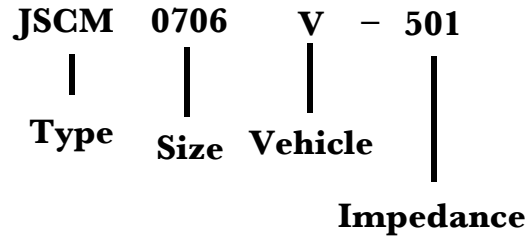




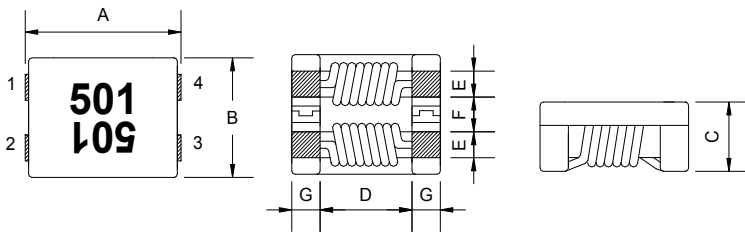
## PRODUCT IDENTIFICATION



## FEATURES

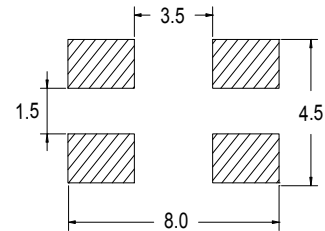
1. High reliability -Reliability tests comply with AEC-Q200
2. Operating temperature-40~+125°C  
(Including self - temperature rise)

## DIMENSIONS (mm)



Marking : Laser Marking

## Recommended PC Board Pattern



Part No.	A	B	C	D	E	F	G
JSCM 0706V	7.0 ± 0.5	6.0 ± 0.5	3.8 Max.	3.5 Typ.	1.5 ± 0.5	1.5 ± 0.5	1.7 ± 0.5

## SERIES LIST

No.	Part No.	Impedance		Test Frequency (MHz)	RDC (mΩ) Max.(1 line)	Rated Current (A) Max.	Rated Volt. (Vdc) Max.	Insulation Resistance (MΩ) Min.
		(Ω) Min.	(Ω) Typ.					
1	JSCM 0706V-400	40	70	100	5	15	80	10
2	JSCM 0706V-101	100	140	100	10	9	80	10
3	JSCM 0706V-301	225	300	100	10	5	80	10
4	JSCM 0706V-501	400	500	100	10	5	80	10
5	JSCM 0706V-701	500	700	100	15	4	80	10
6	JSCM 0706V-102	800	1020	100	17	3	80	10
7	JSCM 0706V-132	910	800	100	20	3	80	10

Note:

Measurement board data

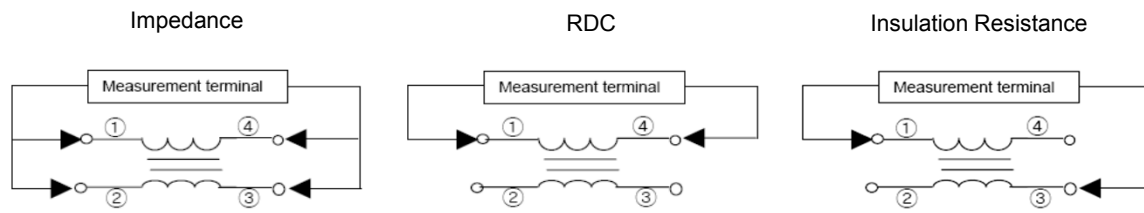
Material : FR4

Board dimensions : 100 X 50 X 1.6t mm

Pattern dimensions: 45 X 30 mm (Double side board)

