

产品规格书

SPECIFICATIONS

客户:

CUSTOMER: _____

产品名称:

DESCRIPTION: _____ BLUETOOTH ANTENNA

客户型号:

CUSTOMER PART No: _____

产品型号:

OUR MODEL NO: _____

日期:

DATE: _____ 2022/09/20

确认签字,盖章后请返回承认书一份

PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR APPROVAL"
WITH YOUR APPROVED SIGNATURES

UNLESS OTHER SPECIFIED TOLERANCES ON :

X = ± X.X = ± X.XX =
ANGLES = ± HOLES DIA = ±



上海威尔创未来通讯技术有限公司

SCALE : N/A

UNIT : mm

DRAWN BY : Sera

CHECKED BY: XD

DESIGNED BY: Sera

APPROVED BY: XD

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TITLE :

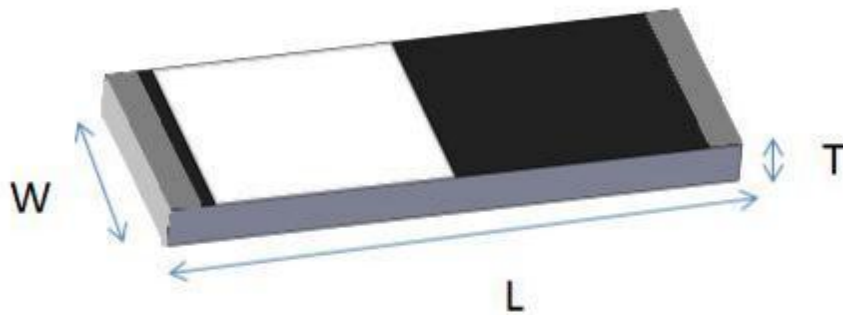
DOCUMENT
NO.

SPEC REV.

P1

3216 Chip antenna

For Bluetooth / WLAN Applications



RF3216F245C3

Chip Antenna 3216 L Ant 2.45G Type 0X

P/N: 3216F245C3

	Dimension (mm)
L	3.23 ± 0.20
W	1.66 ± 0.20
T	0.45 ± 0.20

Part Number Information

RAIN **3216** **F** **245** **C** **3**
A **B** **C** **D** **E** **F**

A	Product Series	Antenna
B	Dimension L x W	3.2X1.6mm (+-0.2mm)
C	Material	High K material
D	Working Frequency	2.4 ~ 2.5GHz
E	Feeding mode	PIFA & Single Feeding
F	Antenna type	Type=01

