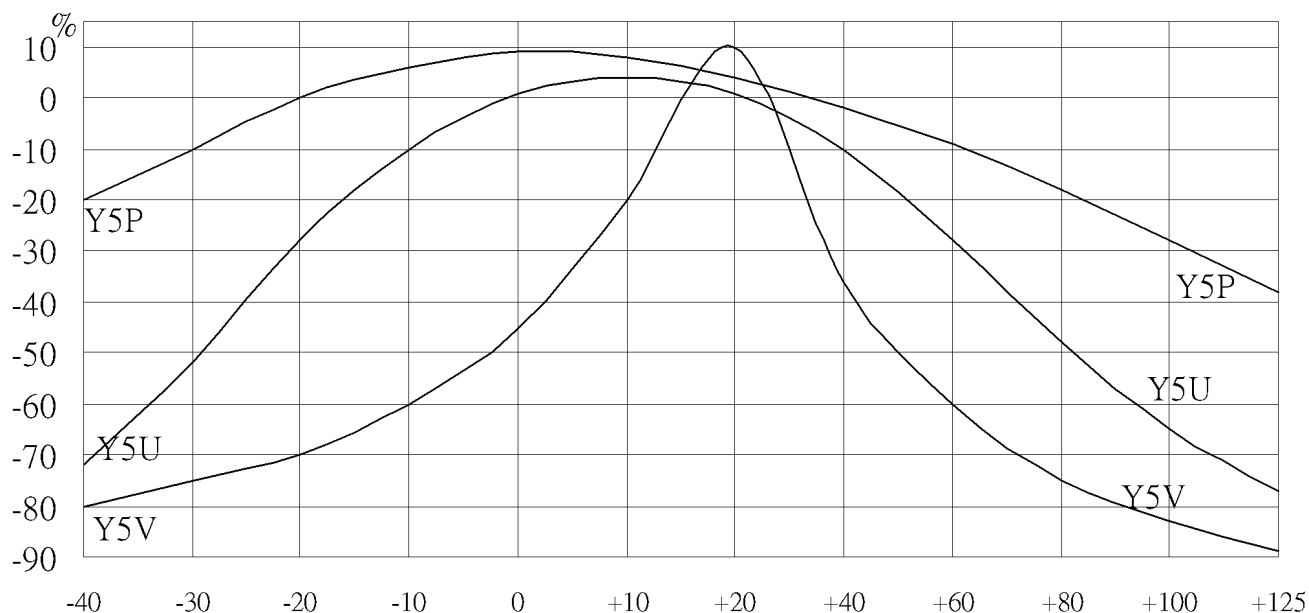
注：本规格仅作参考，在没有告知的情况下，有可能变更或改进，如有需求请咨询我司。

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EIA TEMPERATURE CHARACTERISTIC CHART

Firs Digit is low Temperature	Second Digit is High Temperature	Last Digit is Capacitance Change Over Temperature Range From + 25 C Reading	
X: - 55°C Y: - 25°C Z: + 10°C	4: + 65°C 5: + 85°C 6: + 105°C 7: + 125°C 8: + 150°C	A B C D E F P R S T U V	± 1.0 % ± 1.5 % ± 2.2 % ± 3.3 % ± 4.7 % ± 7.5 % ± 10 % ± 15 % ± 22 % + 22 % - 33 % + 22 % - 56 % + 22 % - 82 %

Capacitance Temperature Characteristics



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"Note: (1) Is was defined according with IEC 60384-14:2005, when for qualification approval and periodic tests, the withstanding test must last to 1 minute, and it belong to destroyed test domain, therefore, after the test, capacitors should be scrap. Withstand voltage test should rise slowly at 150V/s, and test time is counted from when the voltage reaches to experiment requirement." (2)

The test time is more than 1 second at production period, and the rated test voltage is applied.

Capacitors may cause to damage when withstand voltage test repeated."

NO.	Item		Characteristic	Test Method	
1	Appearance and Dimensions		Please refer to figures and tables on page 2, 3 and 4.	1~1 1~2	"Production line visual inspection must be done in full and remove the defective products." "Dimensions measurement by micrometer and Caliper
2	Marks		Must be clean and clear.	2~1	Label need to be able endure wiping with Isopropanol
3	Withstand voltage test (I)	Between terminal	Can not have exceptions.	3~1	Rated voltage: 300VAC for Y2, test voltage 2000 VAC or 2600 VAC, time 60s, frequency: 50Hz/60Hz Rated voltage: 400VAC for Y1, test voltage 4000 VAC, Approval and period test: 60s, Lot inspection 100% and time 2s, discharge current must ≤ 50 mA."
		Between terminal and coating.	Can not have exceptions.	3~2	Use metal foil test method: use metal foil wrap around the capacitor body, each end extending at least 5mm, and keep 1mm/1kV distance minimum, between metal foil and terminals. for Y2, test voltage 2300VAC; for Y1, test voltage 4000VAC, test time 60s.
4	Withstand voltage test(III) (For safety symbol A2)		(1)Gauze shall not ignite. (2)Capacitors shall not in burned.	4~1	According to IEC 60384-14 and GB/T6346 requirements.
5	Withstand voltage test (IV)(For safety symbol B2)		(3)Elements and coating must not scattered. (4)Terminals can not be moved away from the mounting position than 3mm.	5~1	According to IEC 60384-14 and GB/T6346 requirements.
6	I R	Between terminals	More than 10000M Ω .	6~1	Measured voltage is 100 ± 15 V within 1 minute, and IR keeps within the specified value.
		Between terminals and coating.	More than 10000M Ω .		
7	Capacitance		Within specified tolerance	7~1	The Capacitance shall be measured at 25℃, with 1 ± 0.1 kHz and 5Vrms max
8	Dissipation Factor(D.F)		B(Y5P) $\tan \leq 2.5\%$ E(Y5U) $\tan \leq 2.5\%$ F(Y5V) $\tan \leq 5.0\%$	8~1	"The Dissipation Factor shall be measured at 25℃ with 1 ± 0.1 kHz and 5Vrms max

