Manufacturer : Anshan Keifat Electronic Ceramic Technical Co.,Ltd. No：

Approval Sheet for Product Specification

Customer:

Product: Epoxy Molding SMD 400VAC-Y1 cap

PART No.:

Mfr. P/N:

Date： 年 月 日

Manufacturer		**Customer Confirm**	
Prepared by	**薛志豪**	**合 格 OK** □ **不合格 NG** □	
Checked by	**于金龙**	**Checked by**	
Approved by	**范垂旭**	**Approved by**	

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Revision History

Edition	Date	Contents of formulation / modification / repeal	Formulation	Approval
A		New edition released	薛志豪	于金龙

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■ **Features**

1. We design capacitors much more compact in thickness than traditional radial Type, having reduced the thickness to 2.5mm height.
2. Operating temperature range guaranteed up to 125 degrees C.
3. Dielectric strength: AC4000V
4. Class X1/Y1 capacitors certified by UL/CQC/VDE/KC/ENEC.
5. Coated with flame - retardant epoxy resin (conforming to UL94V - 0 standard). We recommend a halogen - free & beryllium free product* as our standard item.
   * Cl =900ppm max., Br=900ppm max. and Cl+Br=1500ppm max.
6. Taping available for automatic SMT reflow.
7. AC250V & AC400V Rated Voltage item are available.
8. This one is MSL 3 product. So, in order to avoid the absorption of moisture, capacitors are packed in moisture-proof envelope.
   Store the capacitors in the following conditions at all times, and use within 6 months after delivered.
   Temperature:10 to 30℃
   Humidity：60%max.
   Solder the enclosed capacitors within 168 hours after opening the moisture-proof package. After opening, store the capacitors in moisture-proof package with a desiccant and HIC card and keep the above condition.
   In case the storage period has been exceeded 6 months or the indicator color of a enclosed HIC card has changed when the package has been opened, perform baking (60℃x168hr)before soldering.
9. When the product is unpacked, the exposure time exceeds Floor time, the temperature and humidity around the product exceed the requirement. Reference condition for drying mounted or unmounted SMD packages (user bake: Floor life begins at time=0 after bake)

Level	Bake@40℃ ≤5%RH	
	Saturated@30℃/85%RH	At limit of Floor life+72hr@30℃/60RH
3	79days	67days

■ **Application**

1. Ideal for use as X/Y capacitors for AC line filters and primary-secondary coupling on switching power supplies and AC adapters.
2. Ideal for use on D-A isolation and noise absorption for DAA modems without transformers.
3. Mounting Capacitor on both sides of PCB, increasing the space utilization ratio.

■ **Part Number Designation**

CT7 -400VAC - Y1 - B - 101 K SMD P

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

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①Type

Code	Type Designation
CT7	Safety Standard Certified

②Rated Voltage

Code	Rated Vol. （AC）
400VAC	400V

③Class Code

Code	Class Code
Y1	Y1

④Temperature Characteristic

GB	EIA	Temp. range	Cap. Change
SL		+25～+85℃	+350～-1000ppm/℃
B	**Y5P**	**-25～+85℃**	**±10%**
E	Y5U	-25～+85℃	-56%～+22%

⑤Capacitance

Code	Capacitance
22	22 pF
101	100 pF
102	1000 pF

⑥Tolerance

Code	Tolerance
J	±5%
K	±10%
M	±20%

⑦Lead Shape

Code	Shape
SMD	SMD Type

⑧Special Specification Code

Code	Description
P	Pb Solder Product

Part No.	CODE NO.	STYLE
	CT7-400VAC-Y1-SL-22J SMD P	
	CT7-400VAC -Y1-SL-47J SMD P	
	CT7-400VAC-Y1-B-101K SMD P	
	CT7-400VAC-Y1-B-221K SMD P	
	CT7-400VAC-Y1-B-331K SMD P	
	CT7-400VAC-Y1-B-471K SMD P	
	CT7-400VAC-Y1-B-681K SMD P	
	CT7-400VAC-Y1-E-102M SMD P	
	CT7-400VAC-Y1-E-152M SMD P	

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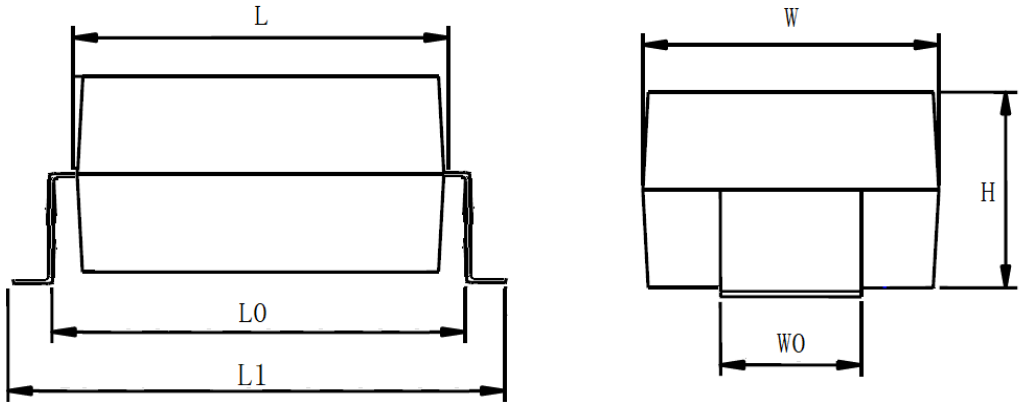
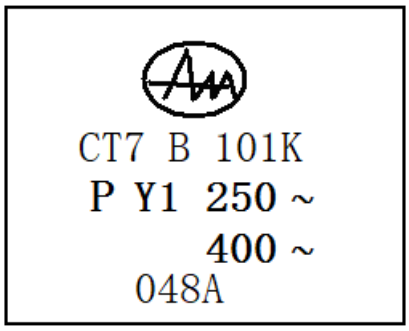
■ **Appearance and Dimension** (Unit: mm)



