

# HLX 20125025 A05

Manufacturer : TESAN ILETISIM A.S.

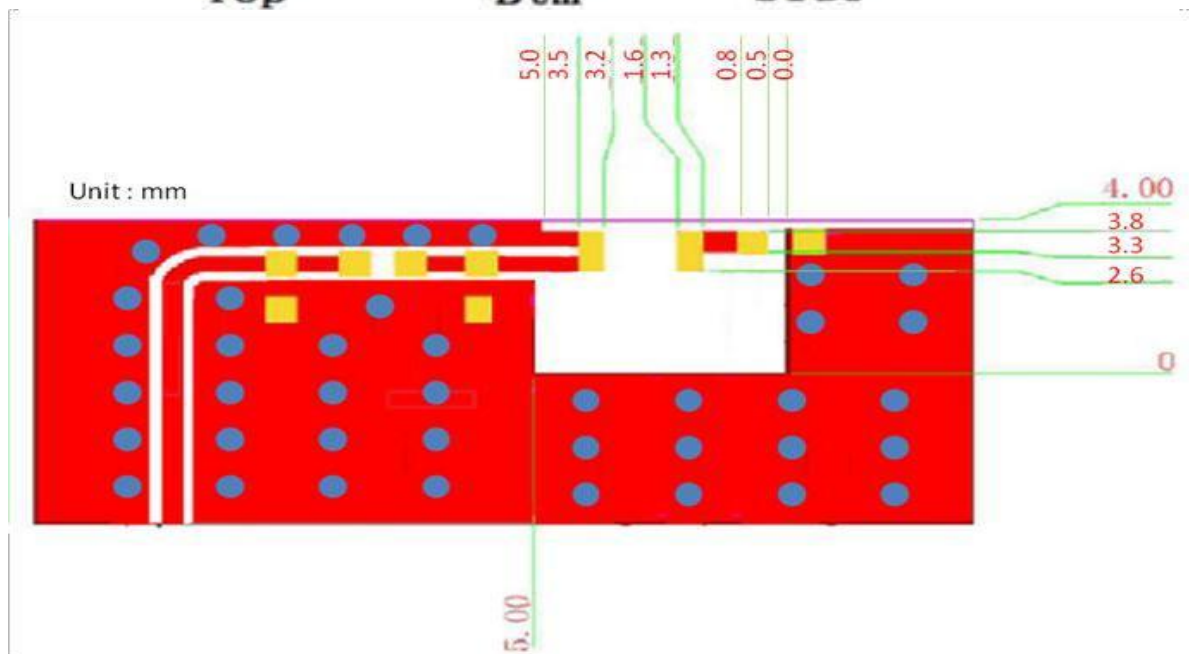
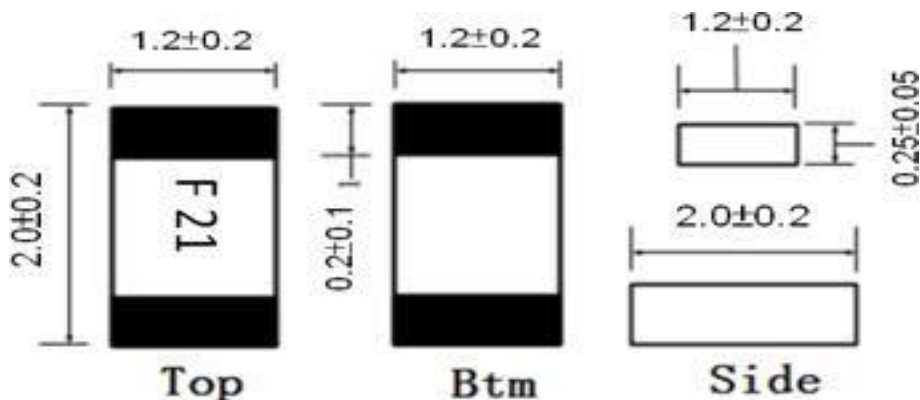
## Features