NO	Item	Characteristic	Test Method
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9	Temperature Characteristic	Temperature Coefficient (T.C. category applicable):		9~1	Temperature Coefficient (T.C. category applicable):			
		TYPE Temp.Range	SL	YN	9~2	PPM/°C =(Ct2－ Ct1) /Ct1*(t2－t1) Ct2: the capacitance of t2 Ct1: the capacitance of t1 t2: 85°C±3°C t1: 20°C±2°C		
		20~85°C	+ 350~ -1000pp m°C	- 800~ -5800 ppm°C	9~3	Temperature phase 1) 20±2°C → 2) -25±2°C → 3) 20±2°C →4) 85±2°C →5) 20±2°C Capacitance change: (High Dielectric Category applicable) C .C(%)=(Ctx－Ct20)/Ct20*100 Ctx : Except Temp. phase 1、3、5, The capacitance of any temperature between phase 2 to phase 4. Ct20: The capacitance of phase 3 temp.		
		Temperature characteristics: (High Dielectric applicable) Capacitance change rate within the range: Type B Within ±10% Type E Within +22%－56% Type F Within +30%－85%						
10	Robustness of terminations	Tensile	Lead wires not be snapped	10~1	Diameter(mm)	Load(kgs)	Time(sec)	
Capacitors not be damaged			10~2	0.5Φ	0.5	10		
				0.6Φ~0.8Φ	1	10		
				Fix the capacitor's body and apply a tensile weight gradually to each lead wire in the radial direction				
Bending		Lead wires not be fractured Capacitors not be damaged	10~3	Diameter(mm)	Load(kgs)	Bending angle is 90 more than twice.		
				0.5Φ	0.25			
	0.6Φ~0.8Φ			0.5				
11	Vibrationresistance	Appearance	No significant abnormal	11~1	Vibration frequency from 10Hz to 55Hz and back to 10Hz, amplitude 1.5mm, period time within 1 minute。			
		Cap. Change	Within specification					
		Q or DF	within initial specification					
12	Soldering Heat Resistance	Appearance	No significant abnormal	12~1	Solder temperature 350±10°C Immersion time 3.0± 0.5sec			
		Dielectric Strength I	compliance with the characteristic as No.3	12~2	Placed at room condition for 4~24 hours, and then to measure.			
		Capacitance change rate	B: within ±10% E: within ±15% F: within ±20%	12~3				
No	Item	Characteristic		Test Method				

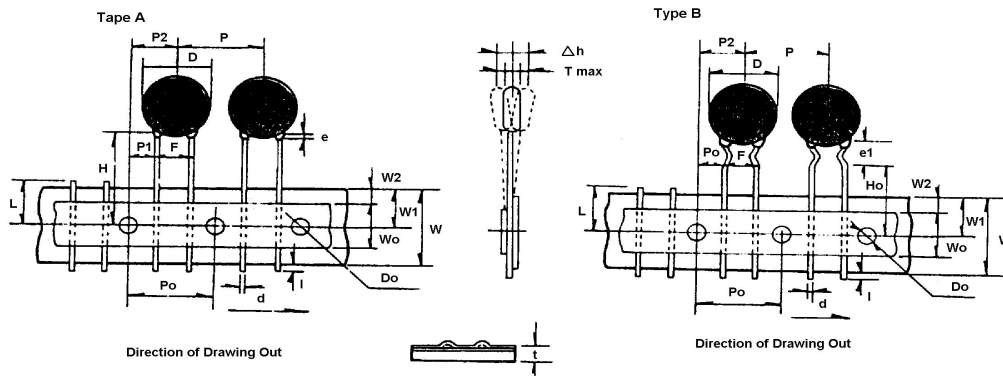
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13	Solder ability	The round surface of lead wires, there must be 3/4 area welding with the solder.。		13~1 13~2	Solder temperature 275±10℃ Immersion time 2.0± 0.5sec
14	Humidity (Under Steady State)	Appearance	No significant abnormal	14~1	Temperature: 40±2℃
		Dielectric Strength I	Must meet the requirements of No.3	14~2	Humidity: 90~95%RH
		I R Between terminals Between terminal & coating	More than the 1/2 value of No.6 requirements.	14~3	Time: 500±12 Hrs
				14~4	Remove & placed at room condition for 1~2 hours, and then to measure.
		Capacitance change rate	Type B within ±15% Type E within ±20% Type F within ±30%		
		Dissipation Factor (D.F)	Type B & E, under 5%. Type F, under 7.5%		
15	Damp heat loading	Appearance	No significant abnormal	15~1	Temperature: 40±2℃
		Dielectric Strength I	Must meet the requirements of No.3	15~2	Humidity: 90~95%RH
		I R Between terminals Between terminal & coating	More than the 1/2 value of No.6 requirements.	15~3	Time: 500±12 Hrs
				15~4	Voltage: AC 180Vrms
		Capacitance change rate	Type B within ±15% Type E within ±20% Type F within ±30%	15~5	Current: Less than 50mA
		Dissipation Factor (D.F)	Type B & E, under 5% Type F, under 7.5%.	15~6	Remove & placed at room condition for 1~2 hours, and then to measure.