Specification	L	W	H	L0	L1	W0
400VAC-Y1	8.2±0.3	6.2±0.3	2.40±0.15	9.9±0.3	11.4±0.3	2.5±0.2
250VAC-Y1	6.2±0.3	5.2±0.3	2.40±0.15	8.4±0.3	10.0±0.3	2.5±0.2

■ **Marking**



	Manufacturer's Marking
CT7	Type Designation
B	Temperature Characteristic
101	Nominal Capacitance
K	Capacitance Tolerance
P	Pb solder product
Y1	Class code
250~/400~	Rated Voltage Mark
048A	Manufactured Date Code（0：Year，4：Month，8：date，A：Sequence code）

■ **Safety Certification**

No	Certificate authority	Certificate No	Rated voltage
1	CQC	14001112943	400VAC-Y1
2	ENEC	40043423	400VAC-Y1/X1,250VAC-Y1/Y2/X1
3	VDE	40043423	400VAC-Y1/X1,250VAC-Y1/Y2/X1
4	UL	E232980	400VAC-Y1/X1,250VAC-Y1/Y2/X1
5	KC	HU03028-15001A	250VAC-Y1

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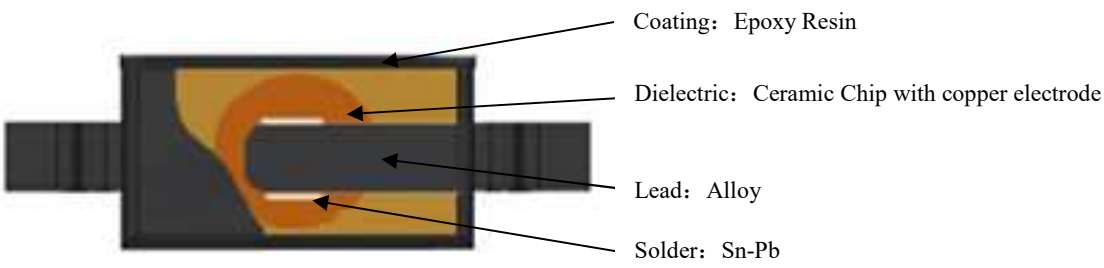
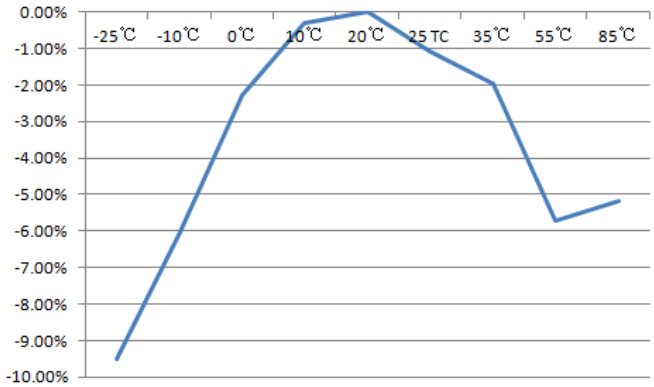
■ **Exemption Clause**

2010/571/EU 7(a)： Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

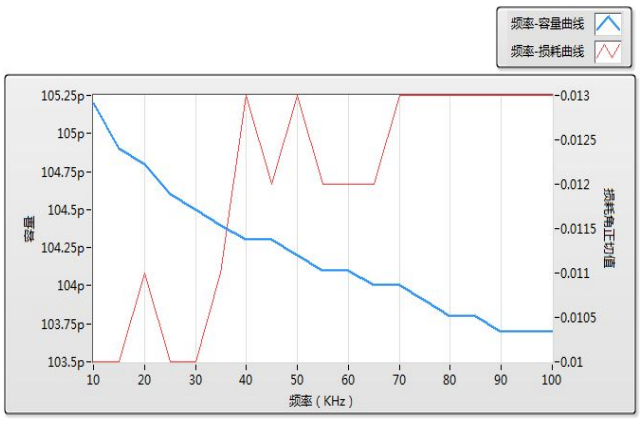
■ **Structure**



■ **Temperature Characteristic Curve**



■ **Cap. & D.F.—Fre. Curve**



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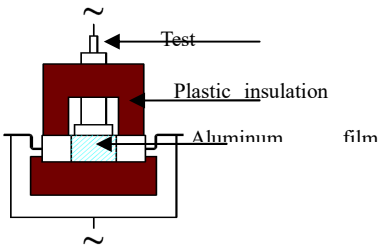
■ **Specification and Test Method**

