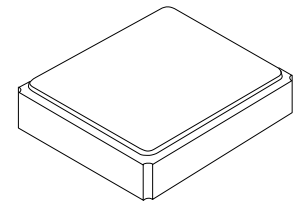


- Surface Mount Hermetic Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over temperature
- Ultra Miniature Package
- Moisture Sensitivity Level: 1
- AEC-Q200 Qualified

XTL2017-1

**24.000000 MHz
Crystal Unit**



SM3225-4 Case

Description and Applications:

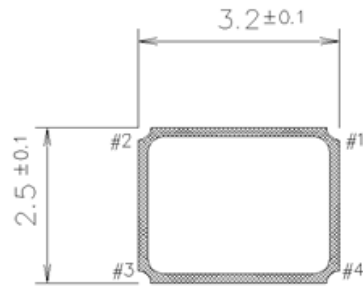
Surface mount 3.2mmx2.5mm crystal unit for customer for use in wireless communications devices, especially for a need of ultra miniature package for mobility.

Electrical Specifications:

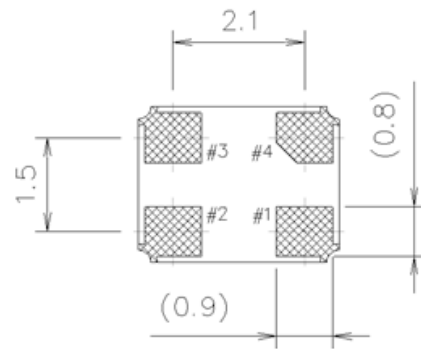
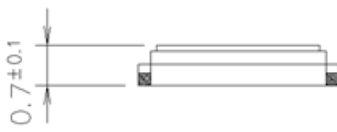
XTL2017-1	Specification
Nominal Frequency	24.000000 MHz
Mode of Oscillation	Fundamental
Storage Temperature Range	-40°C to +125°C
Operating Temperature Range	-40°C to +105°C
Frequency Stability over Operating Temperature	+/- 20 ppm (referred to the value at 25°C)
Frequency Make Tolerance (FL)	+/- 10 ppm @ 25°C +/- 3°C
Frequency perturbation	±6 ppm max over 2°C
Equivalent Series Resistance (ESR)	50 Ω max.
Nominal Drive Level	10uW typical and 200uW max
Shunt Capacitance (Co)	3.0 pF max
Load Capacitance (CL)	18 pF
Aging	+/-5ppm/ 5years
Insulation Resistance	500 MΩ min./DC 100V
Marking	Laser Marking
Unit Weight	0.017+/-0.005 g

Mechanical Dimensions (mm):

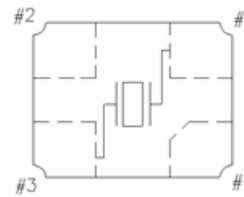
Base



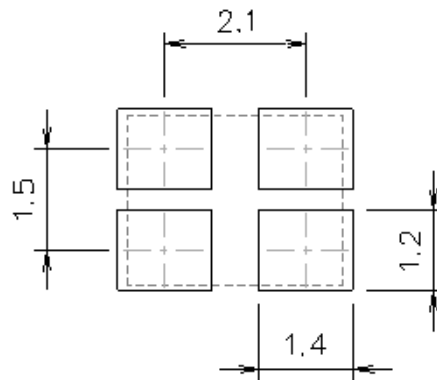
	Pin Connection
#1 pin	IN/OUT
#2 pin	GND
#3 pin	IN/OUT
#4 pin	GND



Internal Connections
(Top View)

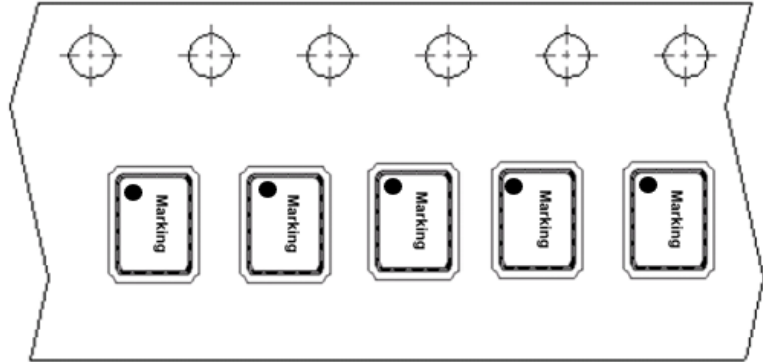


Recommended Land Pattern: (unit: mm)



