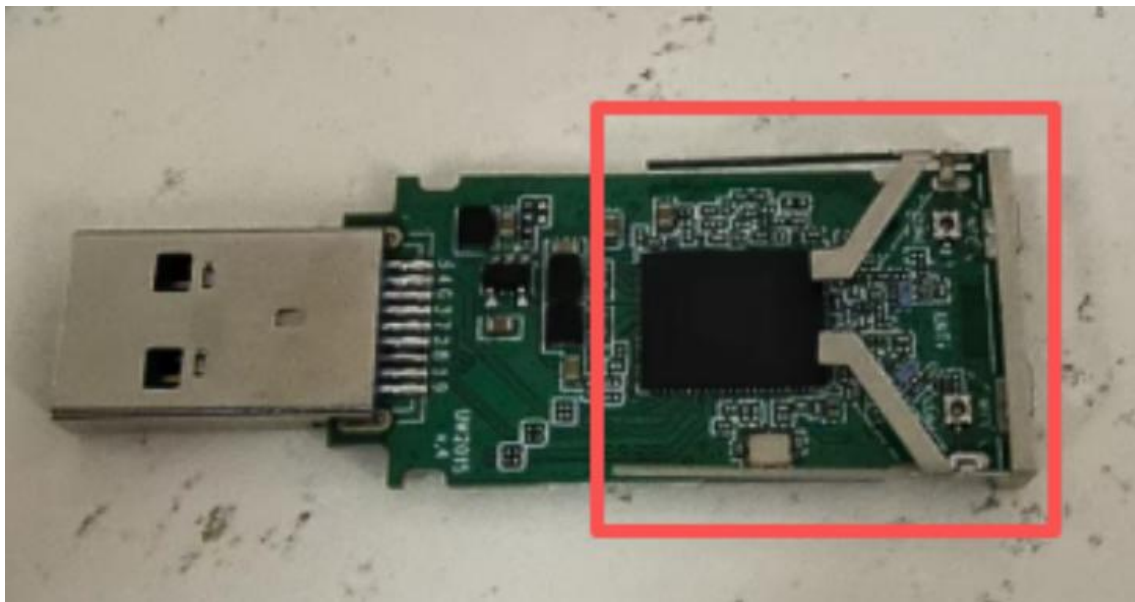


創鎰電子股份有限公司

WIFI Antenna

Manufacturer: Trand Eelctronic Co.Ltd.

Address: 台北市 10597 松山區南京東路 5 段 56 號 7 樓
7F., No.56, Sec. 5, Nanjing E. Rd.,
Songshan Dist., Taipei City 10597, Taiwan



創鎰電子股份有限公司

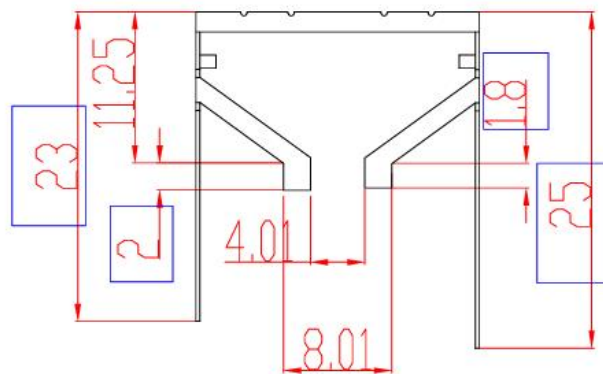
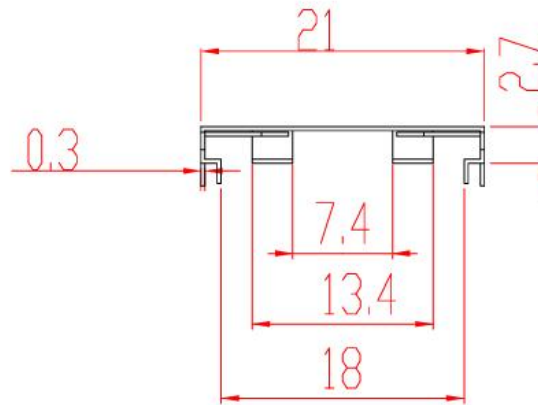
P/N: ANT-MET01A-2450x2-0