Item		Specifications	Test Method
1 Operating Temp. Range		-40℃～+125℃	
2 Appearance		No defects or abnormalities	Visual inspection
3 Dimensions		Within the specified dimensions	Dimension be measured by caliper
4 Marking		To be easily legible	The capacitor should be visually inspected.
5 Capacitance		In specified tolerance	Temp. 20℃±2℃, Vol. AC 5Vrms Max. Freq. SL: 1±0.1MHz , B、E:1±0.1KHz, The capacitance, dissipation factor should be measured at 20℃ with 1±0.1KHz (char. SL: 1±0.1MHz) and AC 5Vrms Max.
6 Dissipation Factor(D.F.)/Q		Char. / Specifications SL / ≤0.15% **B、E / ≤2.5%**	
7 Insulation Resistance (I.R.)		10000MΩ min	The insulation resistance should be measured with DC 500±50V within 60±5 sec. of charging. The voltage should be applied to the capacitor through a resistor of 1MΩ.
8 Dielectric Strength	Between Lead Wires	No failure Char. / Leakage current SL、B、E / 1.0mA max.	The capacitor should not be damaged when the test voltages from Table 1 are applied between the lead wires for 60 sec. <Table 1> Type / Test Voltage X1Y1 / AC4000V(rms) X1Y2 / AC2500V(rms)
	Body Insulation	No failure	First, the terminals of the capacitor should be connected together, and the capacitor should be wrapped closely with an aluminum film around the body of the capacitor to a distance about 2 to 3mm from each terminal. Then, put the capacitor into the testing jig as shown in below figure. Finally, apply a voltage of Table 2 for 60 sec.  <Table 2> Type / Test Voltage X1Y1 / AC4000V(r.m.s.) X1Y2 / AC2500V(r.m.s.)

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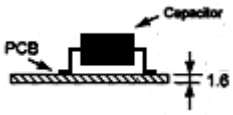
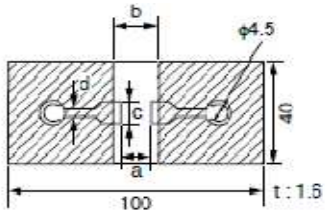
<table>
<tr><th>Item</th><th>Specifications</th><th>Test Method</th></tr>
<tr><td>9 Temperature Characteristic</td><td>
<table>
<tr><th>Char.</th><th>Capacitance Change</th></tr>
<tr><td>SL</td><td>+350～-1000ppm/℃
(+20℃~+85℃)</td></tr>
<tr><td>B</td><td>±10%</td></tr>
<tr><td>E</td><td>-56%～+22%</td></tr>
</table>
</td><td>The capacitance should be measured at each step as below table.
<table>
<tr><th>Step</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr>
<tr><td>Temp.(℃)</td><td>20±2</td><td>-25±2</td><td>20±2</td><td>85±2</td><td>20±2</td></tr>
</table>
</td></tr>
<tr><td>10 Vibration Resistance
Appearance</td><td>No marked defect</td><td>Solder the capacitor to the test jig (glass epoxy board).
The capacitor should be subjected to a simple harmonic motion having a total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 to 55Hz.The frequency range, from 10 to 55Hz and return to 10Hz, should be traversed in approximately 1min.This motion should be applied for a period of 2hrs.in each of 3 mutually perpendicular directions (total of 6hrs.).
 
</td></tr>
<tr><td>11 Solder ability of leads</td><td>75% of the terminations are to be soldered evenly and continuously.</td><td>Immerse the capacitor in a solution of ethanol (JIS-K-8101) and rosin (JIS-K-5902) (25% rosin in weight proportion).
Immerse in solder solution for 2±0.5 sec.
Immersing speed: 25±2.5mm/s
Temp. of solder: 245±5℃ Lead Free Solder (Sn-3.0Ag-0.5Cu)</td></tr>
<tr><td>12 Deflection</td><td>No marked defect
 

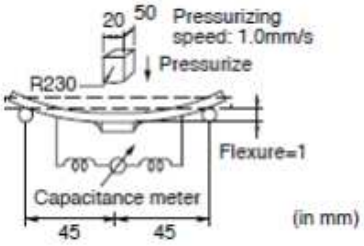
<table>
<tr><th colspan="4">Dimension(mm)</th></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td></tr>
<tr><td>9.6</td><td>11.7</td><td>2.7</td><td>1.0</td></tr>
</table>
</td><td>Solder the capacitor to the test jig(glass epoxy board)shown in Fig.1 Then apply a force in the direction shown in Fig.1. The soldering should be done using reflow method and should be conducted with care so that the soldering is uniform a free of defects such as heat shock.
 