Marking

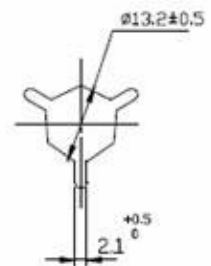
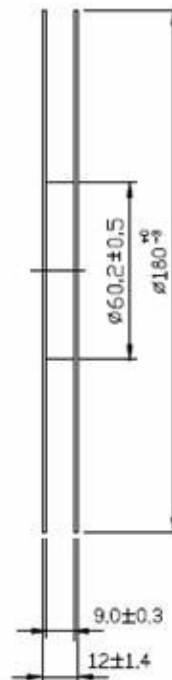
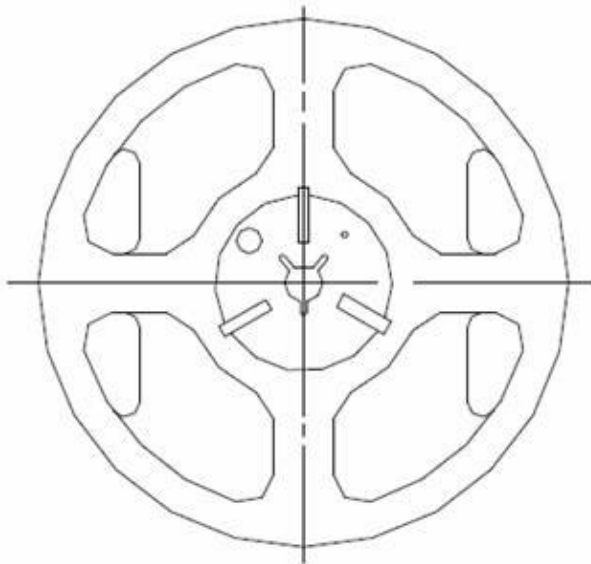
Y = Year, WW = Week, S = Shift



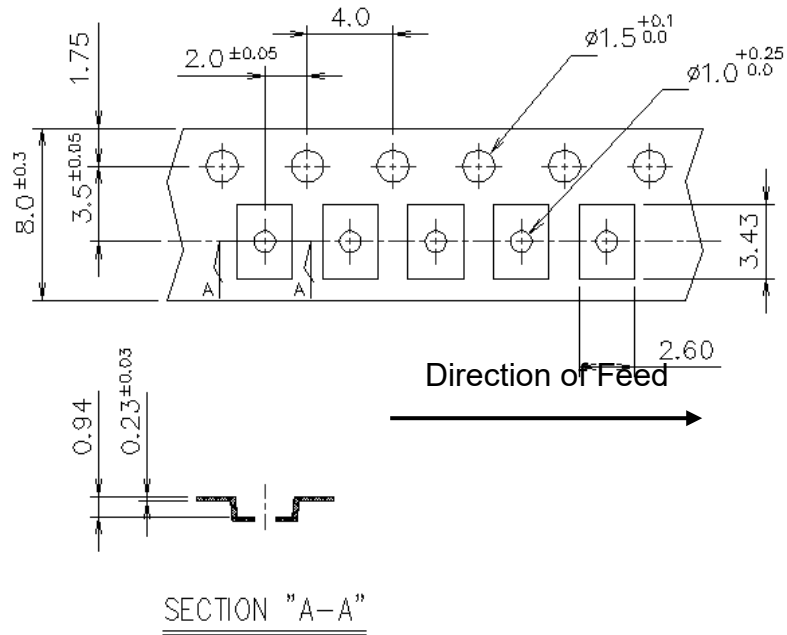
Reel Dimensions (mm):

Tape and Reel Standard per ANSI/EIA-481

Reel Count:
7" = 3000



Tape Dimensions (mm):