1. Surface Mounted Devices with a small dimension of  $2.0 \times 1.25 \times 0.25 \text{ mm}^3$  meet future miniaturization trend.
2. Embedded and (Low Temperature Co-fired Ceramic) technology is able to future integrate with system design as well as beautifying the housing of final product.
3. High Stability in Temperature / Humidity Change

## Applications

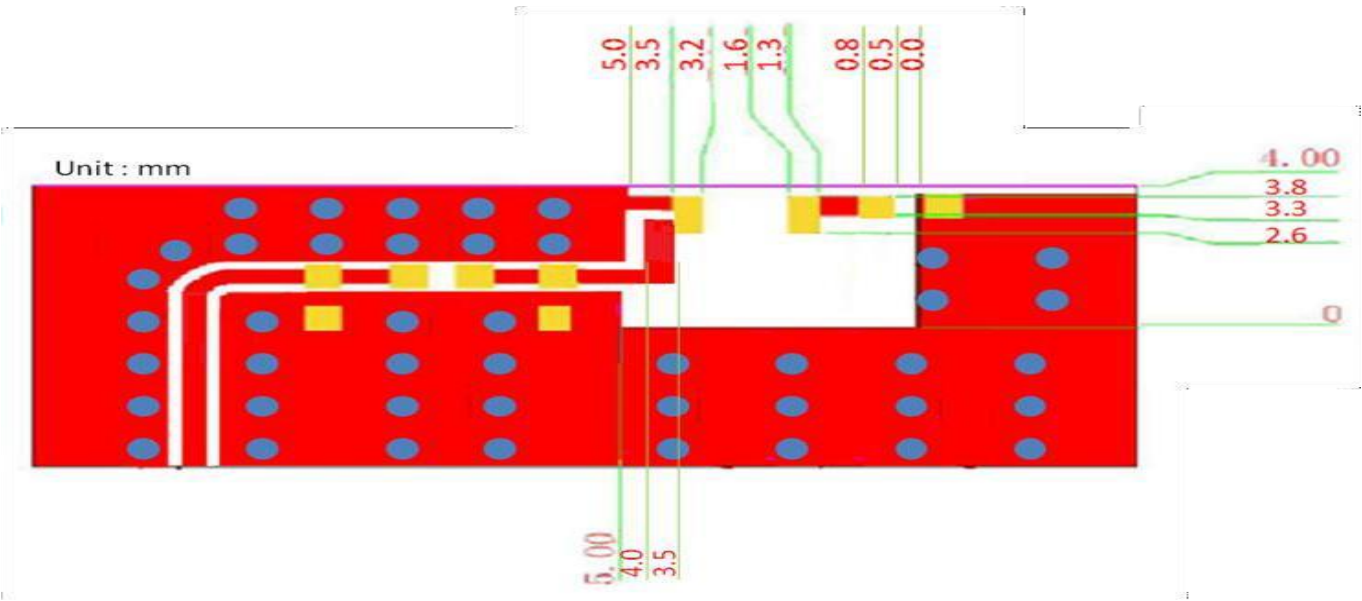
1. Bluetooth
2. Wireless LAN
3. HormRF
4. ISM band 2.4GHz wireless applications