1. Electrical Specification

Specification		
Part Number	XES-WIBL2012DB	
Bandwidth	90 (Min.)	MHz
Return Loss	-10 (Max)	dB
Peak Gain	1.9	dBi
Impedance	50	Ω
Operating Temperature	-40~+85	°C
Maximum Power	1	W
Resistance to Soldering Heats	10 (@ 260°C)	sec.
Polarization	Linear	
Azimuth Beamwidth	Omni-directional	
Termination	Cu / Sn (Leadless)	

創鎰電子股份有限公司

2. Recommended PCB Pattern (Unit : mm) Evaluation Board Dimension



創鎰電子股份有限公司

3. Antenna Gain

Main Antenna		
Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	39	1.7
2450	38	1.3
2500	40	1.2
5150	29	-0.7
5160	29	-0.6
5250	30	-0.6
5320	32	-0.4
5470	34	0.0
5500	34	0.0
5600	32	-0.2
5725	28	-0.8
5785	26	-1.1
5850	25	-1.3

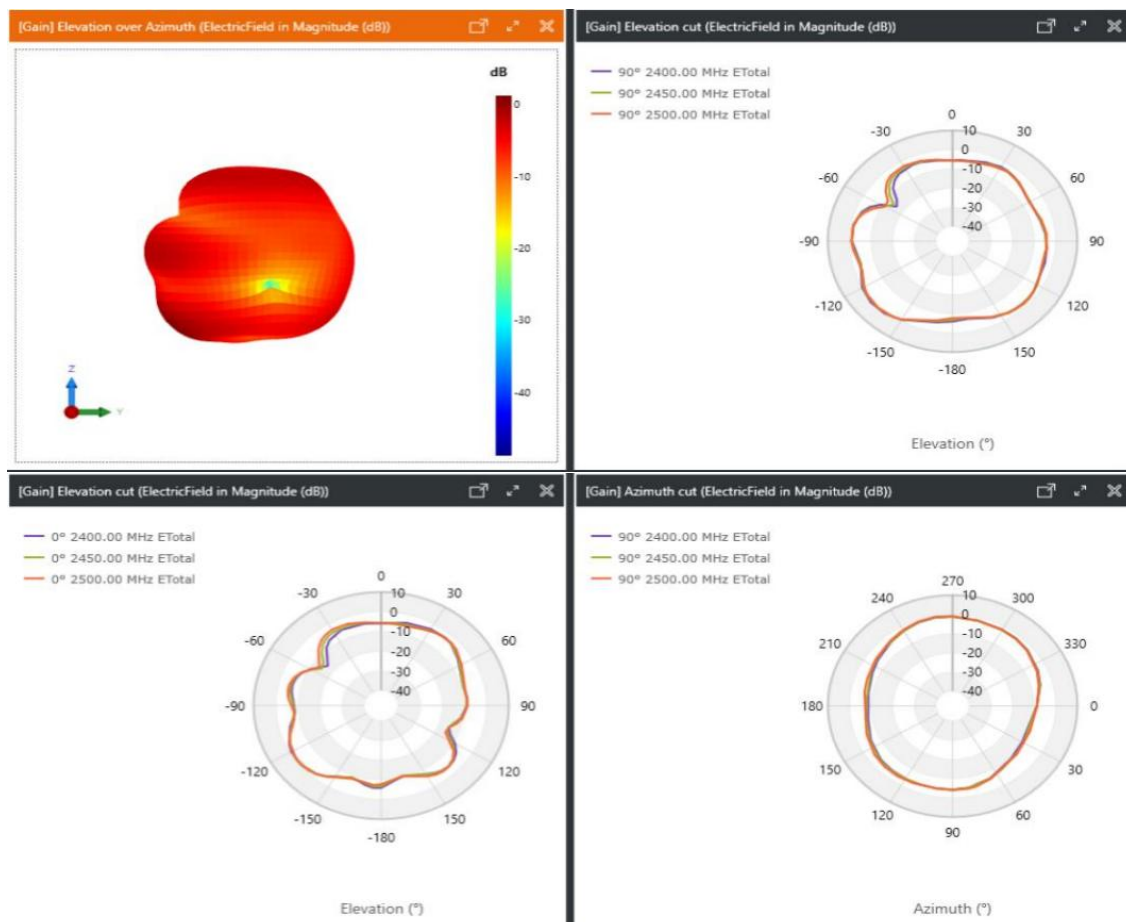
Aux Antenna		
Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	40	1.9
2450	38	1.6
2500	38	1.6
5150	32	0.1
5160	32	0.2
5250	34	0.2
5320	38	0.5
5470	37	0.2
5500	37	0.4
5600	34	0.1
5725	32	0.0

