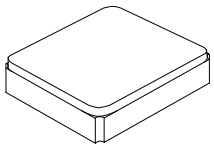
RFMi
A BRAND OF AKOUSTIS

Preliminary

RoHS compliant

XTL2094H-3

40.000000 MHz Crystal Unit



SM2016-4

Features:

- Surface Mount Hermetic Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over temperature
- Ultra Miniature Package
- AEC-Q200 compliance
- Moisture Sensitivity Level (MSL) : Level-1

Description and Applications:

Surface mount 2.0mmx1.6mm crystal unit for use in wireless communications devices, especially for a need of ultra miniature package for mobility.

Electrical Specifications:

XTL2094H-3	**Specification**
Nominal Frequency	40.000000 MHz
Mode of Oscillation	Fundamental
Storage Temperature Range	-40°C to +125°C
Operating Temperature Range	-40°C to +125°C
Frequency Stability over -40°C to +-105°C	+/-30ppm (referred to the value at 25°C)
Frequency Stability over -40°C to +125°C	+/-50 ppm (referred to the value at 25°C)
Frequency Make Tolerance (FL)	+/-10 ppm @ 25°C +/- 3°C
Equivalent Series Resistance (ESR)	60 Ω max
Nominal Drive Level	50uW typical and 100uW max
Shunt Capacitance (Co)	3.0 pF max
Load Capacitance (CL)	10 pF
Aging	+/-2ppm/year
Insulation Resistance	500 MΩ min./DC 100V
Marking	Laser Marking

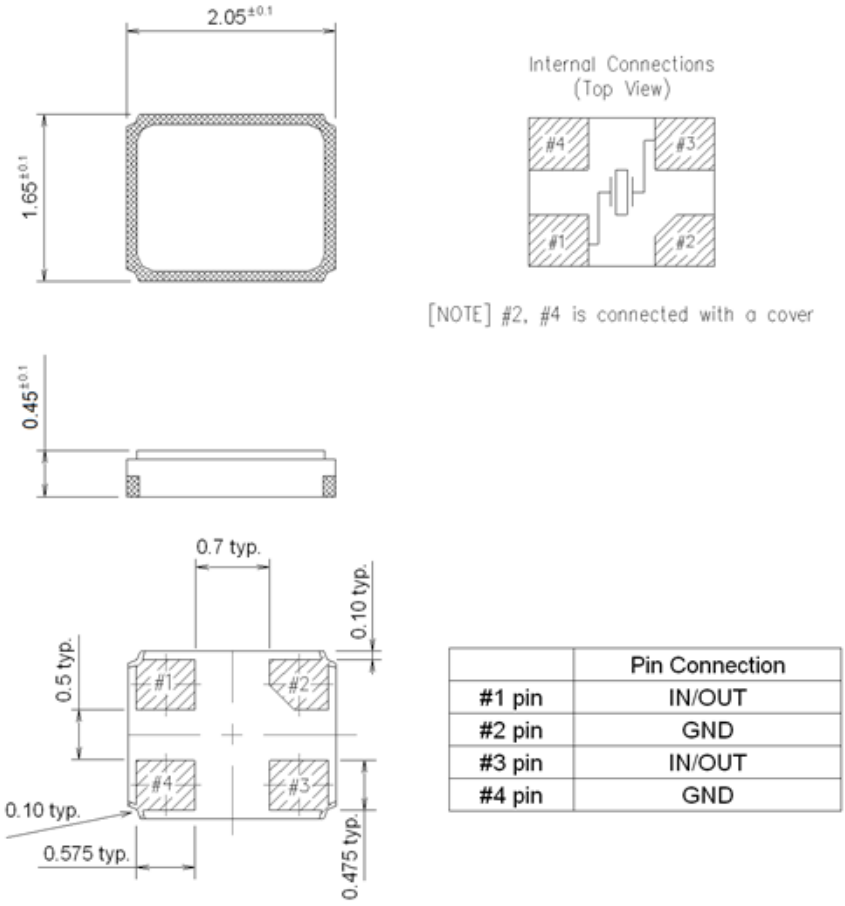
Unit Weight	5.7mg+/-0.5mg
Specification(Crystal curve fitting)	
Inflection Temperature	+27.2°C +/- 2°C
First-order Curve Fitting Parameter (C1)	-0.47 ppm/°C typical
Second-order Curve Fitting Parameter (C2)	-0.57 x10^{-4} ppm/°C^2 typical
Third-order Curve Fitting Parameter (C3)	+10.02 x10^{-5} ppm/°C^3 typical