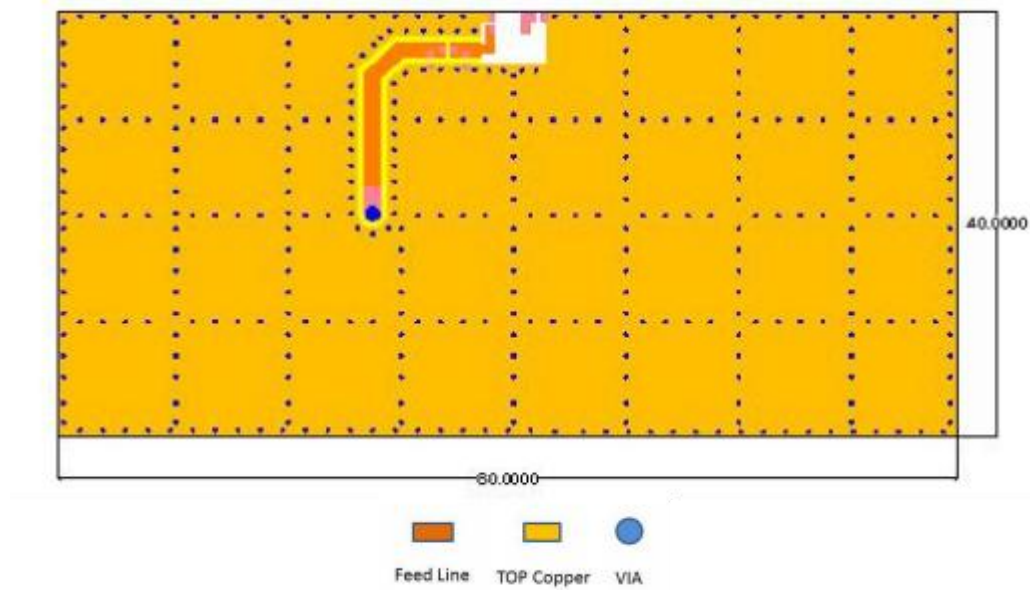
1. Electrical Specification

Specification		
Part Number	RAIN3216F245F3	
Central Frequency	2450	MHz
Bandwidth	120 (Min.)	MHz
Return Loss	-6.5 (Max)	dB
Peak Gain	1.75	dBi
Impedance	50	Ohm
Operating Temperature	-40~+85	C
Maximum Power	4	W
Resistance to Soldering Heats	10 (@ 260C)	sec.
Polarization	Linear	
Azimuth Beamwidth	Omni-directional	
Termination	Ni / Au (Leadless)	

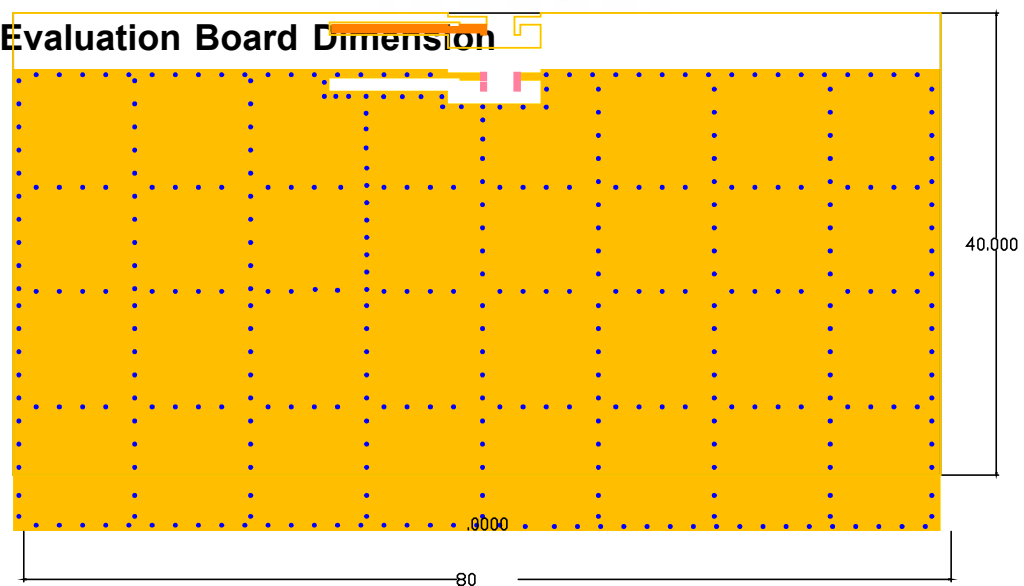
Remark : Bandwidth & Peak Gain was measured under evaluation board of next page

