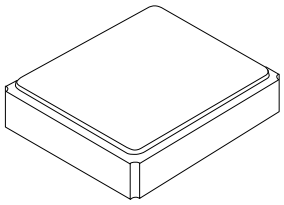
RFMi
A BRAND OF AKOUSTIS

Preliminary

RoHS compliant

XTL2103P

180.000000 MHz Crystal Unit



SM3225-4

Features:

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

Description and Applications:

Surface mount 3.2mmx2.5mm crystal unit for customer for use in wireless communications devices, especially for a need of ultra miniature package for mobility.

Electrical Specifications:

XTL2103P	**Specification**
Nominal Frequency	180.000000 MHz
Mode of Oscillation	Fundamental/3rd Overtone
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-40°C to +85°C
Frequency Stability over Operating Temperature	+/- 15 ppm (referred to the value at 25°C)
Frequency Make Tolerance (FL)	+/- 10 ppm @ 25°C +/- 3°C
Equivalent Series Resistance (ESR)	150 Ω max.
Nominal Drive Level	50uW typical and 300uW max
Shunt Capacitance (Co)	3.0 pF max
Load Capacitance (CL)	10 pF
Aging	+/-3 ppm / 1st year
Insulation Resistance	500 MΩ min./DC 100V
Marking	Laser Marking
Unit Weight	0.017+/-0.005 g

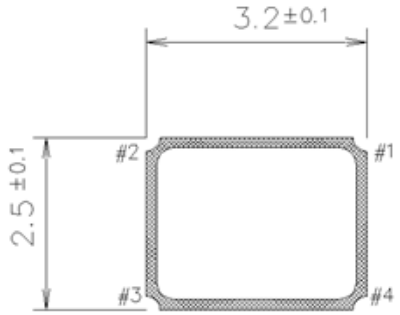
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

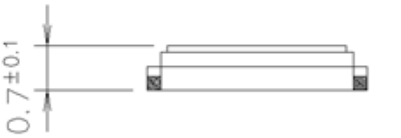
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

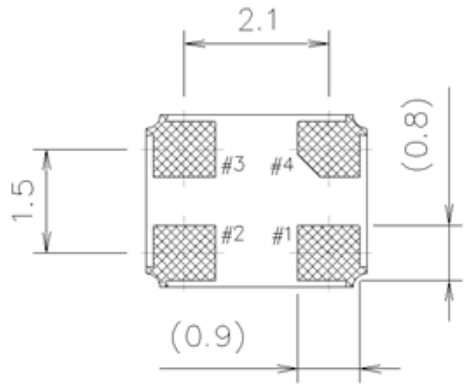
Mechanical Dimensions (mm):

Base

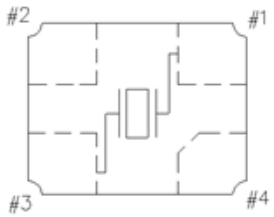


	Pin Connection
#1 pin	IN/OUT
#2 pin	GND
#3 pin	IN/OUT
#4 pin	GND

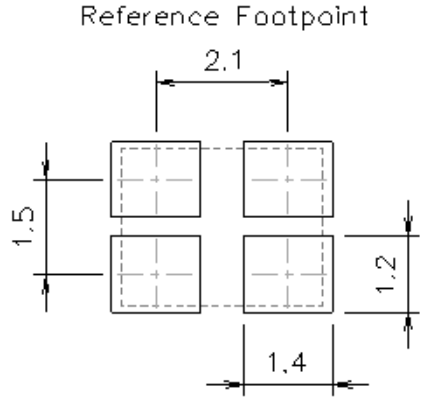




Internal Connections
(Top View)

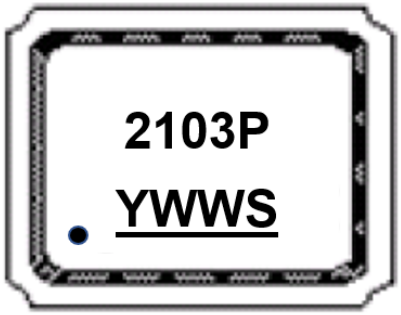


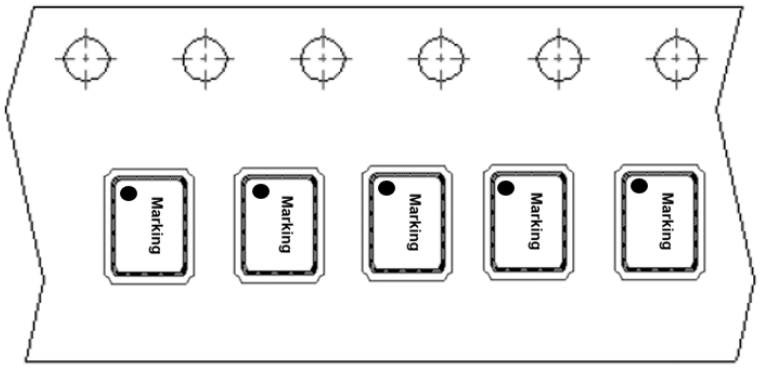
Recommended Land Pattern: (unit: mm)