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

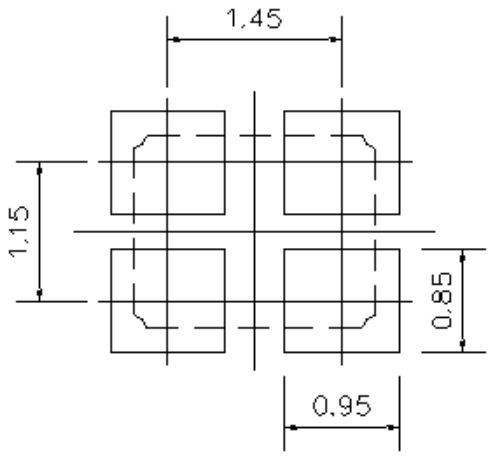
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. This component was always RoHS compliant from the first date of manufacture.

Mechanical Dimensions (mm):
Base



	Pin Connection
#1 pin	IN/OUT
#2 pin	GND
#3 pin	IN/OUT
#4 pin	GND

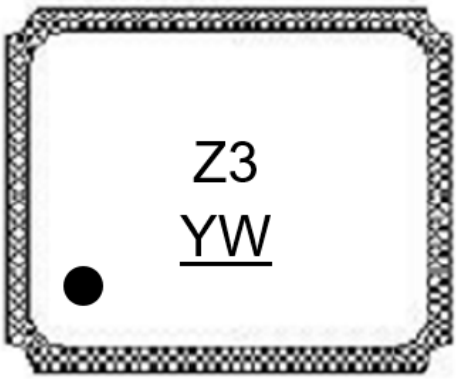
Recommended Land Pattern: (unit: mm)

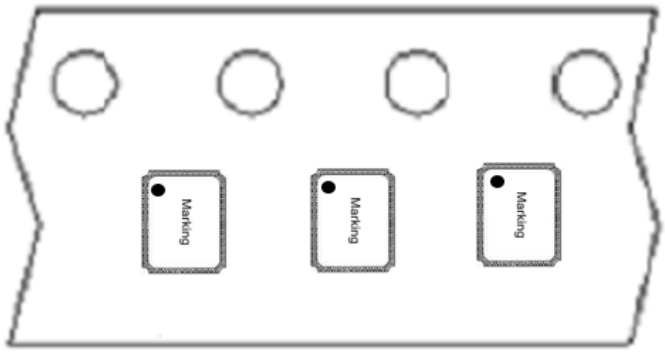


Recommended Land Pattren

Marking:

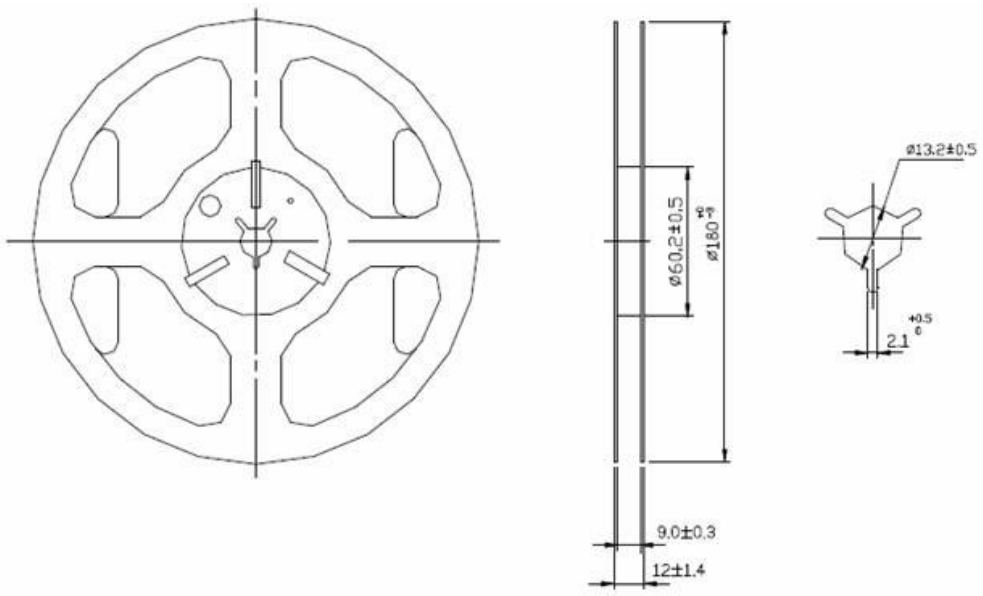
Line 1: Symbol Code Line
2: Y = Year, W = week