創鎰電子股份有限公司

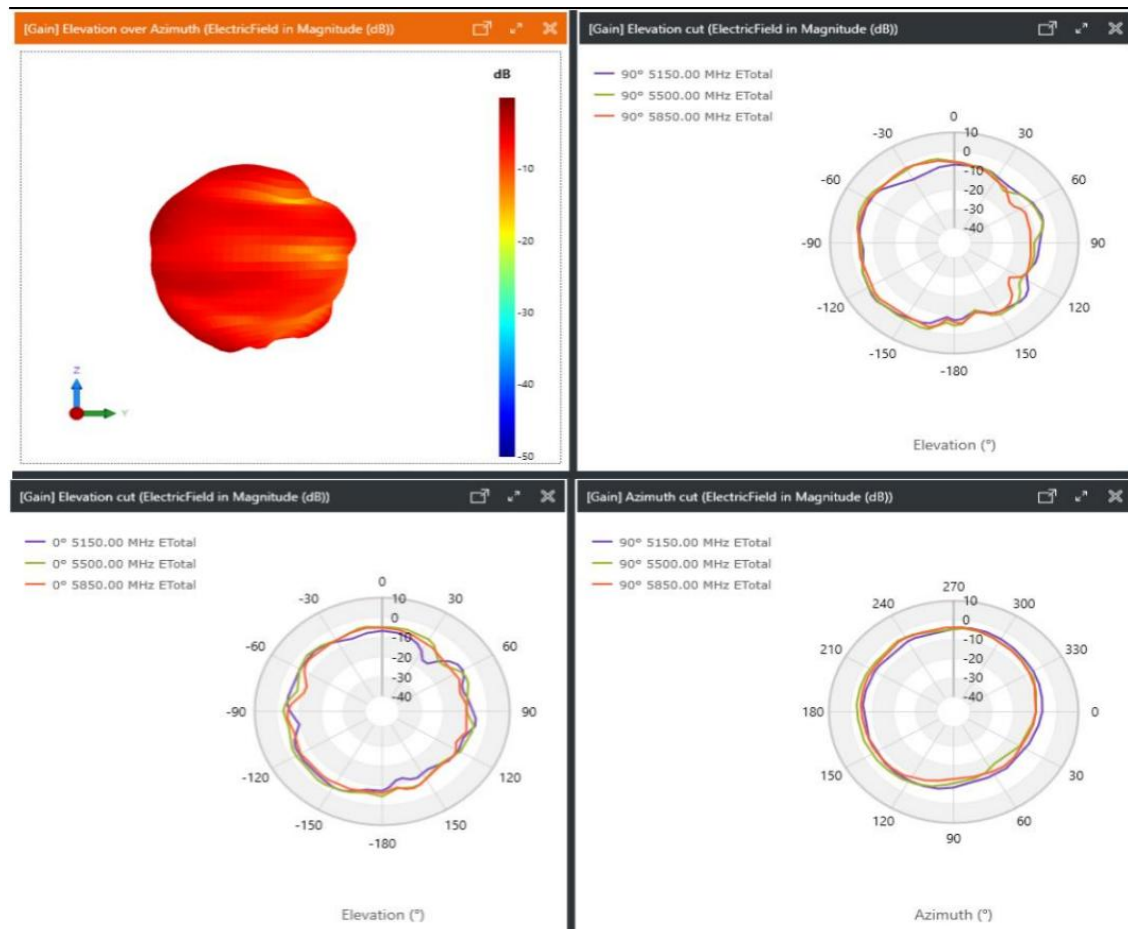
5785	31	0.0
5850	33	0.5

4. Measurement Results

a. Main Antenna

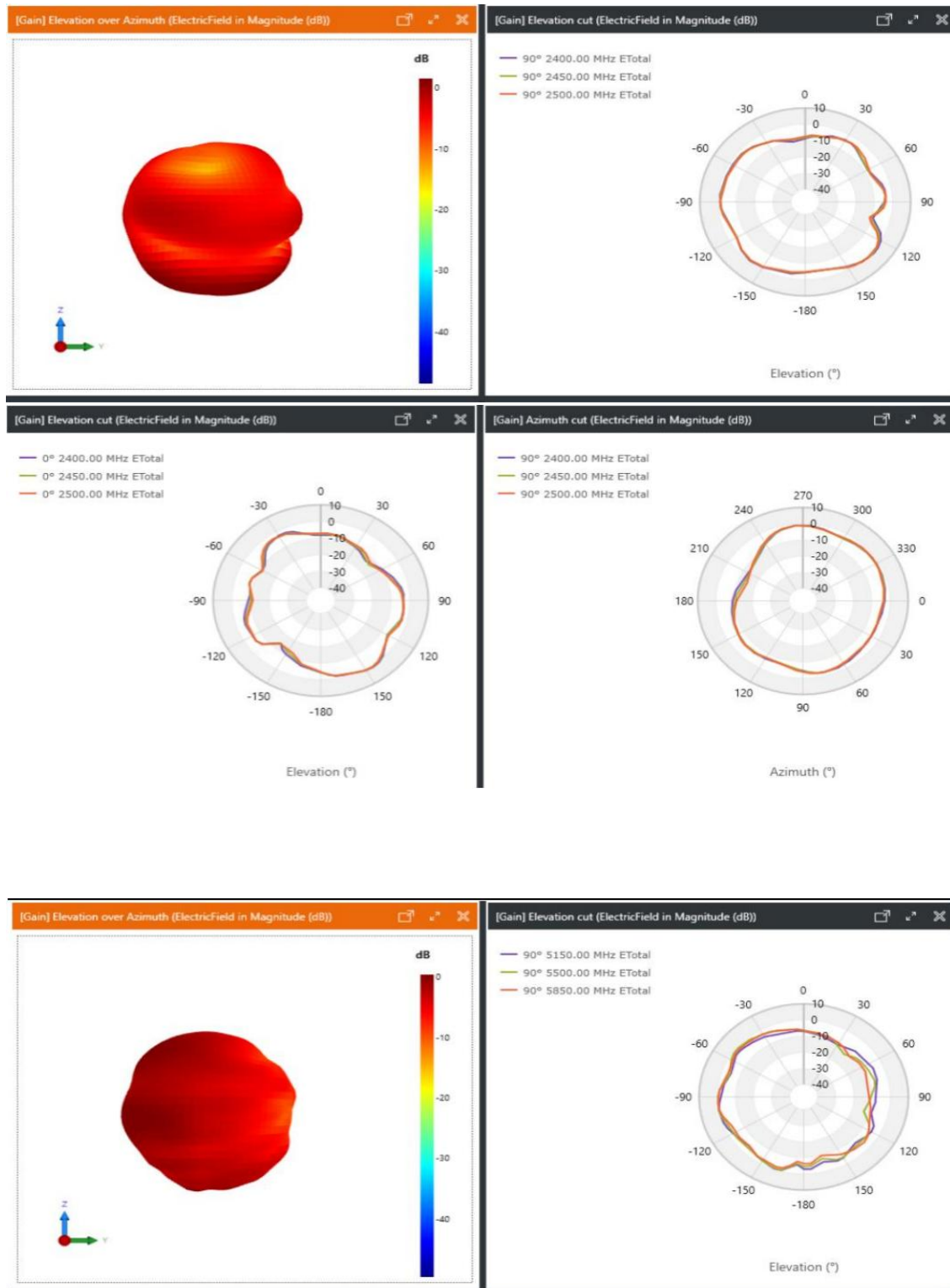


創鎰電子股份有限公司

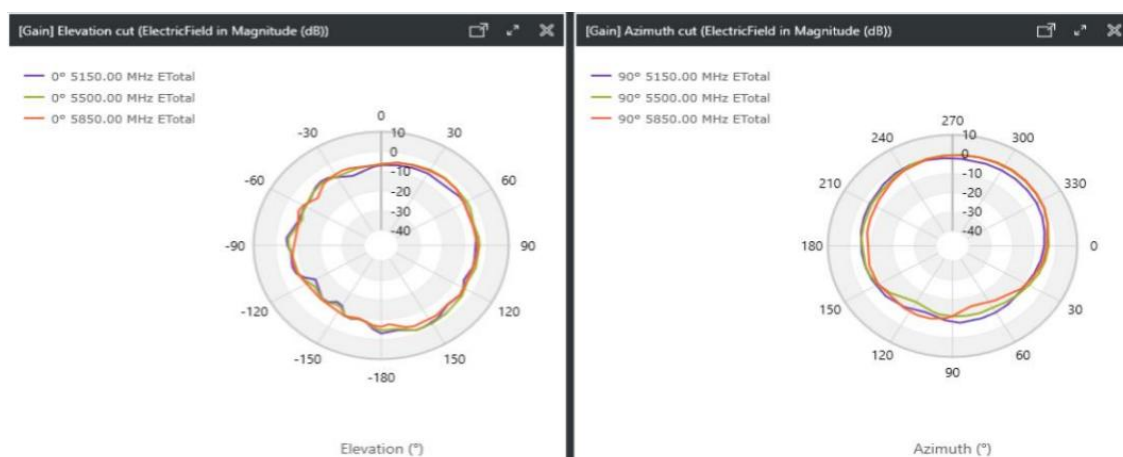


創鎰電子股份有限公司

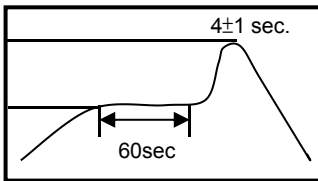
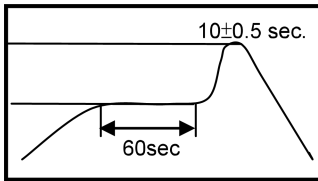
b. Aux Antenna



創鎰電子股份有限公司



5. Reliability and Test Condictions

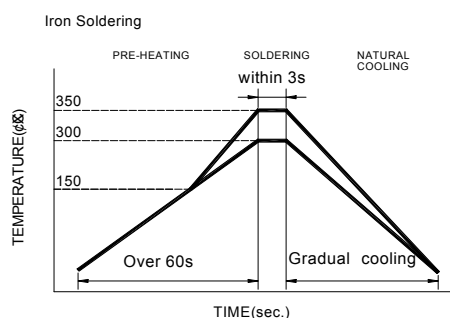
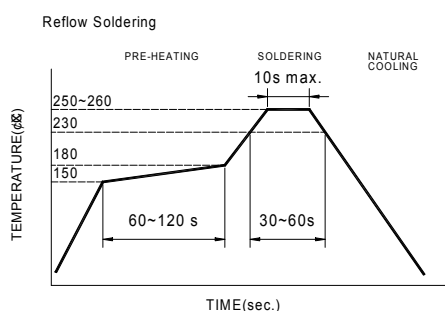
ITEM	REQUIREMENTS	TEST CONDITION
Solderability	1. Wetting shall exceed 90% coverage 2. No visible mechanical damage TEMP (°C) 	Pre-heating temperature:150°C/60sec. Solder temperature:230±5°C Duration:4±1sec. Solder:Sn-Ag3.0-Cu0.5 Flux for lead free: rosin
Solder heat Resistance	1. No visible mechanical damage 2. Central Freq. change :within ± 6% TEMP (°C) 	Pre-heating temperature:150°C/60sec. Solder temperature:260±5°C Duration:10±0.5sec. Solder:Sn-Ag3.0-Cu0.5 Flux for lead free: rosin
Component Adhesion (Push test)	1. No visible mechanical damage	The device should be reflow soldered(230±5°C for 10sec.) to a tinned copper substrate A dynameter force gauge should be applied the side of the component. The device must with-ST-F 0.5 Kg without failure of the termination attached to component.
Component Adhesion (Pull test)	1. No visible mechanical damage	Insert 10cm wire into the remaining open eye bend ,the ends of even wire lengths upward and wind together. Terminal shall not be remarkably damaged.