Marking

Y = Year, WW = Week, S = Shift

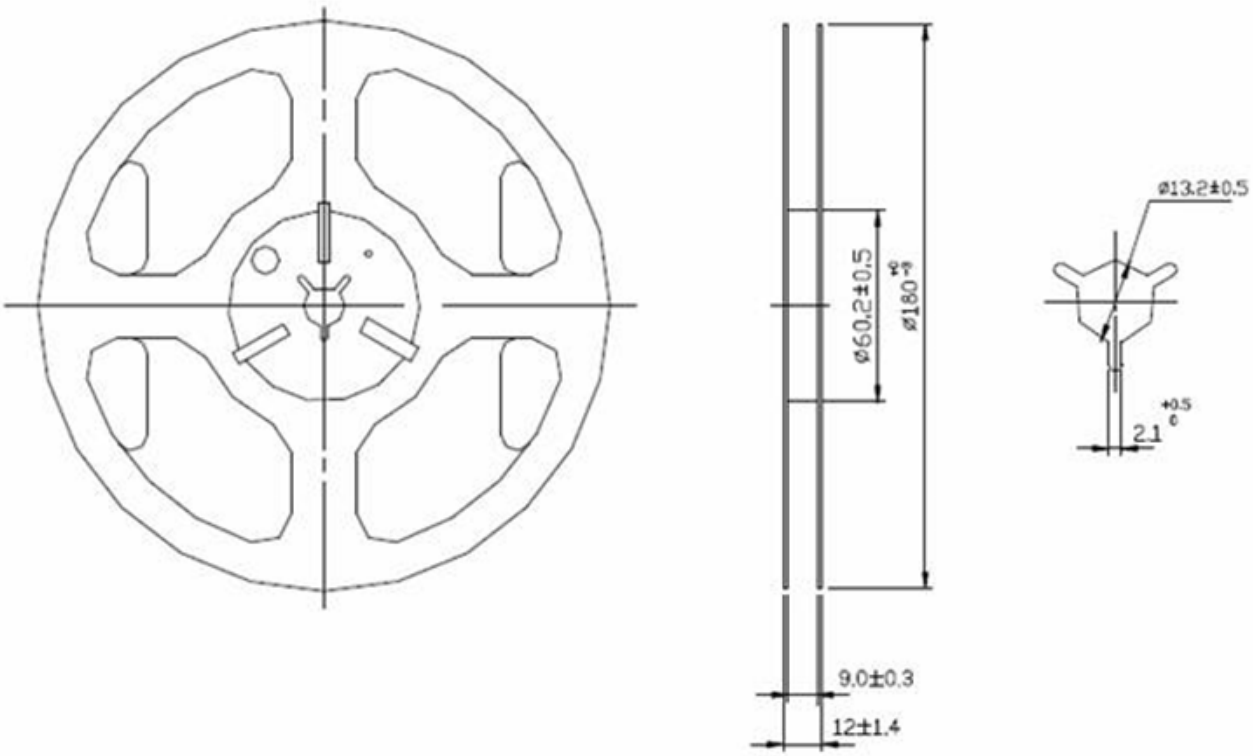




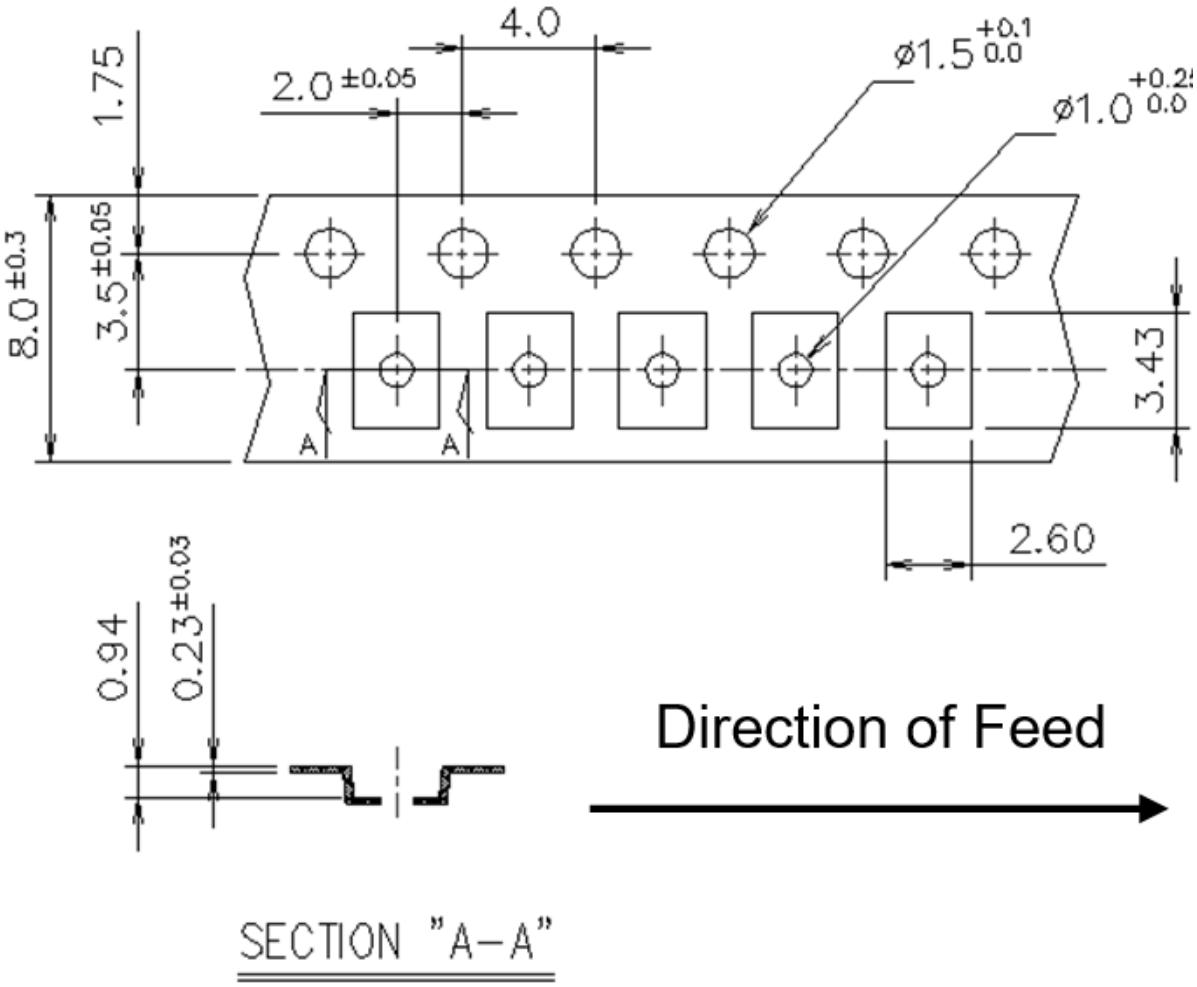
Reel Dimensions (mm):

Reel Count:
7" = 3000

Tape and Reel Standard per ANSI/EIA-481