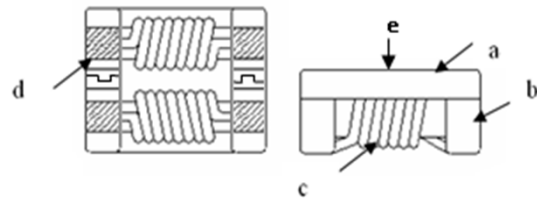
Pattern thickness : 50 μm

## ■ SCHEMATIC DIAGRAM

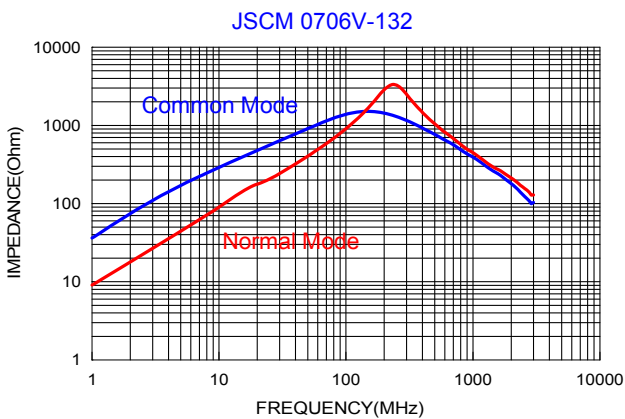
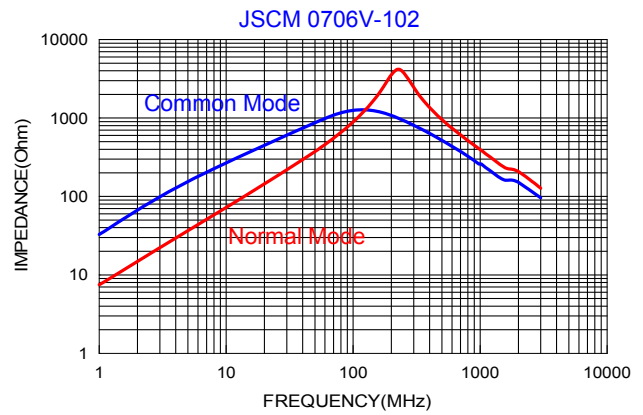
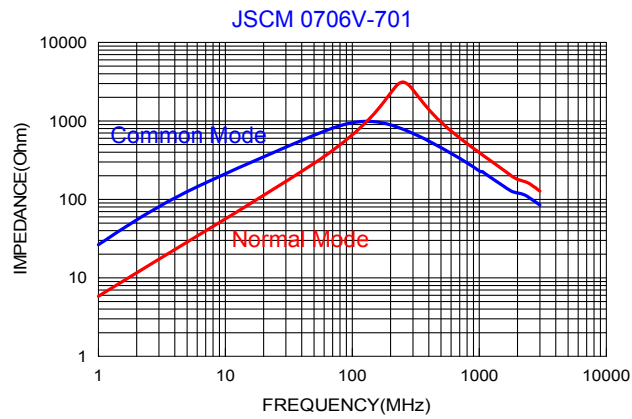
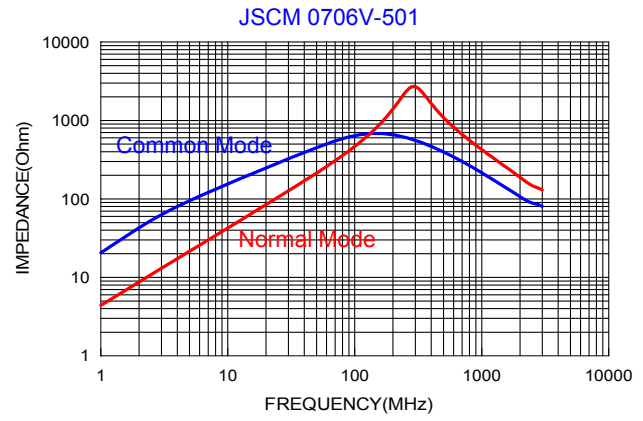
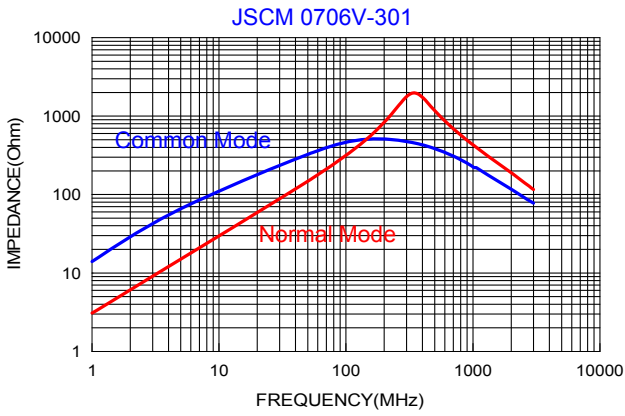
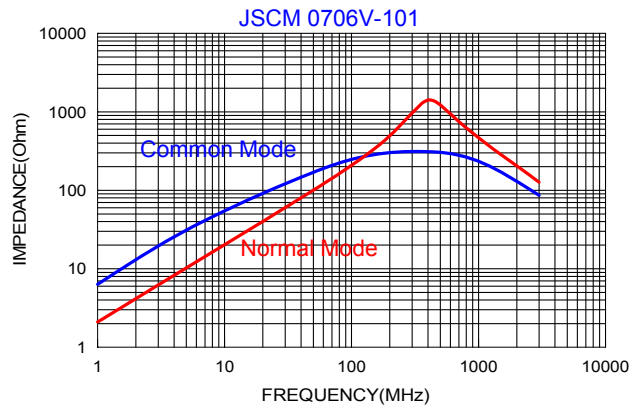
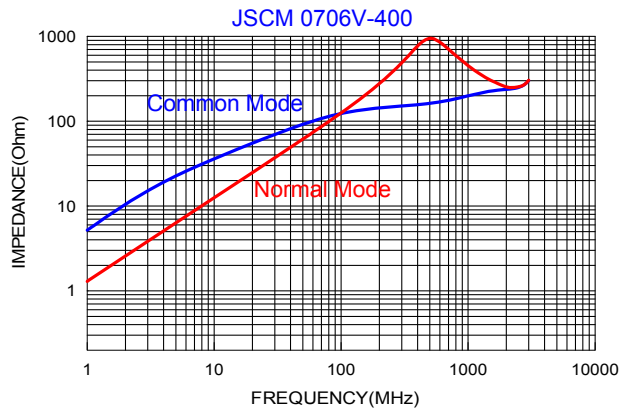