2. Recommended PCB

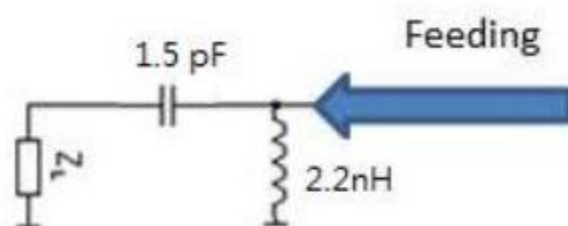
Pattern Evaluation Board Dimension



2nd Evaluation Board Dimension



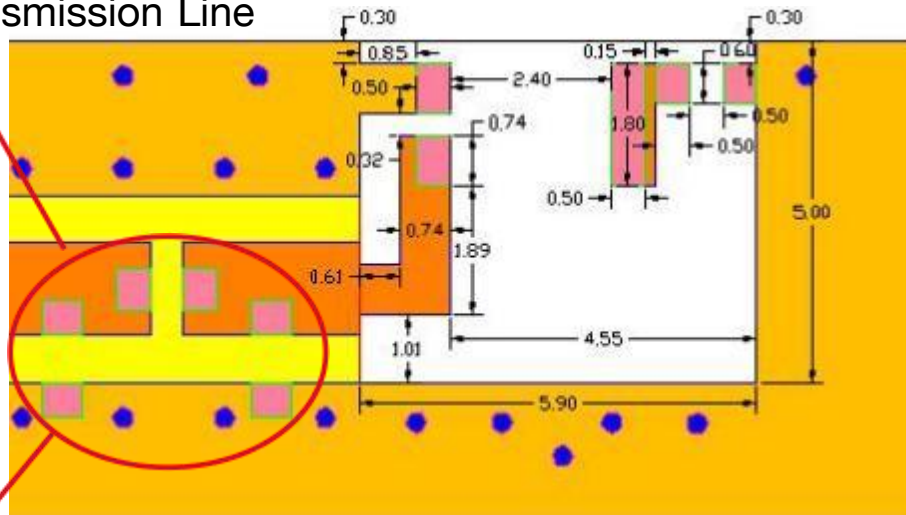
Suggested Matching Circuit



Layout Dimensions in Clearance area(Size=5.9*5.0mm)

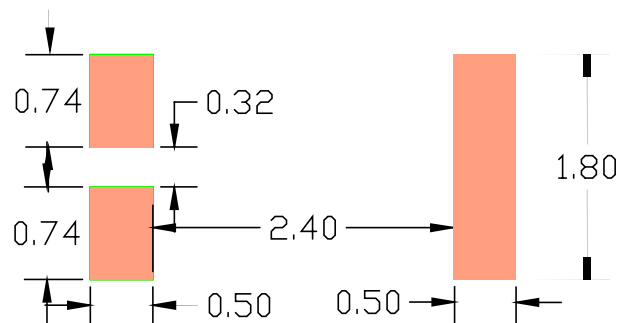


50 ohm transmission Line

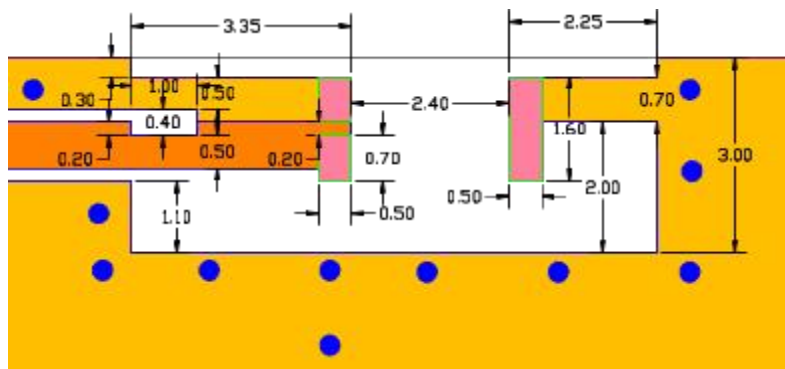


Matching Circuit

FootPrint (Unit : mm)