Tape Dimensions (mm):



[NOTE]

1 UNIT : mm.

2 UNLESS OTHERWISE SPECIFIED TOLERANCEON DIM. +/-0.1mm.

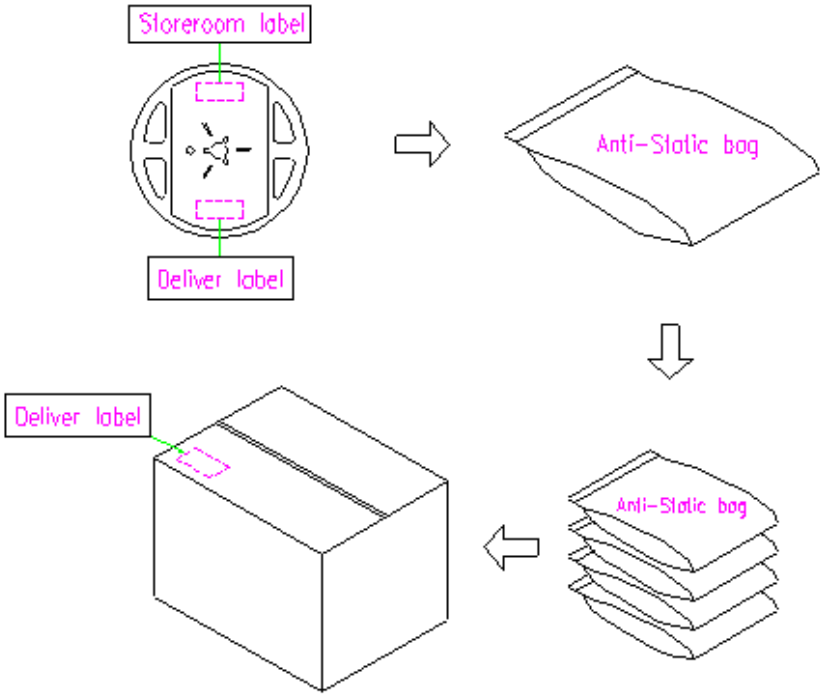
3 MATERIAL : CONDUCTIVE POLYSTYRENE.

