

XTL2048P

**32.768000 KHz
Crystal Unit**



SM3215-2

Features:

- Ceramic Seam Weld Package
- Excellent Reliability Performance
- Ultra Miniature Package
- Available to Surface Mount Technology and IR Reflow Process
- AEC-Q200 Compliant
- Moisture Sensitivity Level (MSL) : Level-1

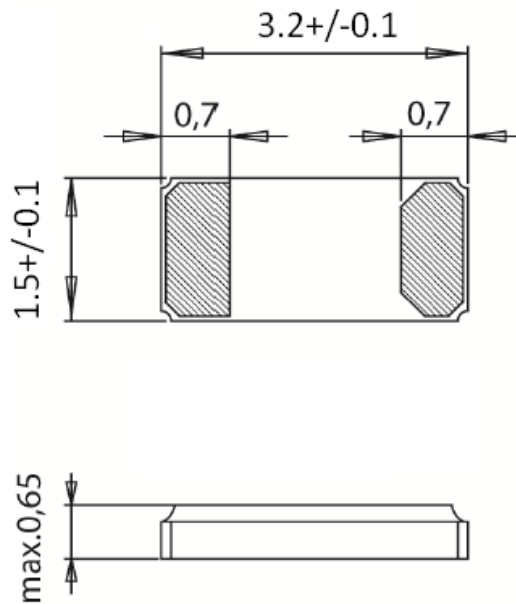
Description and Applications:

Surface mount 3.2mmx1.5mm crystal unit for use in communications devices,.

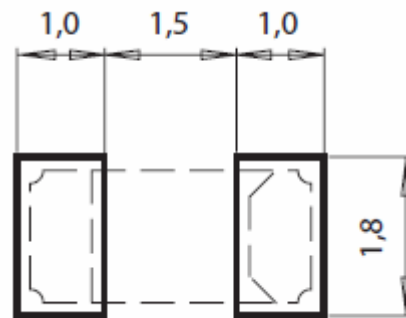
Electrical Specifications:

XTL2048P	Specification
Nominal Frequency	32.768000 KHz
Storage Temperature Range	-55°C to +125°C
Operating Temperature Range	-40°C to +125°C
Turnover Temperature	25 +/- 5 °C
Parabolic Curvature Constant	-0.04 ppm / °C ² max.
Frequency Make Tolerance (FL)	+/-20 ppm @ 25°C +/- 2°C
Equivalent Series Resistor (ESR)	70 kΩ max.
Drive Level	1.0 uW max.
Load Capacitance (CL)	12.5 pF
Aging	+/-3.0 ppm/year @25°C
Marking	Laser marking
Insulation Resistance	500M Ω min at DC 100V

Mechanical Dimensions (mm):



Recommended Land Pattern: (unit: mm)



Marking:

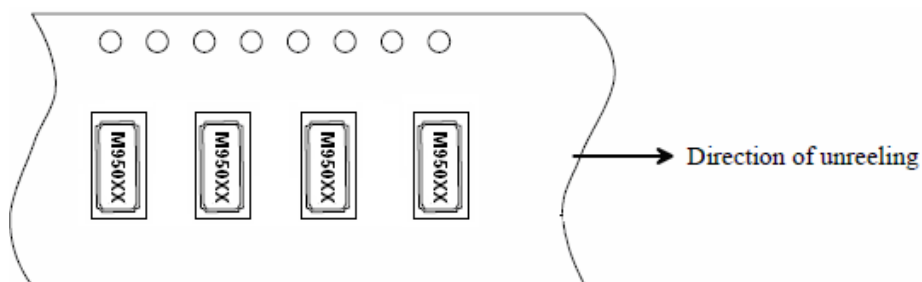
M950XX

M: Frequency code

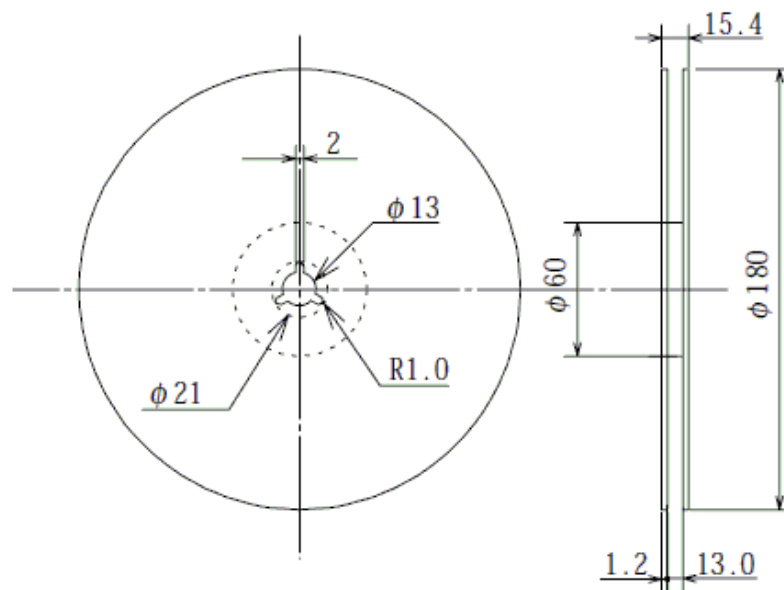
9 : Year code : 9 for 2019

50 : Week code

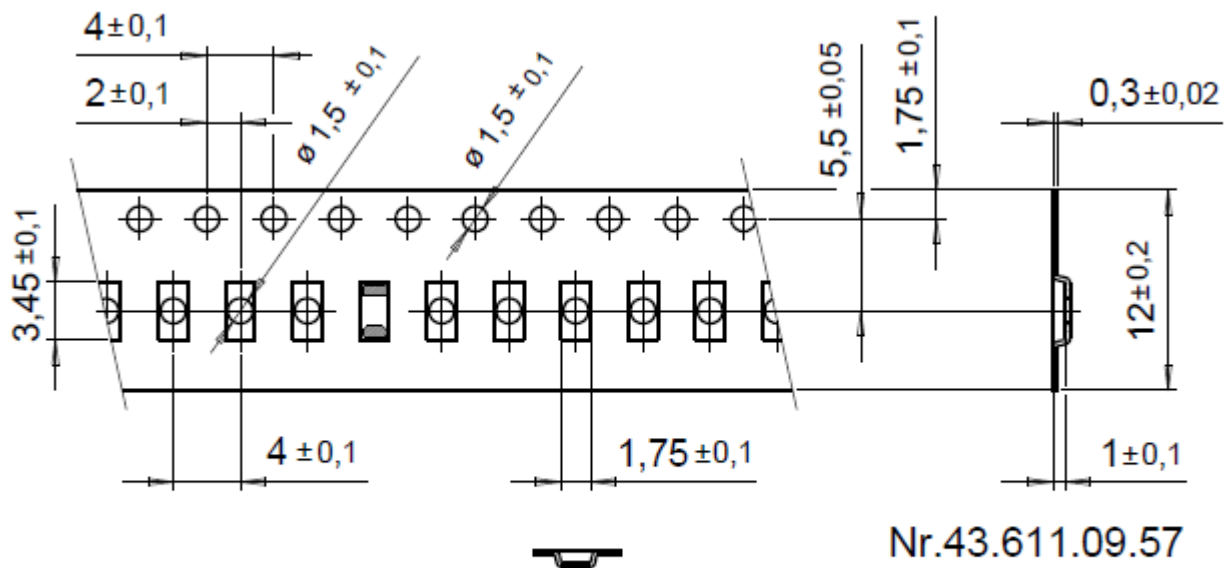
XX: Batch Traceability code



Reel Dimensions (mm):