Fig.1</td></tr>
</table>

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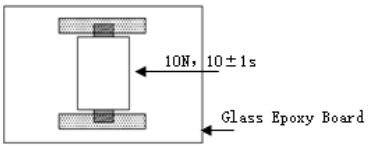
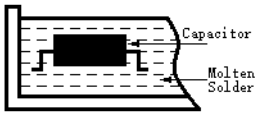
Item		Specifications	Test Method
13 Adhesive Strength of Termination		No removal of the terminations or other defect should occur.	Solder the capacitor to the test jig(glass epoxy board)shown in Fig.2 Then apply 10N force in the direction of the arrow. The soldering should be done using reflow method and should be conducted with care so that the soldering is uniform and free of defects such as heat shock.  Fig. 2
14 Resistance to Soldering Heat	Appearance	No marked defect	Preheat the capacitor as in table. Immerse the capacitor in solder solution at 260±5℃for 10±1 sec. Let sit at room condition for 24±2 hrs., then measured.  Immersing speed: 25±2.5mm/s Pretreatment for Y5P、Y5U char. Perform a heat treatment at 150 $^{+0}_{-10}$ ℃ for 60±5 min. and then let sit for 24±2 hrs. at room condition. Preheating
	Capacitance Change	Char. / Capacitance Change SL: ±5% or ±0.5pF (whichever is larger) **B: ±10%** E: ±15%	
	I.R.	1000MΩ min	
	Dielectric Strength	Per Item 8.	
15 稳态湿热 Humidity (under Steady State)	Appearance	No marked defect	Before this test, the test shown in the following is performed. • Item 12 Deflection • Item 13 Adhesive Strength of Termination (applied force is 5N) Set the capacitor for 500 $^{+24}_{-0}$ hrs. at 40±2℃ in 90 to 95% relative humidity . Pretreatment for Y5P、Y5U char. Perform a heat treatment at 150 $^{+0}_{-10}$ ℃ for 60±5 min. and then let sit for 24±2 hrs. at room condition. Post-treatment: The capacitor should be stored for 1 to 2 hours at room condition.
	Capacitance Change	Char. / Capacitance Change SL: ±5% or ±0.5pF (whichever is larger) **B: ±10%** E: ±15%	
	D.F./Q	Char. / Specifications SL: ≤0.3% **B、E: ≤5.0%**	
	I.R.	3000MΩ min	
	Dielectric Strength	Per Item 8.	

Step	Temperature	Time
1	100 to 120℃	1 min.
2	170 to 200℃	1 min.

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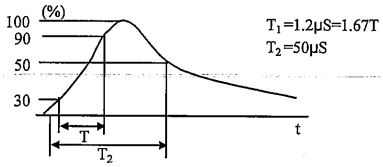
<table>
<tr><th colspan="2">Item</th><th>Specifications</th><th>Test Method</th></tr>
<tr><td rowspan="5">16 Humidity Loading</td><td>Appearance</td><td>No marked defect</td><td rowspan="5">Before this test, the test shown in the following is performed.
• Item 12 Deflection
• Item 13 Adhesive Strength of Termination (applied force is 5N)
Apply the rated voltage for 500 $^{+24}_{-0}$ hrs. at 40±2℃ in 90% to 95% relative humidity .
Pretreatment for Y5P、Y5U char.
Perform a heat treatment at 150 $^{+0}_{-10}$ ℃ for 60±5 min. and then let sit for 24±2 hrs. at room condition.
Post-treatment:
Capacitor should be stored for 24 ± 2 hrs. at room condition</td></tr>
<tr><td>Capacitance Change</td><td><table><tr><th>Char.</th><th>Capacitance Change</th></tr><tr><td>SL</td><td>±5% or ±0.5pF (whichever is larger)</td></tr><tr><td>B</td><td>±10%</td></tr><tr><td>E</td><td>±15%</td></tr></table></td></tr>
<tr><td>D.F./Q</td><td><table><tr><th>Char.</th><th>Specifications</th></tr><tr><td>SL</td><td>≤0.3%</td></tr><tr><td>B、E</td><td>≤5.0%</td></tr></table></td></tr>
<tr><td>I.R.</td><td>3000 MΩ min</td></tr>
<tr><td>Dielectric Strength</td><td>Per Item 8.</td></tr>
<tr><td rowspan="4">17 Life</td><td>Appearance</td><td>No marked defect</td><td rowspan="4">Before this test, the test shown in the following is performed.
• Item 12 Deflection
• Item 13 Adhesive Strength of Termination (applied force is 5N)
Impulse voltage
Each individual capacitor should be subjected to a 5KV (X1Y2) / 8KV (X1Y1) impulse for three times. Then the capacitors are applied to life test.
 

Apply a voltage of 170% of rated voltage except that once each hour the voltage is increased to AC1000V（r.m.s.）for 0.1sec for 1000 hrs., at 125 $^{+2}_{-0}$ ℃ and relative humidity of 50% max.
Pretreatment for Y5P、Y5U char.
Perform a heat treatment at 150 $^{+0}_{-10}$ ℃ for 60±5 min. and then let sit for 24±2 hrs. at room condition.
Post-treatment:
Capacitors should be stored for 24±2 hrs at room condition.</td></tr>
<tr><td>Capacitance Change</td><td><table><tr><th>Char.</th><th>Capacitance Change</th></tr><tr><td>SL</td><td>±5% or ±1.0pF (whichever is larger)</td></tr><tr><td>B、E</td><td>±20%</td></tr></table></td></tr>
<tr><td>I.R.</td><td>3000MΩ min</td></tr>
<tr><td>Dielectric Strength</td><td>Per Item 8.</td></tr>
</table>