## Dimensions (Unit: mm)

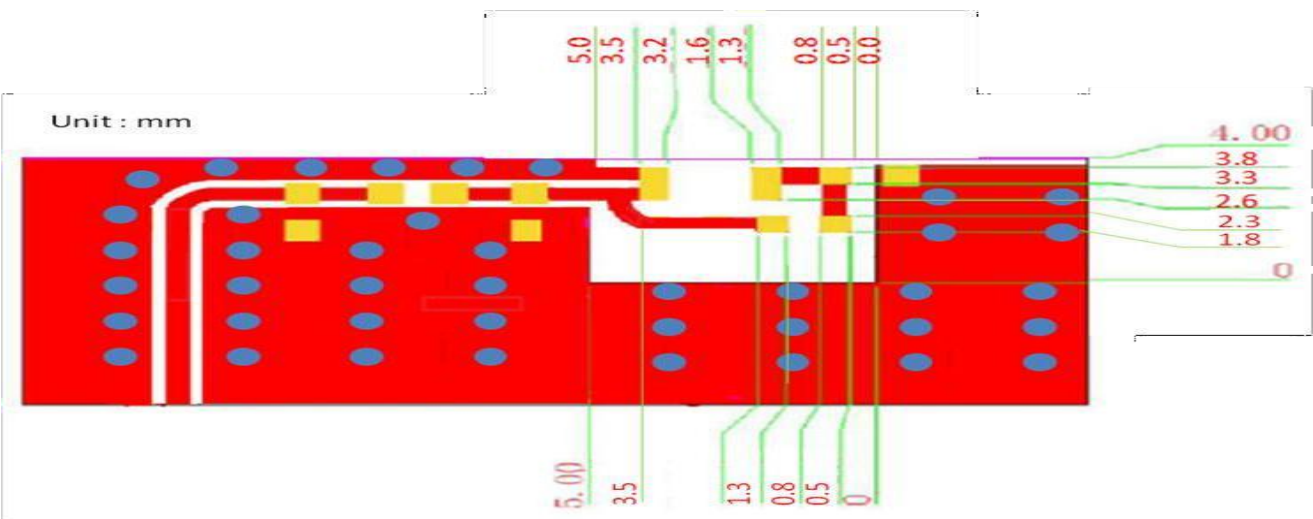


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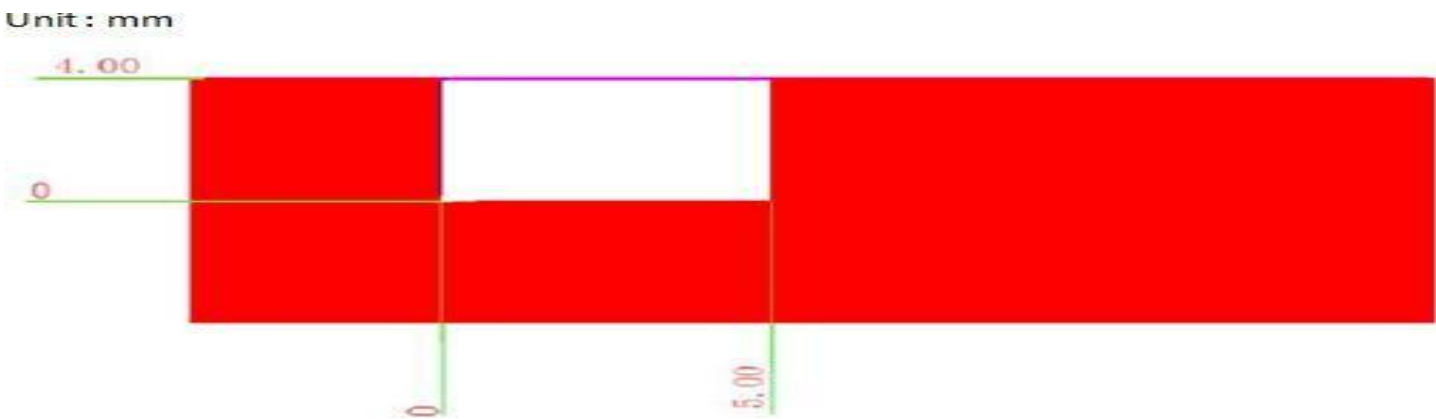
Type2:



Type3:

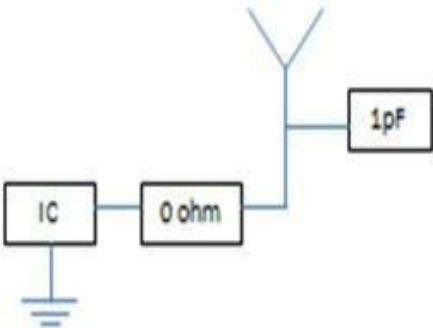
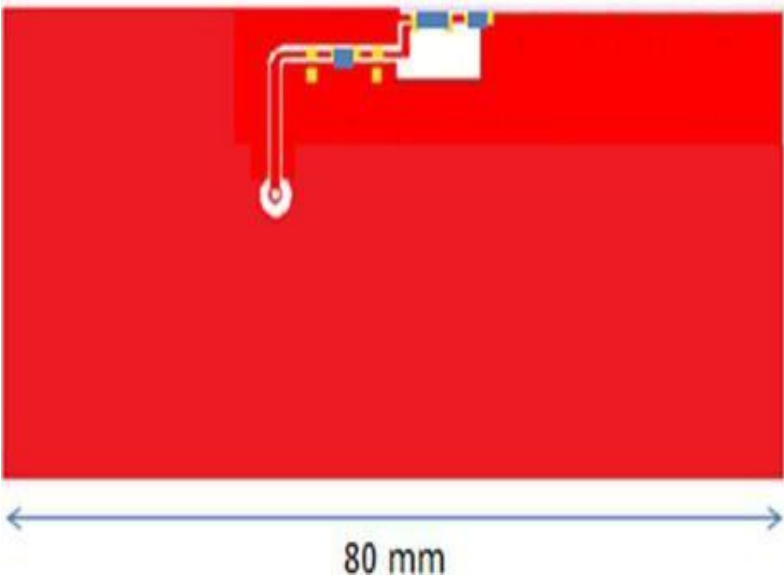


PCB Bottom View :



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## Evaluation Board and Matching Circuits