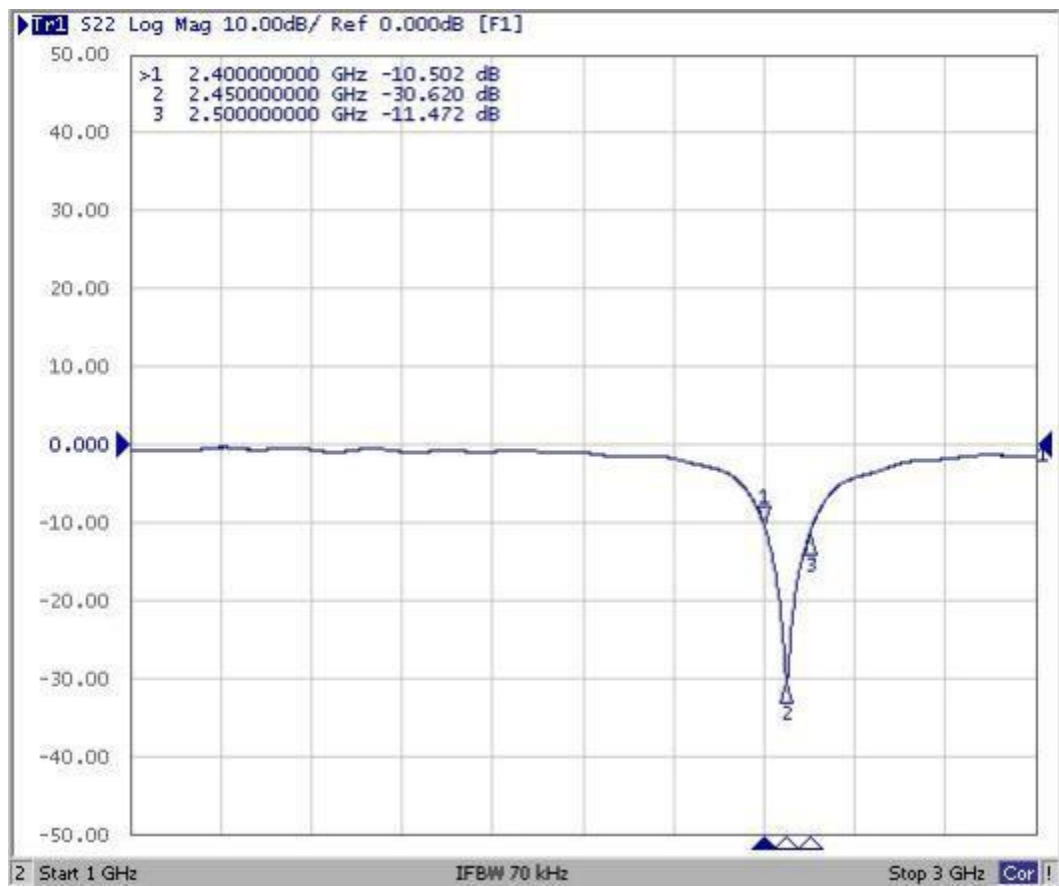


2nd Layout Dimensions in Clearance area(Size=8.0*3.0mm)