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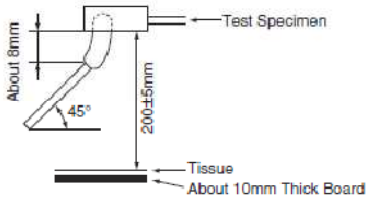
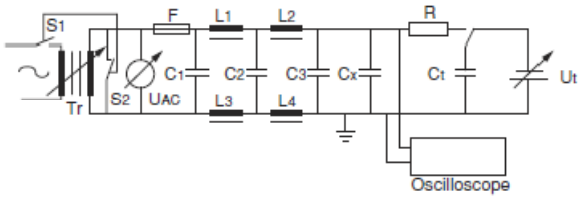
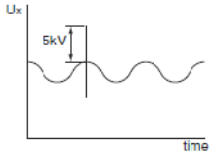
Item	Specifications	Test Method
18 Passive Flammability	The burning time should not exceed 30 sec. The tissue paper should not ignite.	The capacitor under test should be held in the flame in the position that best promotes burning. Each specimen should only be exposed once to the flame. Time of exposure to flame: 30 sec. Length of flame : 12±1mm Gas burner: Length 35mm min. Inside Dia. 0.5±0.1mm Outside Dia. 0.9mm max. Gas: Butane gas Purity 95% min. 
19 Active Flammability	The cheesecloth should not be on fire.	The capacitor should be individually wrapped in at least one but not more than two complete layers of cheesecloth. The capacitor should be subjected to 20 discharges. The interval between successive discharges should be 5 sec. The U_{AC} should be maintained for 2 min. after the last discharge.  $C_{1,2}$: 1μF±10% C_3 : 0.033μF±5% 10kV L1 to 4 : 1.5mH±20% 16A Rod core choke Ct : 3μF±5% 10kV R : 100Ω±2% Cx : Capacitor under test U_{AC} : U_R±5% F : Fuse, Rated 10A U_R : Rated Voltage Ut : Voltage applied to Ct 

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<table>
<tr><th colspan="2">Item</th><th>Specifications</th><th>Test Method</th></tr>
<tr><td rowspan="5">21
Temperature and immersion Cycle</td><td>Appearance</td><td>No marked defect</td><td rowspan="5">The capacitor should be subjected to 5 temperature cycles, then consecutively to 2 immersion cycles.
< Temperature Cycle>
<table><tr><th>Step</th><th>Temperature(℃)</th><th>Time(min)</th></tr><tr><td>1</td><td>-40+0/-3</td><td>30</td></tr><tr><td>2</td><td>Room temp.</td><td>3</td></tr><tr><td>3</td><td>125+3/-0</td><td>30</td></tr><tr><td>4</td><td>Room temp.</td><td>3</td></tr></table>Cycle time:5 cycles
<Immersion Cycle>
<table><tr><th>Step</th><th>Temp.(℃)</th><th>Time(min)</th><th>Immersion Water</th></tr><tr><td>1</td><td>65+5/-0</td><td>15</td><td>Clean water</td></tr><tr><td>2</td><td>0±3</td><td>15</td><td>Salt water</td></tr></table>Cycle time:2 cycles
Pre-treatment:
Capacitor should be stored at 85±2° C for 1 hr., then, placed at room condition for 24±2 hrs.
Pretreatment for Y5P、Y5U char.
Perform a heat treatment at 150 $^{+0}_{-10}$ ℃ for 60±5 min. and then let sit for 24±2 hrs. at room condition.
Post-treatment:
Capacitor should be stored for 24±2 hrs. , at room condition.</td></tr>
<tr><td>Capacitance Change</td><td><table><tr><th>Char.</th><th>Capacitance Change</th></tr><tr><td>SL</td><td>±5% or ±1.0pF (whichever is larger)</td></tr><tr><td>B</td><td>±10%</td></tr><tr><td>E</td><td>±20%</td></tr></table></td></tr>
<tr><td>D.F./Q</td><td><table><tr><th>Char.</th><th>Specifications</th></tr><tr><td>SL</td><td>≤0.3%</td></tr><tr><td>B、E</td><td>≤5.0%</td></tr></table></td></tr>
<tr><td>I.R.</td><td>3000MΩ min</td></tr>
<tr><td>Dielectric Strength</td><td>Per Item 8.</td></tr>
</table>