## ■ MATERIALS

No.	Description	Specification
a	Upper Plate	Ferrite core or same type
b	Core	Ferrite Core
c	Wire	Enameled Copper
d	Termination	Ag/Ni/Sn + Sn Solder
e	Mark	Laser Marking

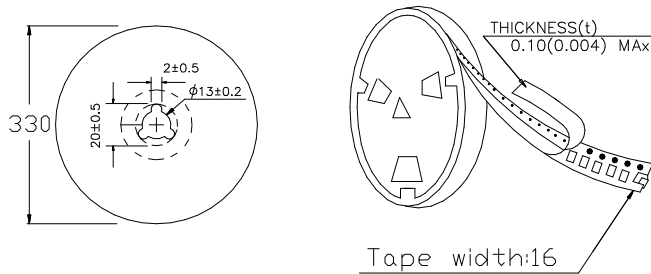


# Typical Performance Curves



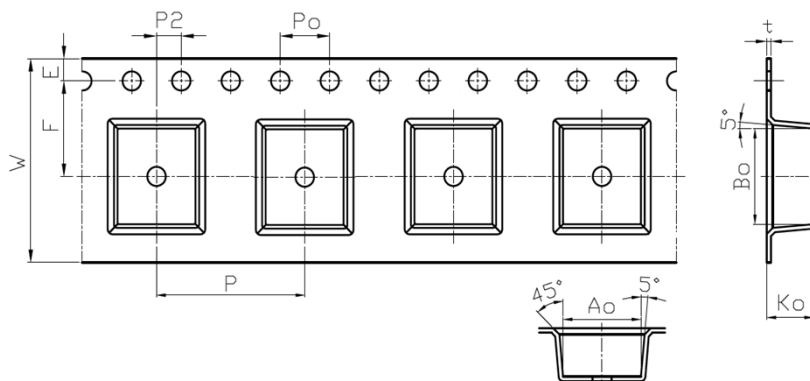
## Packaging Information

### • Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
13"x16mm	16.0±0.5	100.0±2.0	13.5±0.5	330

### • Tape Dimension



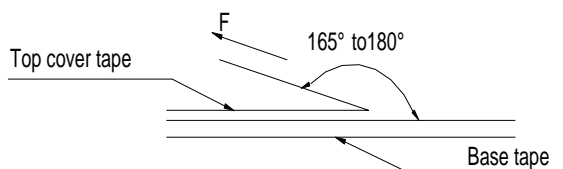
W(mm)	Ao(mm)	Bo(mm)	Ko(mm)	P0(mm)	P2(mm)	F(mm)	E(mm)	P(mm)	t(mm)
16.00 +0.3/-0.1	6.3 ±0.1	7.50 ±0.1	3.8 ±0.1	4.0 ±0.1	2.0 ±0.1	7.5 ±0.1	1.75 ±0.1	12.0 ±0.1	0.35 ±0.05