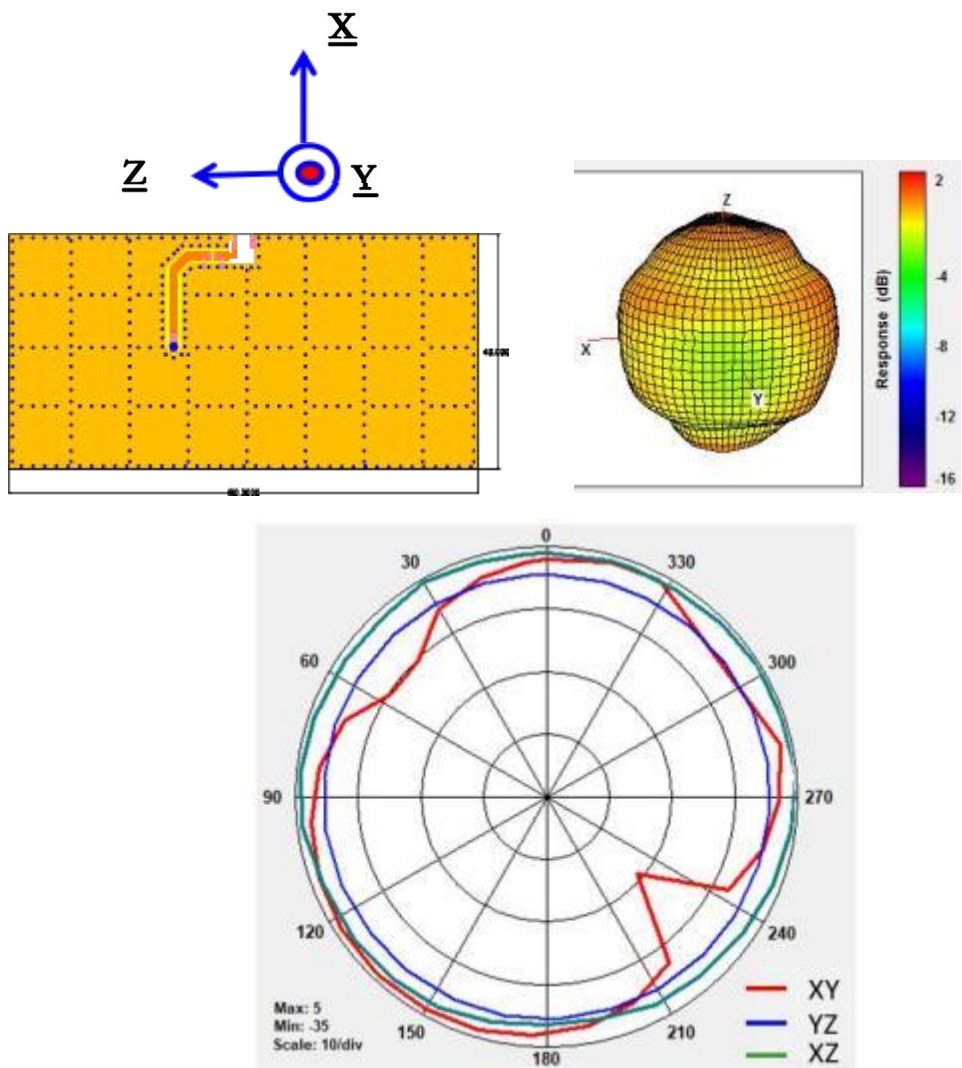


3. Measurement Results

Return Loss

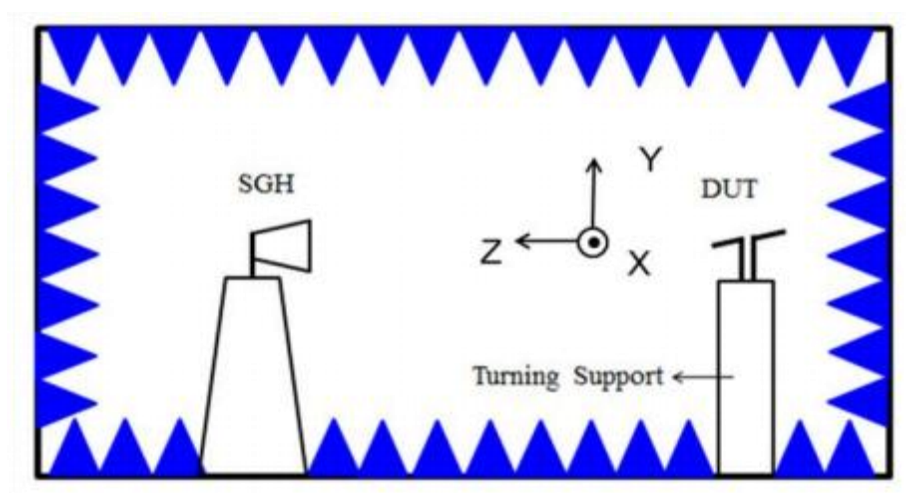


Radiation Pattern

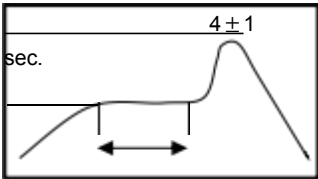
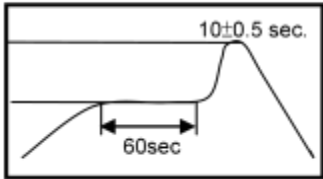