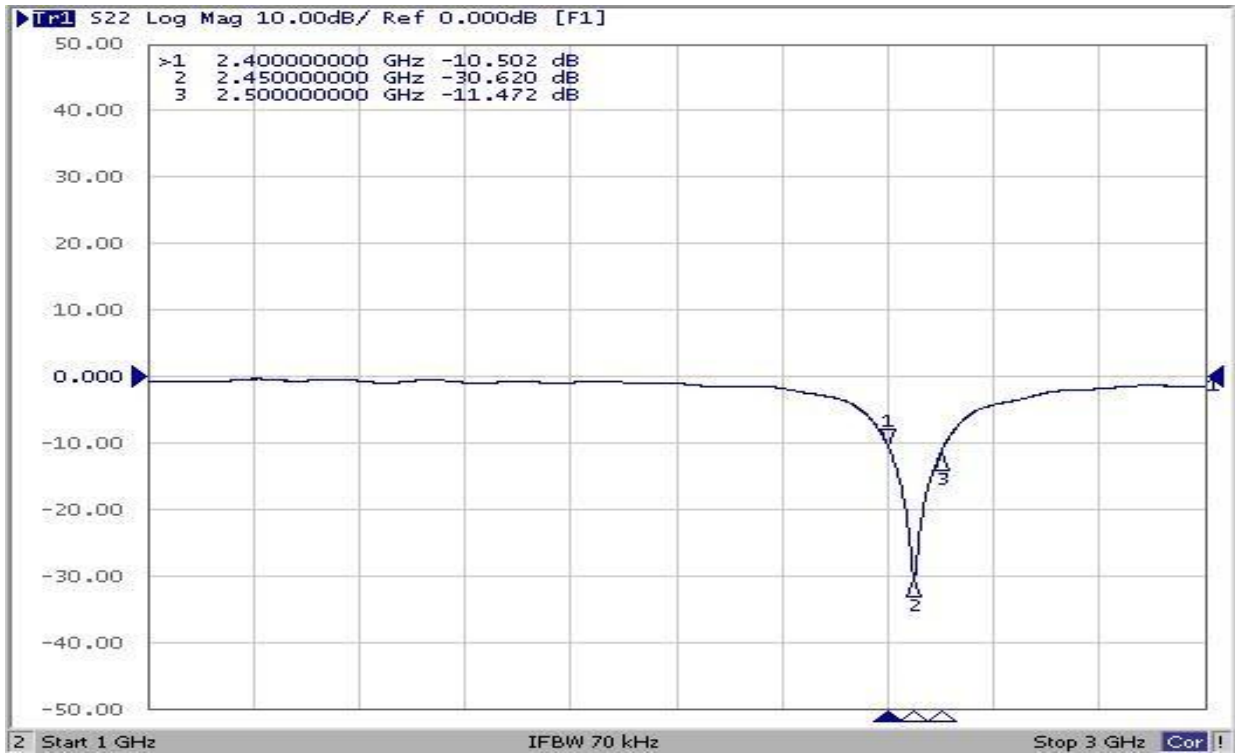


## Electrical Characteristics

No.	Item	Specifications
5.1	Working Central Frequency (After matching)	2450 MHz
5.2	Band Width	86MHz typ.
5.3	Peak Gain	1.72 dBi
5.4	R.L.	≥7
5.5	Polarization	Linear
5.6	Azimuth Beam width	Omni-directional
5.7	Impedance	50 Ω

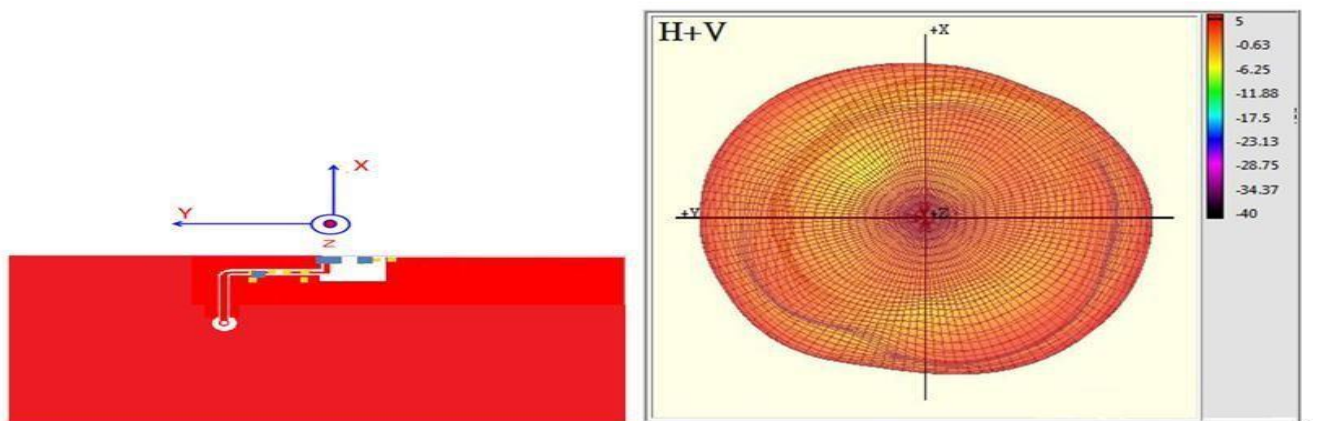
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## Characteristic curve



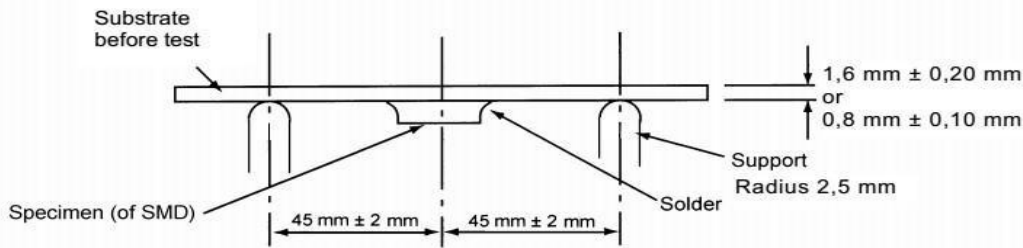
## Radiation Pattern

Frequency(MHz)	2400	2450	2500
Efficiency (dB)	-2.82	-2.04	-2.41
Efficiency (%)	52.19	62.42	58,21
Gain (dBi)	1.72	1.41	1.63