### • Packaging Quantity

Size	Reel
JSCM 0706V	1500

### • Tearing Off Force

The force for tearing off cover tape is 15 to 80 grams in the arrow direction under the following conditions



Room Temp. (°C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

## ■ Application Notice

- Storage Conditions(component level)

To maintain the solderability of terminal electrodes:

1. Products meet IPC/JEDEC J-STD-020E standard-MSL, level 1.
2. Temperature and humidity conditions: Less than 40°C and 60% RH.
3. Recommended products should be used within 12 months form the time of delivery.
4. The packaging material should be kept where no chlorine or sulfur exists in the air.

- Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

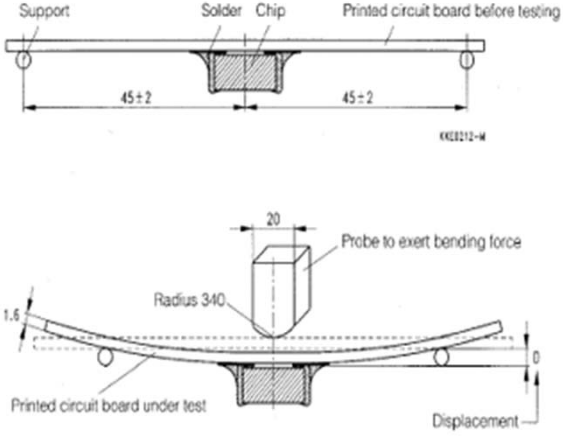
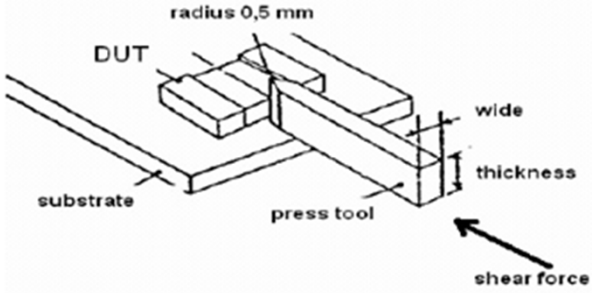
## Reliability and Test Condition

Item	Performance	Test Condition
Operating Temperature	-40°C~+125°C (Including self - temperature rise)	
Storage Temperature	-40°C~+125°C (on board)	
<b>Electrical Performance Test</b>		
Z(common mode)	Refer to standard electrical characteristics list.	Agilent-4291A+ Agilent -16197A
RDC		Agilent-4338B
I.R.		Agilent-4339
Temperature Rise Test	Rated Current $\geq$ 1A $\Delta$ T 40°C Max	1.Applied the allowed DC current. 2.Temperature measured by digital surface thermometer
<b>Reliability Test</b>		
High Temperature Exposure(Storage) AEC-Q200	Appearance : No damage Impedance : within $\pm$ 15% of initial value Inductance : within $\pm$ 10% of initial value Q : Shall not exceed the specification value RDC : within $\pm$ 15% of initial value and shall not exceed the specification value	Preconditioning: Run through IR reflow for 2 times. ( IPC/JEDEC J-STD-020D Classification Reflow Profiles) Temperature : 125 $\pm$ 2°C Duration : 1000hrs Min. Measured at room temperature after placing for 24 $\pm$ 2 hrs
Temperature Cycling AEC-Q200		Preconditioning: Run through IR reflow for 2 times. ( IPC/JEDEC J-STD-020D Classification Reflow Profiles) Condition for 1 cycle Step1 : -40 $\pm$ 2°C 30min Min. Step2 : 125 $\pm$ 2°C transition time 1min MAX. Step3 : 125 $\pm$ 2°C 30min Min. Step4 : Low temp. transition time 1min MAX. Number of cycles : 1000 Measured at room temperature after placing for 24 $\pm$ 2 hrs
Moisture Resistance		Preconditioning: Run through IR reflow for 2 times. ( IPC/JEDEC J-STD-020D Classification Reflow Profiles) 1.Baked at50°C for 25hrs, measured at room temperature after placing for 4 hrs. 2.Raise temperature to 65 $\pm$ 2°C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs. 3.Raise temperature to 65 $\pm$ 2°C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs,keep at 25°C for 2hrs then keep at -10°C for 3hrs 4.Keep at 25°C 80-100%RH for 15min and vibrate at the frequency of 10 to 55 Hz to 10 Hz, measure at room temperature after placing for 1~2 hrs.
Biased Humidity (AEC-Q200)		Preconditioning: Run through IR reflow for 2 times. ( IPC/JEDEC J-STD-020DClassification Reflow Profiles) Humidity : 85 $\pm$ 3% R.H, Temperature : 85°C $\pm$ 2°C Duration : 1000hrs Min with 100% rated current. Measured at room temperature after placing for 24 $\pm$ 2hrs
High Temperature Operational Life (AEC-Q200)		Preconditioning: Run through IR reflow for 2 times. ( IPC/JEDEC J-STD-020D Classification Reflow Profiles) Temperature : 125 $\pm$ 2°C Duration : 1000hrs Min. with 100% rated current. Measured at room temperature after placing for 24 $\pm$ 2hrs
External Visual		Appearance : No damage