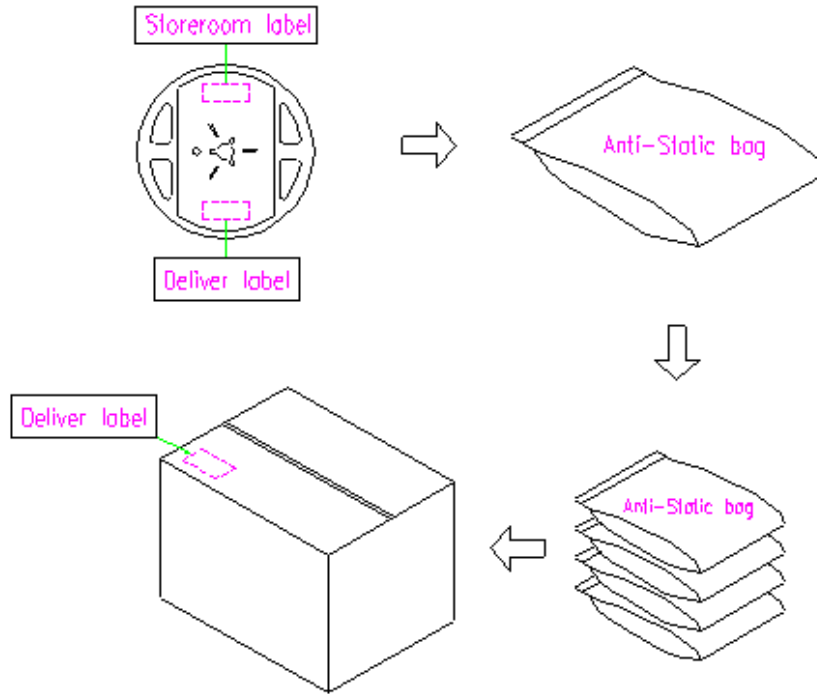


[NOTE]

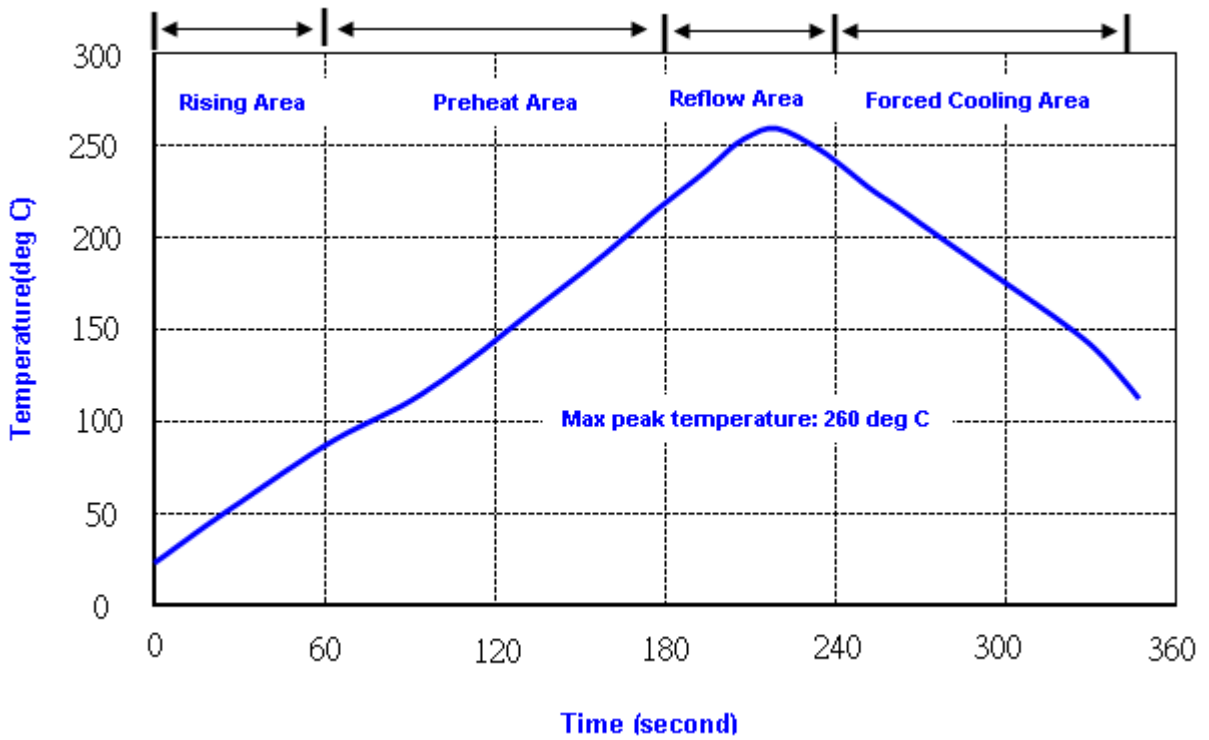
- 1 UNIT : mm.
- 2 UNLESS OTHERWISE SPECIFIED TOLERANCE ON DIM. ± 0.1 mm.
- 3 MATERIAL : CONDUCTIVE POLYSTYRENE.
- 4 COLOR : BLACK.
- 5 10 PITCHES CUMULATIVE TOLERANCE ± 0.2 mm.

Packing Quantity/Packing:

3K pcs maximum per reel



Reflow Profile:



Note: 1. Max peak temperature: 260 \pm 5 deg C; Time: 10 \pm 2 sec
2. Temperature: 217 \pm 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 °C (30min) ↔ 125 °C (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