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## Bending Resist Test



Weld the product to the center part of the PCB with the thickness  $1.6 \pm 0.2 \text{ mm}$  or  $0.8 \pm 0.1 \text{ mm}$  as the illustration shows, and keep exerting force arrow-ward on it at speed of  $1 \text{ mm/S}$ , and hold for  $5 \pm 1 \text{ S}$  at the position of  $1.5 \text{ mm}$  bending distance, so far, any peeling off of the product metal coating should not be detected.

## Dependability Test

Temperature range	$25 \pm 5^\circ \text{C}$
Relative Humidity range	$55 \sim 75\% \text{RH}$
Operating Temperature range	$-40^\circ \text{C} \sim +85^\circ \text{C}$
Storage Temperature range	$-40^\circ \text{C} \sim +85^\circ \text{C}$

### Vibration Resist

The device should fulfill the electrical specification after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

### Drop Shock

The device should have no mechanical damage after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

### Solder Heat Proof

The device should be satisfied after preheating at  $120^\circ \text{C} \sim 150^\circ \text{C}$  for 120 seconds and dipping in soldering Sn at  $255^\circ \text{C} + 10^\circ \text{C}$  for  $5 \pm 0.5$  seconds, or electric iron  $300^\circ \text{C} - 10^\circ \text{C}$  for  $3 \pm 0.5$  seconds, without damage.

### Adhesive Strength of Termination

The device have no remarkable damage or removal of the termination after horizontal force of  $5 \text{ N}$  ( $\leq 0603$ );  $10 \text{ N}$  ( $> 0603$ ) with  $10 \pm 1$  seconds.

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## Moisture Proof

The device should fulfill the electrical specification after exposed to the temperature  $60\pm 2^{\circ}\text{C}$  and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

## High Temperature Endurance

The device should fulfill the electrical specification after exposed to temperature  $85\pm 5^{\circ}\text{C}$  for  $96\pm 2$  hours and 1~2 hours recovery time under normal temperature.

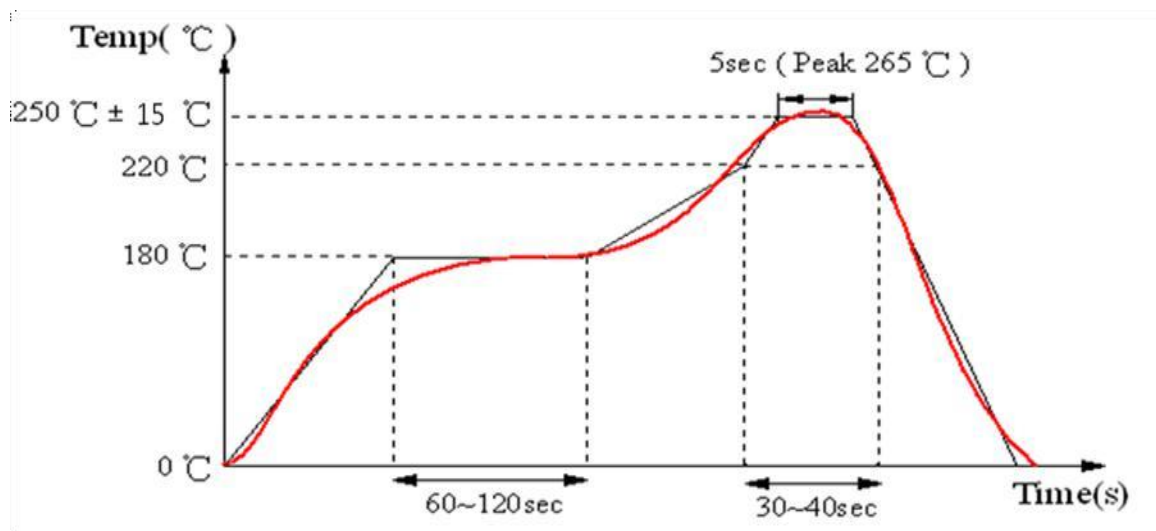
## Low Temperature Endurance

The device should fulfill the electrical specification after exposed to the temperature  $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$  for  $96\pm 2$  hours and to 2 hours recovery time under normal temperature.