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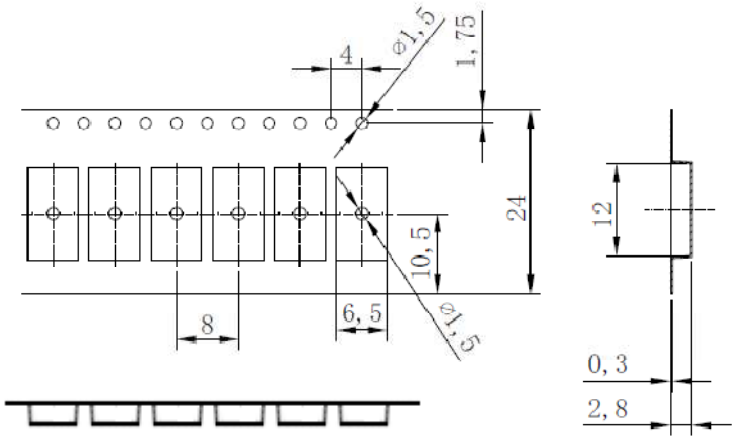
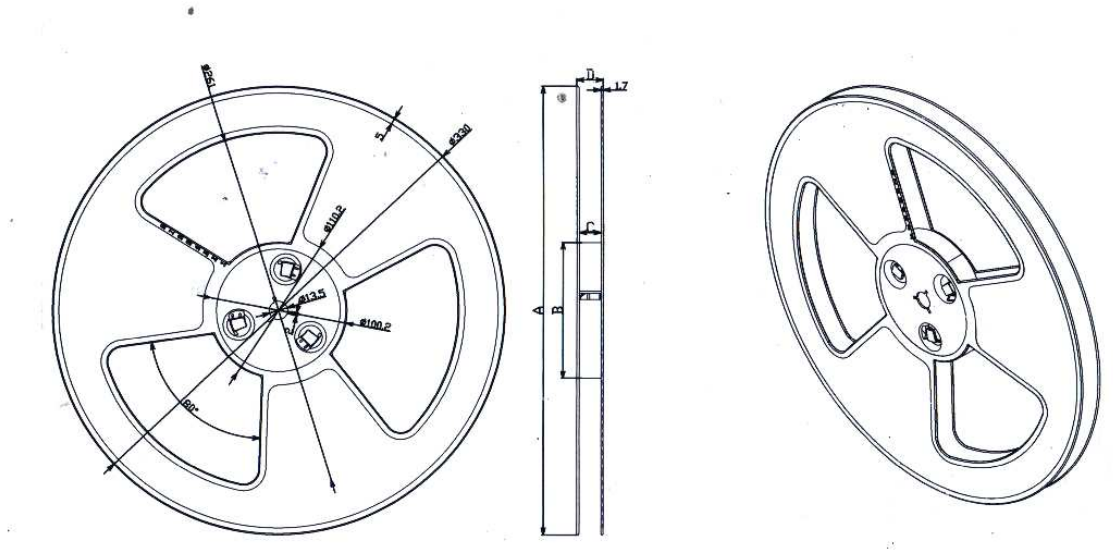
■ **Package Description**



Reel Drawing



Reel Size（mm）

A	B	C	D
330±1.8	100±0.7	24±0.4	27.4±0.4

Package quantity

Part Number	Reel Size	ea/reel	Reel/inner box	ea/inner box	Inner Box size(mm)
All Part Number	330mm	2500	2	5000	L330 x W330x H60

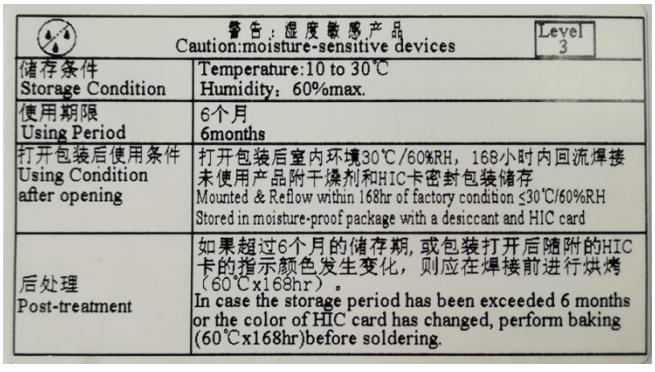
■ Package

Paste product label and moisture-sensitive warning label on the taping reel, then, take the reel, HIC card and desiccant(30g) into the package bag, vacuum sealed.

Product Label

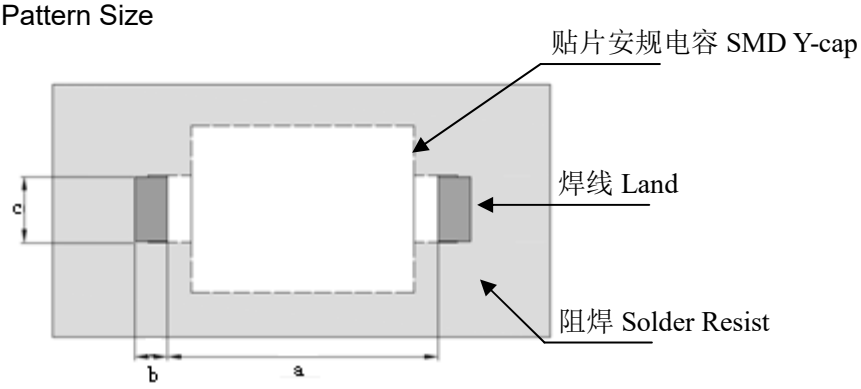
No.	Description	No.	Description
1	Code Number	5	Remark
2	ITEM	6	Check
3	SPEC	7	Produce Date
4	Quantity	8	Batch