	Efficiency	Peak Gain	Directivity
2450MHz	85.65%	1.75 dBi	2.89 dBi

Chamber Coordinate System

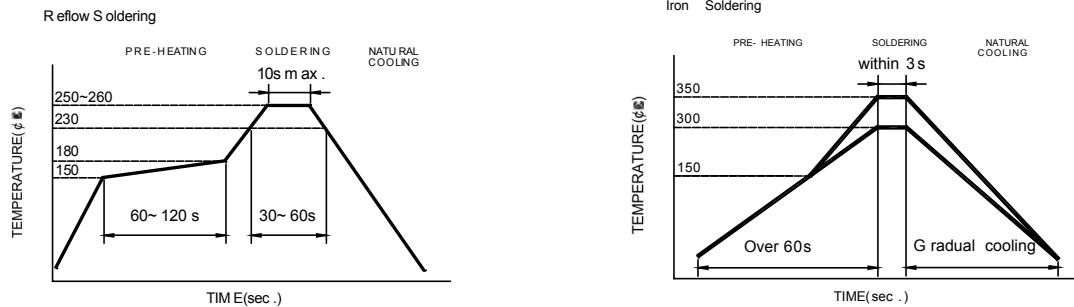


4 . Reliability and Test Condictions

ITEM	REQUIREMENTS	TEST CONDITION															
Solderability	<div>1 . Wetting shall exceed 90 % coverage</div> <div>2. No visible mechanical damage</div> <div><div>TEMP (C)</div><div><div>230C</div><div>150C</div><div>sec.</div><div>4 ± 1</div></div></div>	<div>Pre-heating</div> <div>temperature: 150C/60sec. Solder</div> <div>temperature: 230 ± 5C</div> <div>Duration: 4± 1sec.</div> <div>Solder: Sn-Ag3.0-Cu0 .5</div> <div>Flux for lead free: rosin</div>															
Solder heat Resistance	<div>1. No visible mechanical damage</div> <div>2. Central Freq. change : within ± 6%</div> <div><div>TEMP (C)</div><div><div>260C</div><div>150C</div><div>10 ± 0.5 sec.</div><div>60sec</div></div></div>	<div>Pre-heating</div> <div>temperature: 150C/60sec. Solder</div> <div>temperature: 260 ± 5C</div> <div>Duration: 10±0.5sec.</div> <div>Solder: Sn-Ag3.0-Cu0 .5</div> <div>Flux for lead free: rosin</div>															
Component Adhesion (Push test)	<div>1. No visible mechanical damage</div>	<div>The device should be reflow soldered(230 ± 5C 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</div>															
Component Adhesion (Pull test)	<div>1 . No visible mechanical damage</div>	<div>Insert 10cm wire into the remaining open eye bend ,the ends of even wire lengths upward and wind together.</div> <div>Terminal shall not be remarkably damaged.</div>															
Thermal shock	<div>1. No visible mechanical damage</div> <div>2. Central Freq. change : within ± 6%</div> <table><tr><td>Phase</td><td>Temperature(C)</td><td>Time(min)</td></tr><tr><td>1</td><td>+85±5C</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±2C</td><td>30±3</td></tr><tr><td>4</td><td>Room Temperature</td><td>Within 3sec</td></tr></table>	Phase	Temperature(C)	Time(min)	1	+85±5C	30±3	2	Room Temperature	Within 3sec	3	-40±2C	30±3	4	Room Temperature	Within 3sec	<div>+85C => 30±3min</div> <div>-40C => 30±3min</div> <div>Test cycle: 10 cycles</div> <div>The chip shall be stabilized at normal condition for 2~3 hours before measuring.</div>
Phase	Temperature(C)	Time(min)															
1	+85±5C	30±3															
2	Room Temperature	Within 3sec															
3	-40±2C	30±3															
4	Room Temperature	Within 3sec															
Resistance to High Temperature	<div>1. No visible mechanical damage</div> <div>2. Central Freq. change : within ± 6%</div> <div>3. No disconnection or short circuit.</div>	<div>Temperature: 85±5C</div> <div>Duration: 1000 ± 12hrs</div> <div>The chip shall be stabilized at normal condition for 2~3 hours before measuring</div>															
Resistance to Low Temperature	<div>1. No visible mechanical damage</div> <div>2. Central Freq. change : within ± 6%</div> <div>3. No disconnection or short circuit.</div>	<div>Temperature: -40±5C</div> <div>Duration: 1000 ± 12hrs</div> <div>The chip shall be stabilized at normal condition for 2~3 hours before measuring.</div>															
Humidity	<div>1. No visible mechanical damage</div> <div>2. Central Freq. change : within ± 6%</div> <div>3. No disconnection or short circuit.</div>	<div>Temperature: 40±2C</div> <div>Humidity: 90% to 95% RH</div> <div>Duration: 1000 ± 12hrs</div> <div>The chip shall be stabilized at normal condition for 2~3 hours before measuring</div>															

5.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.