## Reliability and Test Condition

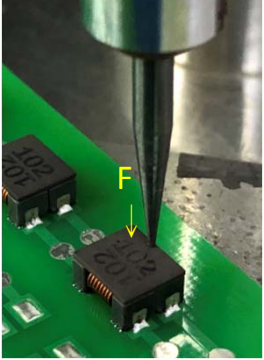
Item	Performance	Test Condition															
<b>Reliability Test</b>																	
Physical Dimension	According to the product specification size measurement	According to the product specification size measurement															
Resistance to Solvents	Appearance : No damage.	Add aqueous wash chemical - OKEM clean or equivalent.															
Mechanical Shock	Appearance : No damage Impedance : within±15% of initial value Inductance : within±10% of initial value Q : Shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value	<table border="1"> <thead> <tr> <th>Type</th> <th>Peak value (g's)</th> <th>Normal duration (D) (ms)</th> <th>Wave form</th> <th>Velocity change (Vi)ft/sec</th> </tr> </thead> <tbody> <tr> <td>SMD</td> <td>100</td> <td>6</td> <td>Half-sine</td> <td>12.3</td> </tr> <tr> <td>Lead</td> <td>100</td> <td>6</td> <td>Half-sine</td> <td>12.3</td> </tr> </tbody> </table> <p>shocks in each direction along 3 perpendicular axes.</p>	Type	Peak value (g's)	Normal duration (D) (ms)	Wave form	Velocity change (Vi)ft/sec	SMD	100	6	Half-sine	12.3	Lead	100	6	Half-sine	12.3
Type	Peak value (g's)	Normal duration (D) (ms)	Wave form	Velocity change (Vi)ft/sec													
SMD	100	6	Half-sine	12.3													
Lead	100	6	Half-sine	12.3													
Vibration		IPC/JEDEC J-STD-020D Classification Reflow Profiles Oscillation Frequency: 10~2K~10Hz for 20 minute Equipment : Vibration checker Total Amplitude:1.52mm±10% Testing Time : 12 hours (20 minutes, 12 cycles each of 3 orientations) ◦															
Resistance to Soldering Heat	Appearance : No damage Impedance : within±15% of initial value Inductance : within±10% of initial value Q : Shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value	<p>Test condition :</p> <table border="1"> <thead> <tr> <th>Temperature(°C)</th> <th>Time(s)</th> <th>Temperature ramp/immersion and emersion rate</th> <th>Number of heat cycles</th> </tr> </thead> <tbody> <tr> <td>260±5 (solder temp)</td> <td>10±1</td> <td>25mm/s ±6 mm/s</td> <td>1</td> </tr> </tbody> </table>	Temperature(°C)	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles	260±5 (solder temp)	10±1	25mm/s ±6 mm/s	1							
Temperature(°C)	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles														
260±5 (solder temp)	10±1	25mm/s ±6 mm/s	1														
Thermal shock (AEC-Q200)		Preconditioning: Run through IR reflow for 2 times. ( IPC/JEDEC J-STD-020D Classification Reflow Profiles) Condition for 1 cycle Step1 : -40±2°C 15±1min Step2 : 125±2°C within 20Sec. Step3 : 125±2°C 15±1min Number of cycles : 300 Measured at room fempraturc after placing fo24±2hrs															
ESD	Appearance : No damage																
Solderability	More than 95% of the terminal electrode should be covered with solder	a. Method B, 4 hrs @155°C dry heat @235°C±5°C b. Method B @ 215°C±5°C category 3.(8hours ± 15 min) c. Method D category 3. (8hours ± 15 min)@ 260°C±°C Preheat: 150°C,60sec. Solder: Sn96.5% Ag3% Cu0. 5% Temperature: 245±5°C ◦ Flux for lead free: Rosin. 9.5% ◦ Dip time: 4±1sec. Depth: completely cover the termination															