Package style and moisture-sensitive warning label Label



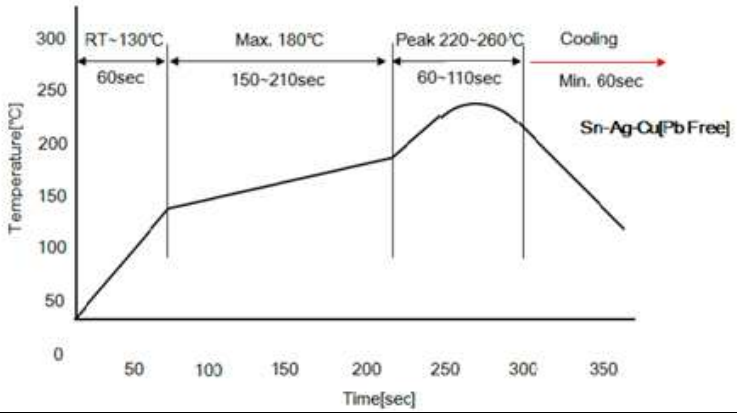
■ 推 **Recommended Soldering Condition**

1. Soldering Land Pattern Size



a	b	c
9.9±0.1mm	0.9±0.1mm	2.6±0.1mm

2. Reflow Soldering Temperature Profile



Zone		Temp. range (℃)	Time(sec)	Remark
a	Curing	RT~130	60	
b	Preheat	180 max	150~210	Solder: Sn-Ag-Cu
c	Soldering	220~260(260 max)	60~110	Peak time: less than 10 sec
d	Cooling	220~RT	60 min	

Solder ability of tin plating termination pins might be deteriorated when a low temperature soldering profile where the peak solder temperature is below the melting point of tin is used. Please confirm the solder ability of tin plated termination pins before use

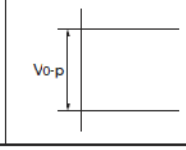
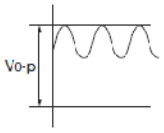
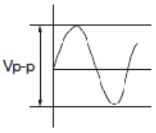
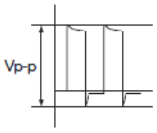
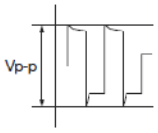
The maximum temperature in the air outlet and the space of Reflow soldering is 280℃ max., if the temperature exceed, it maybe a failure occur. Our company will not be held responsible for any adverse effects caused by over temperature using

■ **Caution (Rating)**

1. Operating Voltage

When DC-rated capacitors are to be used in AC or ripple current circuits, be sure to maintain the V p-p value of the applied voltage or the Vo-p that contains DC bias within the rated voltage range.

When the voltage is applied to the circuit, starting or stopping may generate irregular voltage for a transit period because of resonance or switching. Be sure to use a capacitor with a rated voltage range that includes these irregular voltages.

Voltage	DC Voltage	DC+AC Voltage	AC Voltage	Pulse Voltage (1)	Pulse Voltage (2)
Positional Measurement					

2. Operating Temperature and Self-generated Heat (Apply to B/E Char.)

Keep the surface temperature of a capacitor below the upper limit of its rated operating temperature range. Be sure to take into account the heat generated by the capacitor itself. When the capacitor is used in a high-frequency current, pulse current or similar current, it may have self-generated heat due to dielectric loss. Applied voltage load should be such that self-generated heat is within 20℃ under the condition where the capacitor is subjected to an atmospheric temperature of 25℃. When measuring, use a thermocouple of small thermal capacity-K of Φ0.1mm under conditions where the capacitor is not affected by radiant heat from other components or wind from surroundings. Excessive heat may lead to deterioration of the capacitor's characteristics and reliability. (Never attempt to perform measurement with the cooling fan running. Otherwise, accurate measurement cannot be ensured.)

3. Test Condition for Withstanding Voltage

(1) Test Equipment

Test equipment for AC withstanding voltage should be used with the performance of the wave similar to 50/60Hz sine wave.

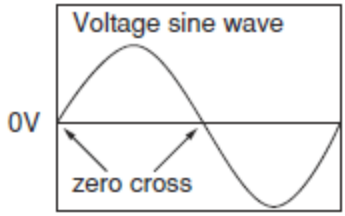
If the distorted sine wave or overload exceeding the specified voltage value is applied, a defect may be caused.

(2) Voltage Applied Method

When the withstanding voltage is applied, the capacitor's lead or terminal should be firmly connected to the output of the withstanding voltage test equipment, and then the voltage should be raised from near zero to the test voltage.

If the test voltage without the raise from near zero voltage would be applied directly to capacitor, test voltage should be applied with the zero cross.* At the end of the test time, the test voltage should be reduced to near zero, and then capacitor's lead or terminal should be taken off the output of the withstanding voltage test equipment. If the test voltage without the raise from near zero voltage would be applied directly to capacitor, the surge voltage may rise, and therefore, a defect may be caused.

*ZERO CROSS is the point where voltage sine wave passes 0V. See the figure at below.



4. Fail-Safe

When the capacitor is broken, failure may result in a short circuit. Be sure to provide an appropriate fail-safe function like a fuse on your product if failure could result in an electric shock, fire or fuming.

FAILURE TO FOLLOW THE ABOVE CAUTIONS MAY RESULT, WORST CASE, IN A SHORT CIRCUIT AND CAUSE FUMING OR PARTIAL DISPERSION WHEN THE PRODUCT IS USED.