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No	Item	Characteristic		Test Method	
16	Endurance	Appearance		16~1	Temperature: 85±3℃; 125±5℃
		Dielectric Strength I		16~2	Time: 1000±12 Hrs
		I R	Between terminals	16~3	Voltage: rated voltage of 1.7UR
			Between terminal&coating	16~4	Current: less than 50mA
		Capacitance change rate		16~5	Remove & placed at room condition for 1~2 hours, and then to measure.
		Dissipation Factor (D.F)			
17	Flame Test	Applicable safety symbols A2, B2.			The capacitor should be subjected to applied flame for 15 sec, and then removed for 15 sec, until 3 cycles are completed. And then continued to flame a minute and never to explode.
18	Solvent Resistance (Body)	After the test must meet the standards of its electrical properties			The capacitor should be immersed into a isopropyl alcohol for 5±0.5 minutes, then removed and placed for 48 hrs. at room condition before post measurements.
19	Solvent Resistance (Mark)	Marks should be legible			Use cotton yarn dips isopropyl alcohol, by force 5±0.5 N/1 cm ² , 1 second round trip twice to wipe mark on the body, and run 5 cycles.

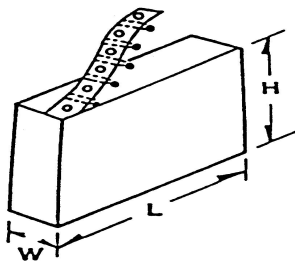
JYH HSU (JEC) ELECTRONICS LTD.,
TAPING SPECIFICATIONS



Taping (Radial)--Lead Spacing $F = 7.5 \pm 0.8$ or 10.0 ± 0.8

Item		Code	Dimensions (mm)	Item		Code	Dimensions (mm)
Taping Pitch		P	$12.7/15.0 \pm 1.0$	Lead Protrusion		l	$+0.5 \sim 1.0$
Guide Pitch		Po	$12.7/15.0 \pm 1.0$	Diameter of Feed Hole		Do	4.0 ± 0.3
Lead Spacing		F	5.0 ± 0.8 7.5 ± 0.8 、 9.5 ± 0.8	Diameter of Lead		d	$0.55 + 0.06$ -0.05
Feed Hole Position Capacitor Body		P2	6.35 ± 1.3	Total Thickness of Tape		t	0.7 ± 0.2
Feed Hole Position Capacitor Lead		P1	3.85 ± 0.7	Thickness of Capacitor Body		T	Differ in each product
Diameter Of ISO		D	See table of each series	Alignment to FR. Direction		Δ h	0 ± 2.0
				Length of snapped Lead		L	$11.0 + 0$ -1.0
Width Of Base Tape		W	18.0 ± 0.5	Width of Hold-down Tape		W0	12.5
Feed Hole Vertical Position		W1	$9.0 + 0.75$ -0.05	Hold-down Tape Position		W2	1.5 ± 1.5
Taping Height	For Straight	Ho	16.0 ± 0.5	Coating Extention		e	3.0 以下
	For Crimp	H	$20 + 1.5$ -1.0			e1	up to center of crimp

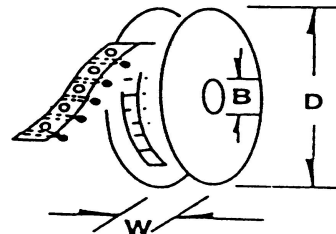
AMMO PACK



$$\begin{aligned} H &= 241 \pm 5 \text{ mm} \\ L &= 332 \pm 5 \text{ mm} \\ W &= 42 \pm 3 \text{ mm} \end{aligned}$$

Acceptable to standard radial type cartridge.

REE



$$\begin{aligned} D &\leq 354(13.93) \\ B &\geq 21(.83") \text{ but} \\ &\leq 30(1.18") \\ W &\leq 55(2.16) \end{aligned}$$

Acceptable to standard radial type cartridge with a few extra accessories. Reeled axials are also acceptable to standard axial type cartridge with a few accessories.