## Reliability and Test Condition

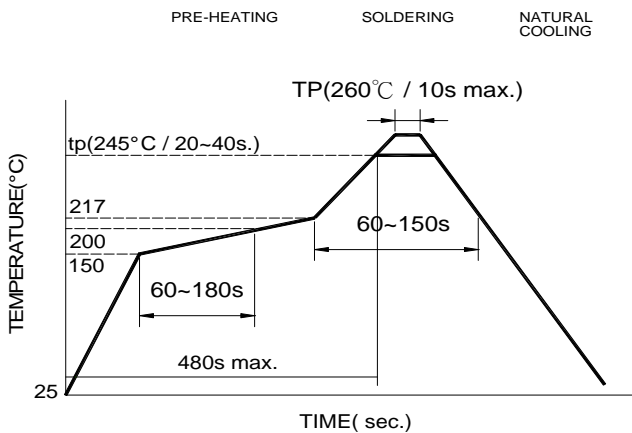
Item	Performance	Test Condition
<b>Reliability Test</b>		
Electrical Characterization	Refer Specification for Approval	Summary to show Min, Max, Mean and Standard deviation
Flammability	Electrical Test not required	V-0 or V-1 are acceptable.
Board Flex	Appearance : No damage	<p>Preconditioning: Run through IR reflow for 2 times. ( IPC/JEDEC J-STD-020D Classification Reflow Profiles) Place the 100mm X 40mm board into a fixture similar to the one shown in below Figure with the component facing down.</p> <p>The apparatus shall consist of mechanical means to apply a force which will bend the board (D) x = 2 mm minimum. The duration of the applied forces shall be 60 (+ 5) sec. The force is to be applied only once to the board.</p> 
Terminal Strength (SMD)	Appearance : No damage	<p>Preconditioning: Run through IR reflow for 2 times. ( IPC/JEDEC J-STD-020D Classification Reflow Profiles) With the component mounted on a PCB with the device to be tested, apply a 17.7 N (1.8 Kg) force to the side of a device being tested. This force shall be applied for 60 +1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested.</p> 



## Reliability and Test Condition

Item	Performance	Test Condition
<b>Soldering and Mounting</b>		
Cover Strength	Appearance : No damage	$F \geq 10N$ With 0.5mm diameter push point 
Soldering	Mildly activated rosin fluxes are preferred. JANTEK terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.	
Lead Free Solder re-flow:	Recommended temperature profiles for re-flow soldering in Figure 1.	
Soldering Iron (Figure 2):	Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended. Note : <ul style="list-style-type: none"> <li>• Preheat circuit and products to 150°C</li> <li>• Never contact the ceramic with the iron tip</li> <li>• Use a 20 watt soldering iron with tip diameter of 1.0mm</li> <li>• 350°C tip temperature (max)</li> <li>• 1.0mm tip diameter (max)</li> <li>• Limit soldering time to 4~5 sec</li> </ul>	

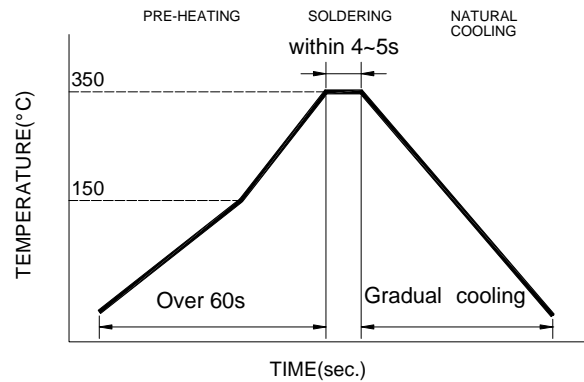
Reflow Soldering



Reflow times: 3 times max.

Fig.1

Iron Soldering



Iron Soldering times: 1 times max.

Fig.2