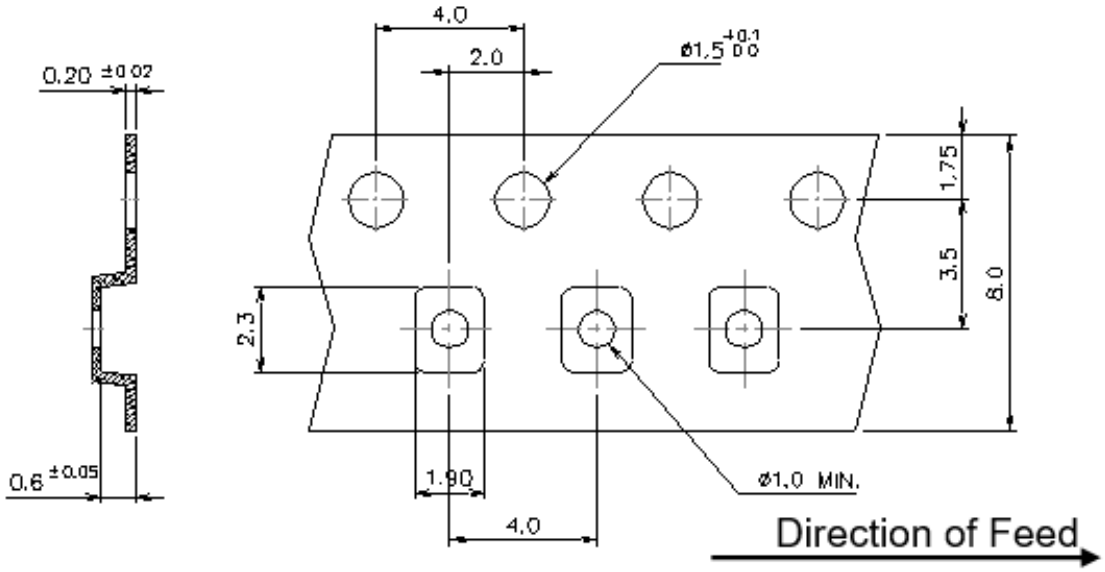


Reel Dimensions (mm):

Reel Count: 7" = 3000



Tape Dimensions (mm):

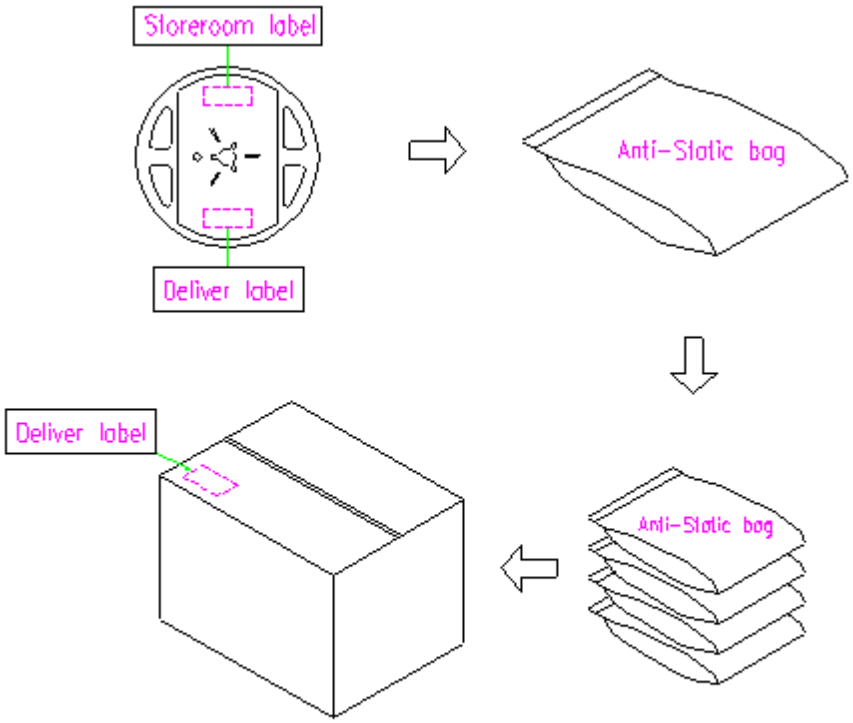


[NOTE]:

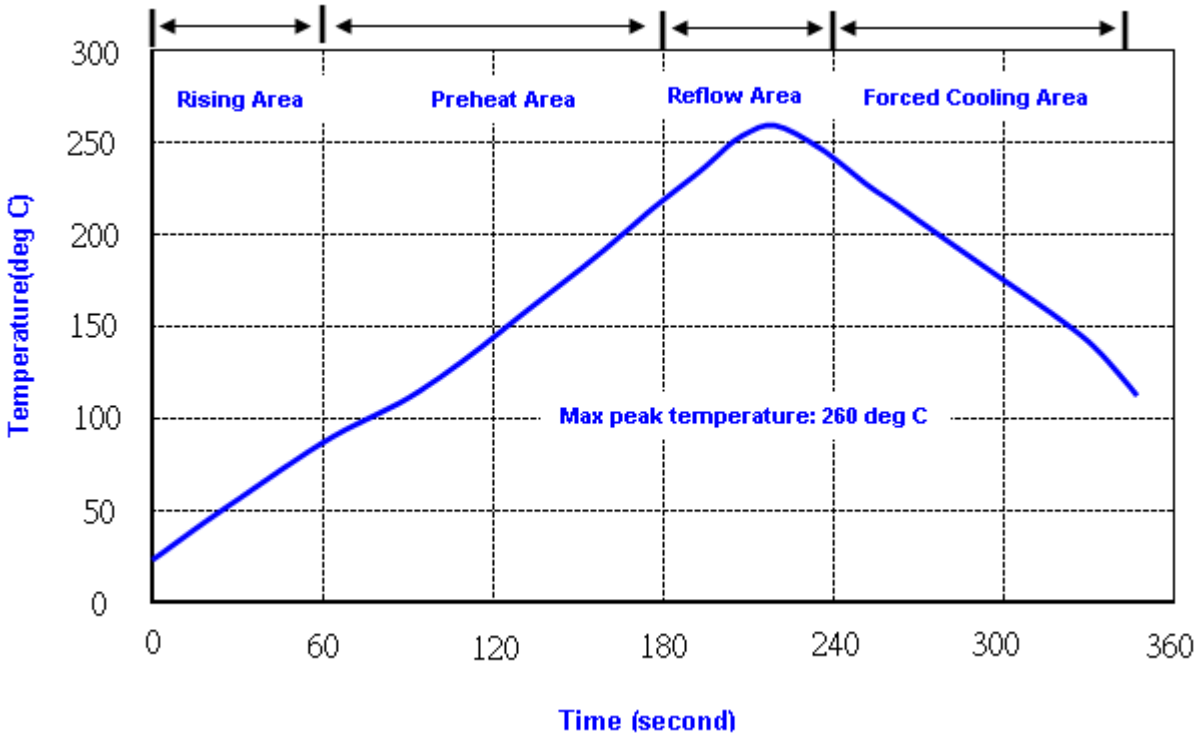
1. Unless otherwise specified tolerance on dimension +/-0.1 mm.
2. Material: conductive polystyrene with color black.
3. 10 pitch cumulative tolerance +/-0.2 mm.

Packing Quantity/Packing:

3K pcs maximum per reel



Reflow Profile:



Note: 1.Max peak temperature: 260+/-5 deg C; Time: 10+/-2 sec

2. Temperature: 217+/-5 deg C; Time: 90~100 sec

Reliability Specifications (AEC-Q200)

Test name	Test process / method	Reference standard
Mechanical characteristics		
resistance to Soldering heat (IR reflow)	Temp./ Duration : 265°C /10sec ×2 times Total time : 4min.(IR-reflow)	EIAJED-4701 -300(301)M(II)
Vibration	Total peak amplitude : 1.5mm Vibration frequency : 10 to 2000 Hz Sweep period : 20 minute Vibration directions : 3 mutually perpendicular	MIL-STD 202G method 204
Mechanical Shock	directions : 3 impacts per axis Acceleration : 6000g's, +20/-0 % Duration : 0.3 ms (total 18 shocks) Waveform : Half-sine	MIL-STD 202G method 213
Solderability	Solder Temperature:265±5°C Duration time: 5±0.5 seconds.	J-STD-002
Environmental characteristics		
Thermal Shock	Heat cycle conditions -55 ℃ (30min) ⟷ 125 ℃ (30min) * cycle time : 1000 times	MIL-STD 883G method 1010.8
Humidity test	Temperature : 85 ± 2 °C Relative humidity : 85% Duration : 1000 hours	MIL-STD 202G method 103
Dry heat (Aging test)	Temperature : 125 ± 2 °C Duration : 1000 hours	MIL-STD 202G method 108A
Cold resistance (Low Temp Storage)	Temperature : -40 ± 3 °C Duration : 1000 hours	IEC 60068-2-1