創鎰電子股份有限公司

Thermal shock	1. No visible mechanical damage 2. Central Freq. change :within $\pm 6\%$ <table border="1"> <thead> <tr> <th>Phase</th><th>Temperature($^{\circ}\text{C}$)</th><th>Time(min)</th></tr> </thead> <tbody> <tr> <td>1</td><td>$+85\pm 5^{\circ}\text{C}$</td><td>30 ± 3</td></tr> <tr> <td>2</td><td>Room Temperature</td><td>Within 3sec</td></tr> <tr> <td>3</td><td>$-40\pm 2^{\circ}\text{C}$</td><td>30 ± 3</td></tr> <tr> <td>4</td><td>Room Temperature</td><td>Within 3sec</td></tr> </tbody> </table>	Phase	Temperature($^{\circ}\text{C}$)	Time(min)	1	$+85\pm 5^{\circ}\text{C}$	30 ± 3	2	Room Temperature	Within 3sec	3	$-40\pm 2^{\circ}\text{C}$	30 ± 3	4	Room Temperature	Within 3sec	$+85^{\circ}\text{C} \Rightarrow 30\pm 3\text{min}$ $-40^{\circ}\text{C} \Rightarrow 30\pm 3\text{min}$ Test cycle:10 cycles The chip shall be stabilized at normal condition for 2~3 hours before measuring.
Phase	Temperature($^{\circ}\text{C}$)	Time(min)															
1	$+85\pm 5^{\circ}\text{C}$	30 ± 3															
2	Room Temperature	Within 3sec															
3	$-40\pm 2^{\circ}\text{C}$	30 ± 3															
4	Room Temperature	Within 3sec															
Resistance to High Temperature	1. No visible mechanical damage 2. Central Freq. change :within $\pm 6\%$ 3. No disconnection or short circuit.	Temperature: $85\pm 5^{\circ}\text{C}$ Duration: $1000\pm 12\text{hrs}$ The chip shall be stabilized at normal condition for 2~3 hours before measuring.															
Resistance to Low Temperature	1. No visible mechanical damage 2. Central Freq. change :within $\pm 6\%$ 3. No disconnection or short circuit.	Temperature: $-40\pm 5^{\circ}\text{C}$ Duration: $1000\pm 12\text{hrs}$ The chip shall be stabilized at normal condition for 2~3 hours before measuring.															
Humidity	1. No visible mechanical damage 2. Central Freq. change :within $\pm 6\%$ 3. No disconnection or short circuit.	Temperature: $40\pm 2^{\circ}\text{C}$ Humidity: 90% to 95% RH Duration: $1000\pm 12\text{hrs}$ The chip shall be stabilized at normal condition for 2~3 hours before measuring.															

6.Soldering and Mounting

Mildly activated rosin fluxes are preferred. The minimum amount of solder can lead to damage from the stresses caused by the difference in coefficients of expansion between solder, chip and substrate. The 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.



Recommended temperature profiles for re-flow soldering in Figure 1.

創鎰電子股份有限公司

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.

- Preheat circuit and products to 150°C
- Never contact the ceramic with the iron tip
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- 280°C tip temperature (max)
- 1.0mm tip diameter (max)
- Limit soldering time to 3 sec.

7.Storage and Transportation Information

Storage Conditions

To maintain the solderability of terminal electrodes:

1. Temperature and humidity conditions: -10~ 40°C and 30~70% RH.
2. Recommended products should be used within 6 months from the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

Transportation Conditions

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.