4 COLOR : BLACK.

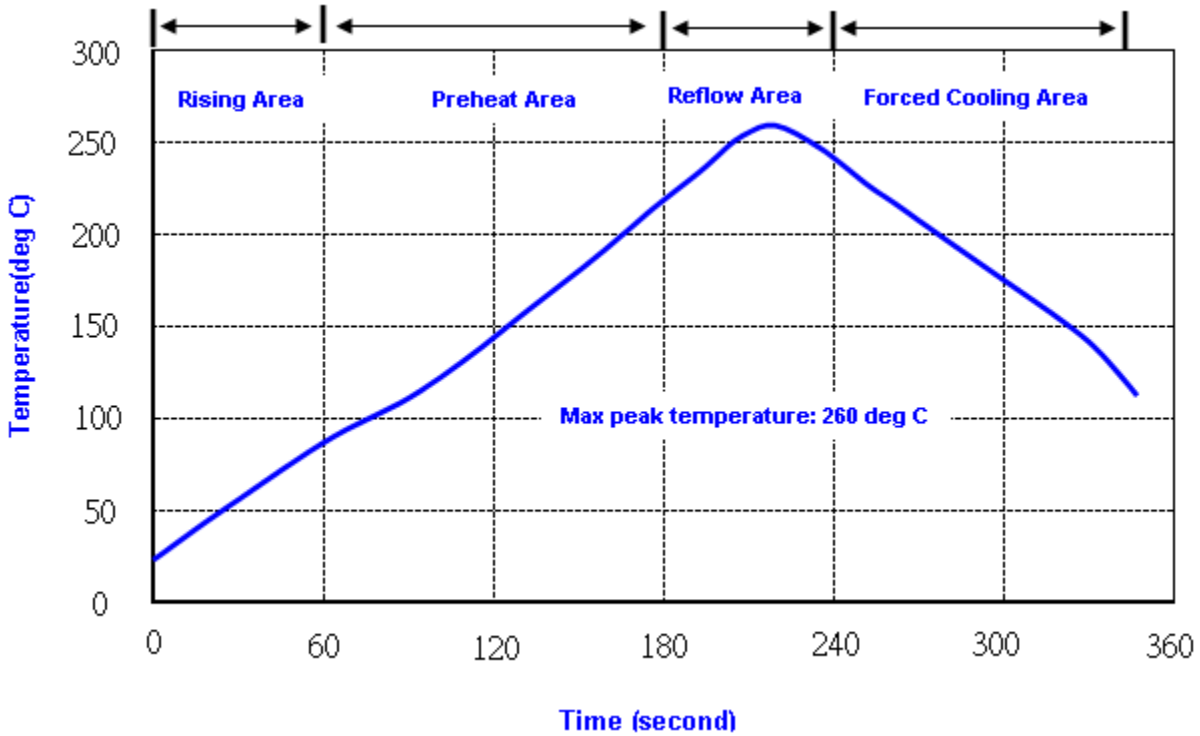
5 10 PITCHES CUMULATIVETOLERANCE +/-0.2mm.

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

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 Duration : 2 hr / direc.	MIL-STD 202G method 204
Mechanical Shock	directions : 3 impacts per axis Acceleration : 3000g'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 -40 ℃ (30min) ⟷ 85 ℃ (30min) * cycle time : 10 times	MIL-STD 883G method 1010.8
Humidity test	Temperature : 85 ± 2 °C Relative humidity : 85% Duration : 96 hours	MIL-STD 202G method 103
Dry heat (Aging test)	Temperature : 125 ± 2 °C Duration : 168 hours	MIL-STD 202G method 108A
Cold resistance (Low Temp Storage)	Temperature : -40 ± 2 °C Duration : 96 hours	IEC 60068-2-1