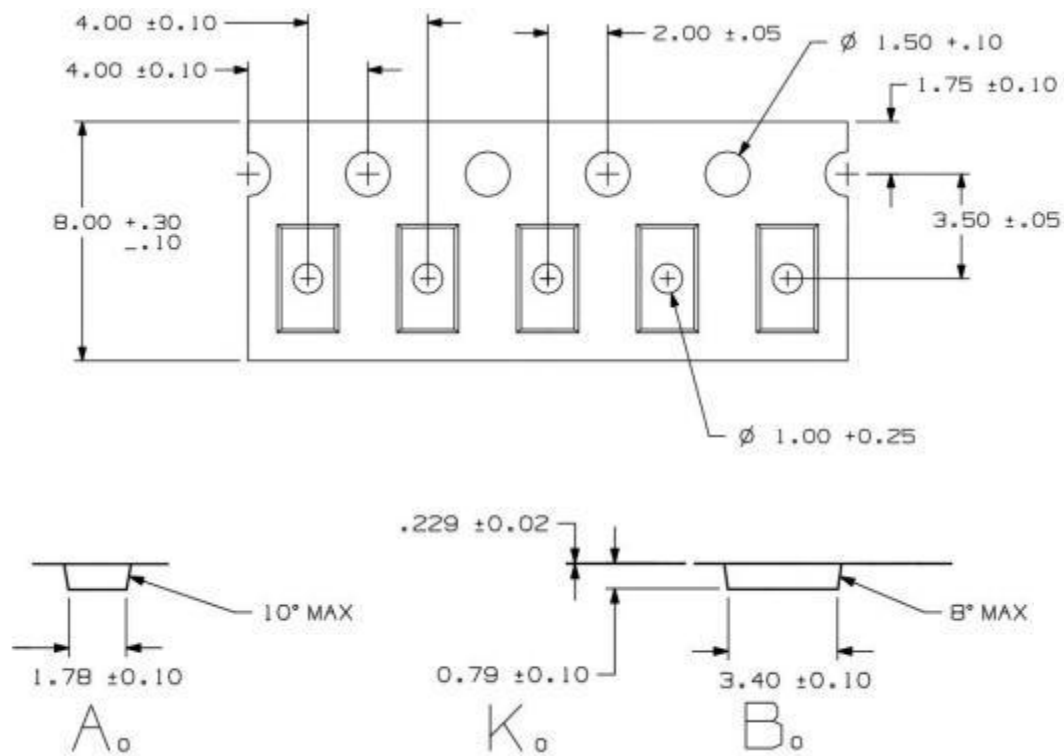
Recommended temperature profiles for re-flow soldering in Figure 1.

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.

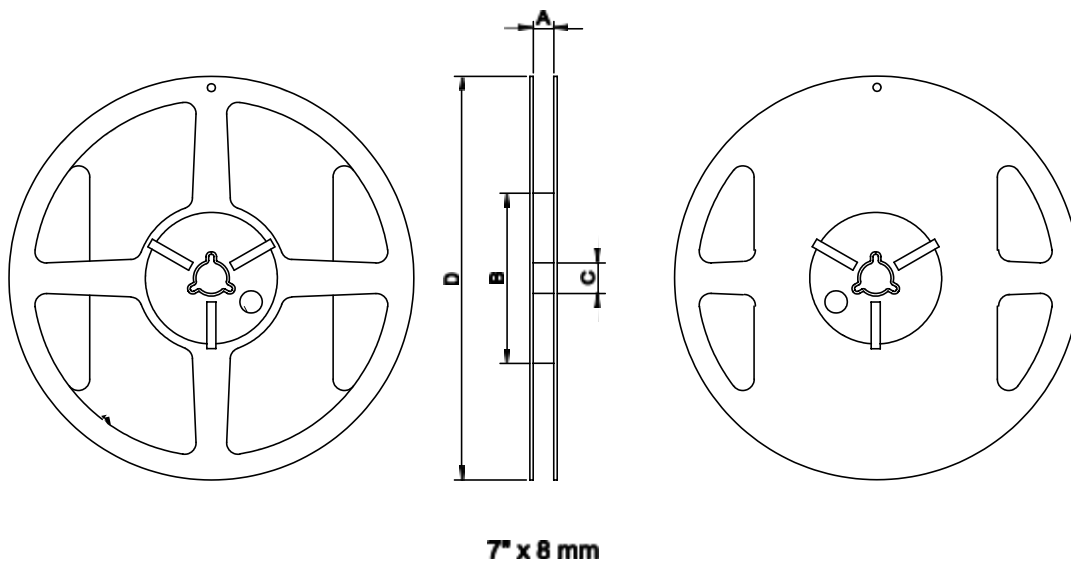
- Preheat circuit and products to 150°C
- Never contact the ceramic with the iron tip
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- 280°C tip temperature (max)
- 1.0mm tip diameter (max)
- Limit soldering time to 3 sec.

6.Packaging Information

Tape Specification:



Reel Specification: (7", $\Phi 180$ mm)



Tape Width(mm)	A(mm)	B(mm)	C(mm)	D(mm)	Chip/Reel(pcs)
8	9.0 ± 0.5	60 ± 2	13.5 ± 0.5	178 ± 2	4000

7.Storage and Transportation Information

Storage Conditions

To maintain the solderability of terminal electrodes:

1. Temperature and humidity conditions: -10~ 40C 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.