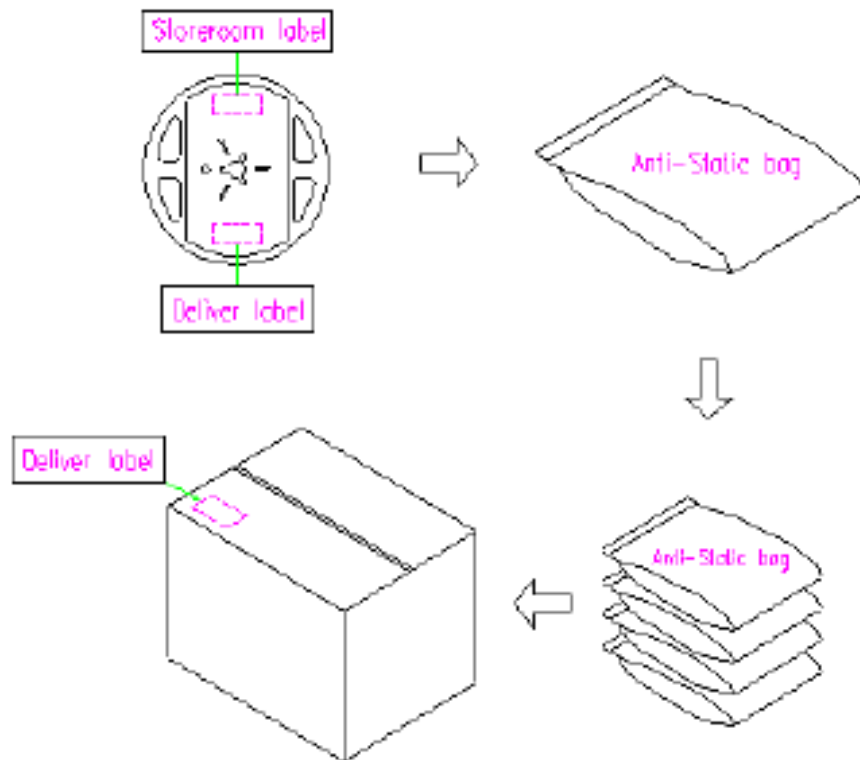
Tape Dimensions (mm):



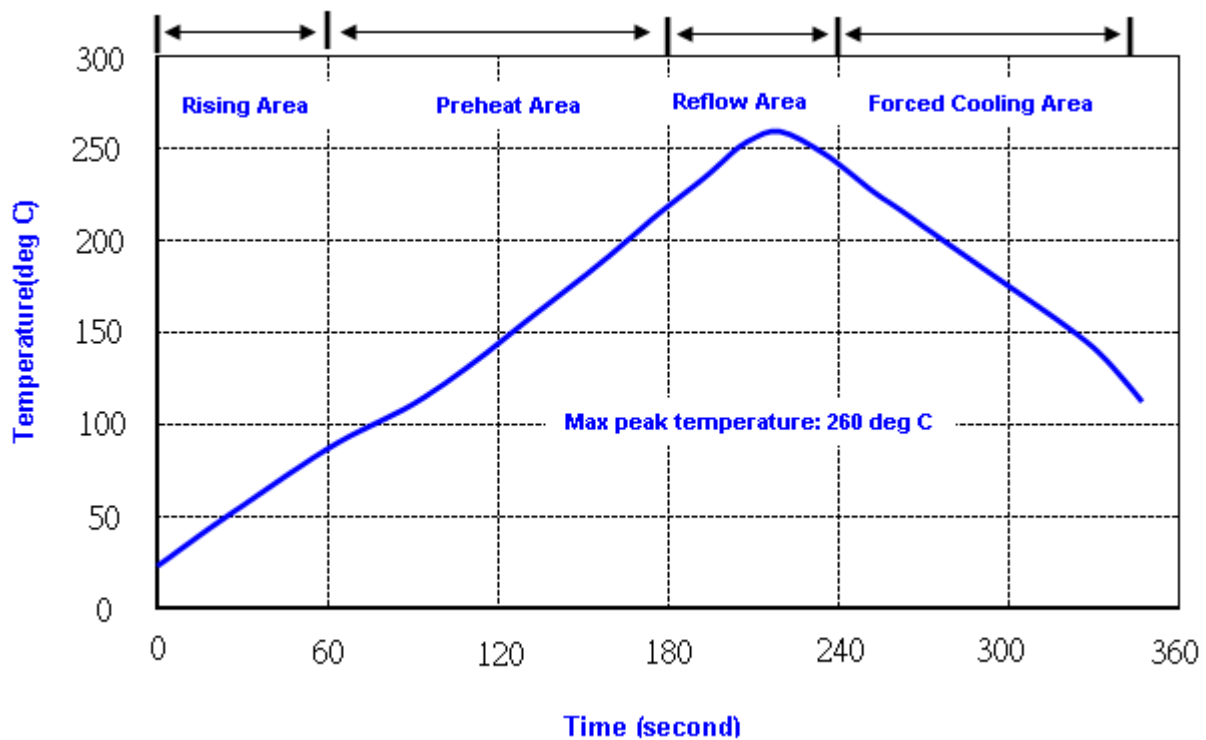
User Direction of Feed

Packing Quantity/Packing:

3K pcs maximum per reel



Reflow Profile:



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



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.