Caution (Storage and Operating Condition)

The insulating Epoxy molded capacitors does not form a perfect seal; therefore, do not use or store capacitors in a corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. And avoid exposure to moisture. Before cleaning, bonding or molding this product, verify that these processes do not affect produce quality by testing the performance of a cleaned, bonded or molded product in the intended equipment.

This one is MSL 3 product. So, in order to avoid the absorption of moisture, capacitors are packed in moisture-proof envelope.

Store the capacitors in the following conditions at all times, and use within 6 months after delivered.

Temperature:10 to 30℃

Humidity： 60%max.

Solder the enclosed capacitors within 168 hours after opening the moisture-proof package. After opening, store the capacitors in moisture-proof package with a desiccant and HIC card and keep the above condition.

In case the storage period has been exceeded 6 months or the indicator color of a enclosed HIC card has changed when the package has been opened, perform baking (60℃x168hr)before soldering.

When the product is unpacked, the exposure time exceeds Floor time, the temperature and humidity around the product exceed the requirement. Reference condition for drying mounted or unmounted SMD packages (user bake: Floor life begins at time=0 after bake)

Level	Bake@40℃ ≤5%RH	
	Saturated@30℃/85%RH	At limit of Floor life+72hr@30℃/60RH
3	79days	67days

FAILURE TO FOLLOW THE ABOVE CAUTIONS MAY RESULT, WORST CASE, IN A SHOCT CIRCUIT AND CAUSE FUMING OR PARTIAL DISPERSION WHEN THE PRODUCT IS USED.

Caution (Soldering, Mounting and Handing)

1. Vibration and Impact

Do not expose a capacitor or its pins to excessive shock or vibration during use.

Excessive shock or vibration may cause fatigue destruction of lead wires mounted on the circuit board.

Please take measures to hold a capacitor on the circuit boards by adhesive, molding resin or another coating.

Please confirm there is no influence of holding measures on the product with the intended equipment.

2. Soldering

When soldering this product to a PCB/PWB, do not exceed the solder heat resistance specifications of the capacitor. Subjecting this product to excessive heating could melt the internal junction solder and may result in thermal shocks that can crack the ceramic element.

Soldering the capacitor with a soldering iron should be performed in the following conditions.

Temperature of iron-tip: 400 degrees C. max.

Soldering iron wattage: 50W max.

Soldering time: 3.5 sec. max.

3. Bonding, Resin Molding and Coating

Before bonding, molding or coating this product, verify that these processes do not affect the quality of capacitor by testing the performance of the bonded, molded or coated product in the intended equipment.

In case the amount of applications, dryness/hardening conditions of adhesives and molding resins containing organic solvents (ethyl acetate, methyl ethyl ketone, toluene, etc.) are unsuitable, the outer coating resin of a capacitor is damaged by the organic solvents and it may result, worst case, in a short circuit.

The variation in thickness of adhesive, molding resin or coating may cause outer coating resin cracking and/or ceramic element cracking of a capacitor in a temperature cycling.

4. Treatment after Bonding, Resin Molding and Coating

When the outer coating is hot (over 100 degrees C.) after soldering, it becomes soft and fragile. Therefore, please be careful not to give it mechanical stress.

FAILURE TO FOLLOW THE ABOVE CAUTIONS MAY RESULT, WORST CASE, IN A SHOCT CIRCUIT AND CAUSE FUMING OR PARTIAL DISPERSION WHEN THE PRODUCT IS USED.

	PART NO.	
Epoxy Molding SMD 400VAC-Y1 cap	Edition	Page
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Notice (Soldering and Mounting)

Cleaning (ultrasonic cleaning)

To perform ultrasonic cleaning, observe the following conditions.

Rinse bath capacity: Output of 20 watts per liter or less. Rinsing time: 5 min. max.

Do not vibrate the PCB/PWB directly. Excessive ultrasonic cleaning may lead to fatigue destruction of the pins.

Notice (Rating)

1. Capacitance Change of Capacitors

(1) For CH/SL/DL char.

Capacitance might change a little depending on a surrounding temperature or an applied voltage.

Please contact us if you use a strict constant time circuit.

(2) For B/E char.

Capacitors have an aging characteristic, whereby the capacitor continually decreases its capacitance slightly if the capacitor is left on for a long time. Moreover, capacitance might change greatly depending on the surrounding temperature or an applied voltage. Therefore, it is not likely to be suitable for use in a constant time circuit.

Please contact us if you need detailed information.

2. Performance Check by Equipment

Before using a capacitor, check that there is no problem in the equipment's performance and the specifications.

Generally speaking, CLASS 2 (B/E char.) ceramic capacitors have voltage dependence characteristics and temperature dependence characteristics in capacitance, so the capacitance value may change depending on the operating condition in the equipment. Therefore, be sure to confirm the apparatus performance of receiving influence in the capacitance value change of a capacitor, such as leakage current and noise suppression characteristic.

Moreover, check the surge-proof ability of a capacitor in the equipment, if needed, because the surge voltage may exceed specific value by the inductance of the circuit.