## Temperature Cycle Test

The device should fulfill the electrical specification after exposed to the low temperature  $-40^{\circ}\text{C}$  and high temperature  $+85^{\circ}\text{C}$  for  $30\pm 2$  min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

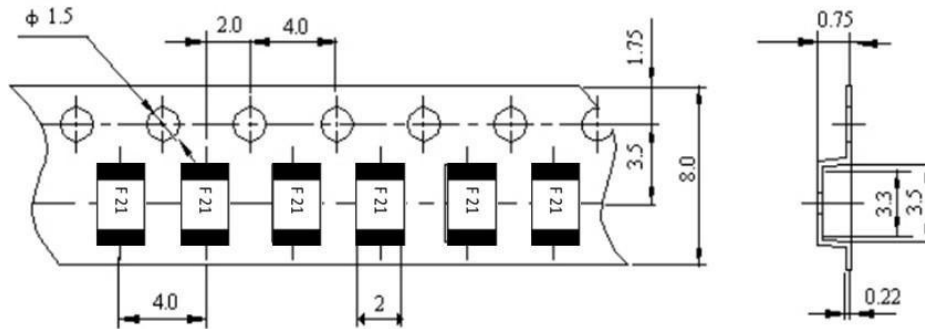
## Reflow Soldering Standard Condition



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## Packaging and Dimensions (2012)

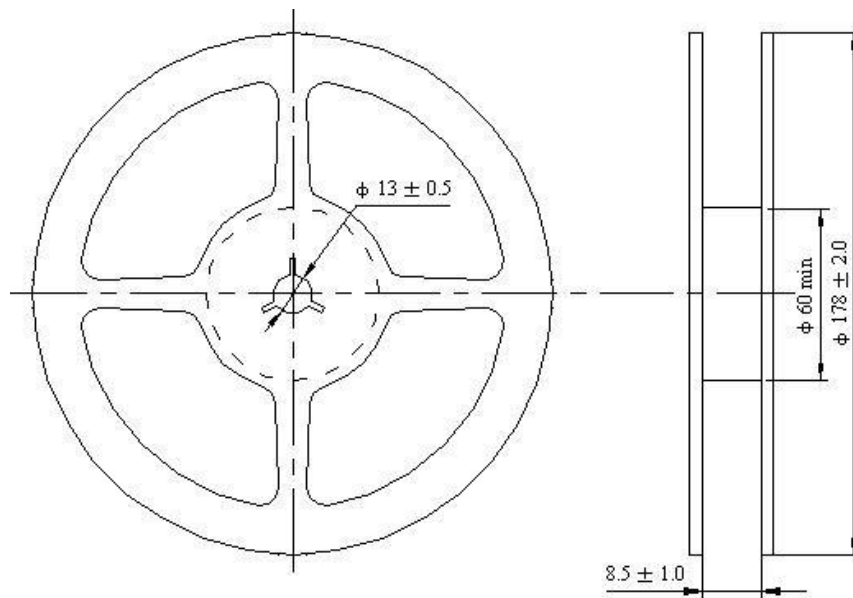
### Plastic Tape



### Remarks for Package

Reserve a length of 150~200mm for the trailer of the carrier and 250~300 mm for the leader of the carrier and further 250mm of cover tape at the leading part of the carrier.

### Reel (6000 pcs/Reel)



### Storage Period

Product should be used within six months of receipt.

MSL 1 / Storage Temperature Range : <30 degree C, Humidity : <85%RH