

# Crystal Resonator



RoHS  
Compliant



## Specifications:

### General

Oscillation Mode : AT, Fundamental  
 Nominal Frequency : 24MHz  
 Load Capacitance : 18pF  
 Storage Temperature : -40°C to +85°C  
 Operable Temperature : -20°C to +70°C

### Electrical Performances

Frequency Stability : ±30ppm at 25°C ±3°C  
 Temperature Characteristics : ±30ppm from -20°C to +70°C  
 Series Resistance : 40Ω max.  
 Load Resistance : NA  
 Supply Current : 100mA max.  
 Shunt Capacitance : 5pF max.  
 Drive Level Nominal : 100uW  
 Insulation Resistance : 500MΩ at DC 100V  
 Aging : ±3ppm / year

## Physical and Environmental Parameters:

Description	Contents	Requirements
Vibration	10Hz to 55Hz, 0.75mm amplitude, in 3 directions duration of 30 minutes.	No mechanical damage and the measured values shall meet electrical parameters.
Random Dropping	The crystal will be test by natural dropping to 30mm wooden board 3 times from high of 30cm.	
Solder Ability	Dipped the terminals no closer than 2mm into the solder bath at 240 ±5°C for 3 ±0.5 sec.	At least 95% of the terminal surface shall be coated by the solder
Resistance Solder Heat	Dipped the terminals up to 2 mm into the solder bath (260 ±5°C) for 5 sec., placed in a natural condition for 2 hours.	Measured values shall meet electrical parameters.
Thermal Shock	Temperature cycling from -40°C (30mins) to +85°C (30mins) was performed 3 times, then placed in a natural condition for 2 hours.	
Life Test (High Temperature)	Placed in a chamber (85 ±2°C) for 48 hours, then placed in a natural condition for 2 hours.	
Life Test (Low Temperature)	Placed in a chamber (-40 ±2°C) for 48 hours, then placed in a natural condition for 2 hours.	
Humidity	Placed in a chamber (Humidity : 90% to 95% RH, Temp: 60 ±2°C) for 48 hours, then placed in a natural condition for 2 hours.	

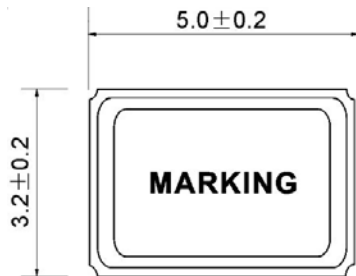


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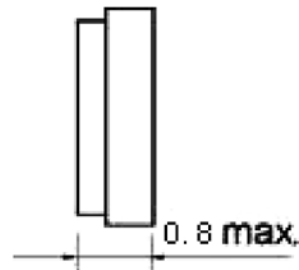
## Dimensions

Top View



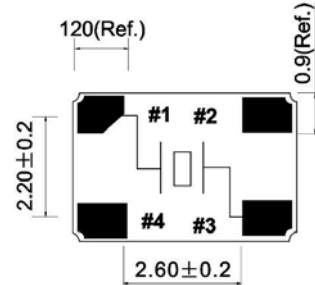
Unit : mm

Side View



Unit : mm

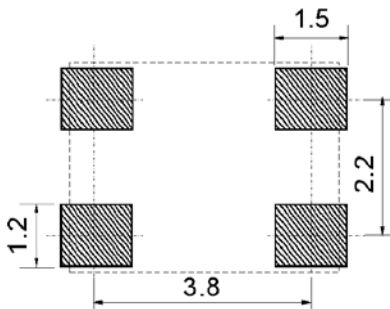
Bottom View



Unit : mm

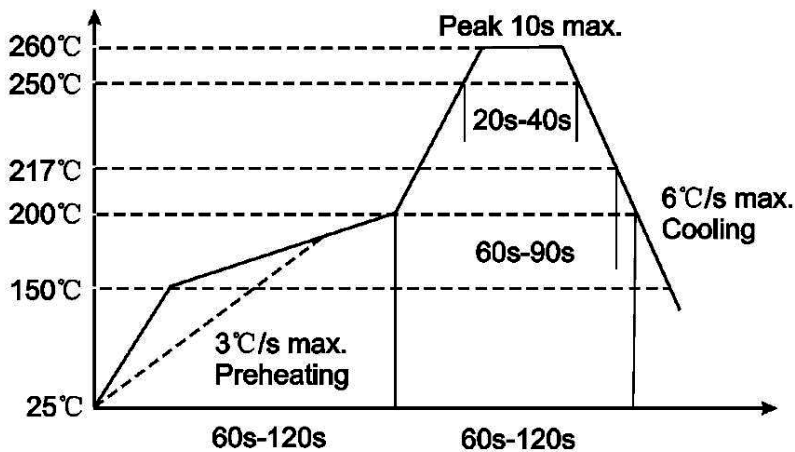
Marking #2 and #4 are connected to metal cap on top.

## Recommended soldering pattern



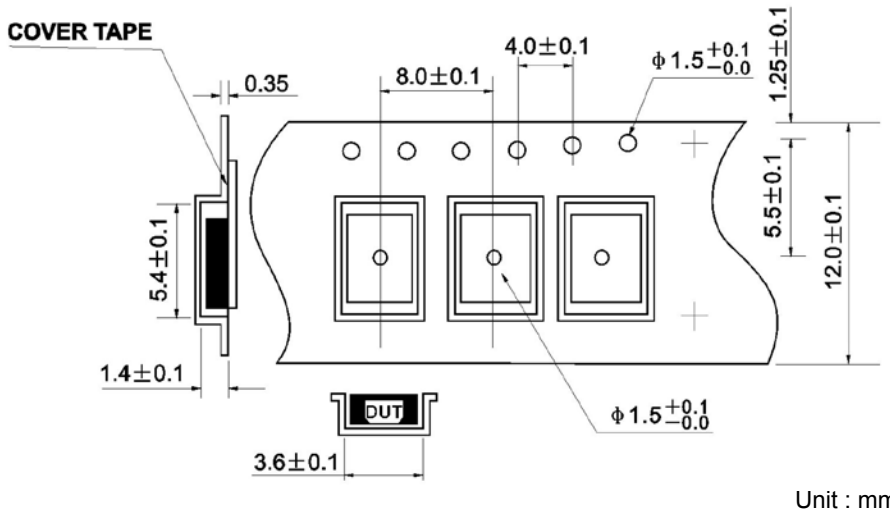
Unit : mm

## Reflow Profile

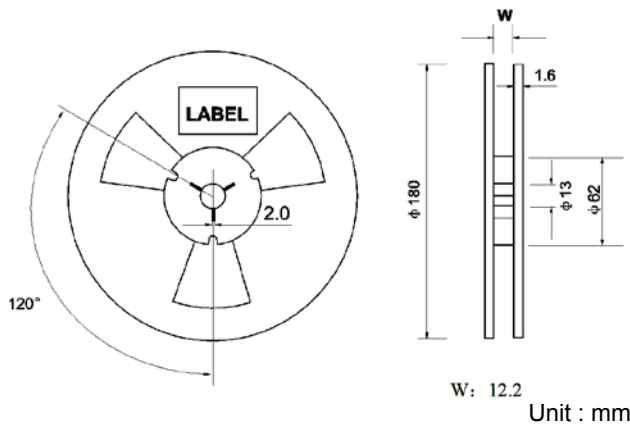


## Packing Information

### Tape Dimensions



### Reel



## Part Number Table

Description	Part Number
Crystal, 18pF 24MHz, SMD	MCRT524000F183000RU

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