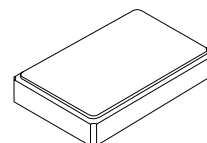


- **High Performance Crystal for Wireless Communications Devices**
- **Excellent Frequency Stability and Reliability**
- **Ultra-Miniature Surface Mount Seam Weld Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

XTL1020

**12.80000 MHz
Crystal Unit**



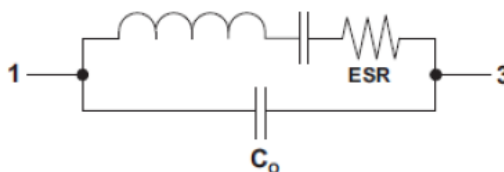
SM5032-4 Case

The XTL1020 is a very high stability 12.8 MHz crystal suitable for a wide range of communications applications. The XTL1020's excellent frequency stability supports operation from -40 to +85 °C. The XTL1020 is specifically recommended for use with RFM's TRC103 transceiver IC.

Electrical Characteristics

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Nominal Frequency	F_O			12.80000		MHz
Mode of Oscillation			Fundamental			
Storage Temperature Range			-40		+85	°C
Operating Temperature Range			-40		+85	°C
Frequency Stability over Operating Temperature Range			± 20 ppm (referred to the value at 25°C)			
Frequency Make Tolerance	F_L		± 10 ppm @ 25°C $\pm 3^\circ\text{C}$			
Equivalent Series Resistance	ESR				50	Ω
Shunt Capacitance	C_O			7		pF
Nominal Drive Level				10		μW
Load Capacitance	C_L			15		pF
Aging			± 2.0 ppm/year @ 25°C			
Standard Shipping Quantity on 330 mm (13") Reel				3000		units
Lid Symbolization (Y = Year, WW = Week, S = Shift)			1020, <u>YWWS</u>			

Crystal Equivalent Circuit



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

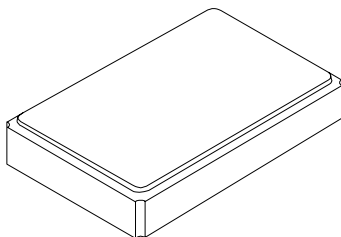
NOTES:

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.

SM5032-4 Case

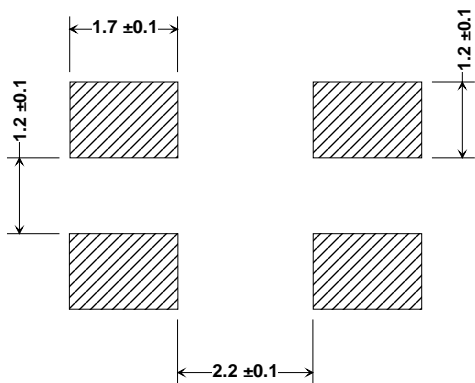
4-Terminal Surface-Mount Seam Weld Case

5.0 x 3.2 mm Nominal Footprint



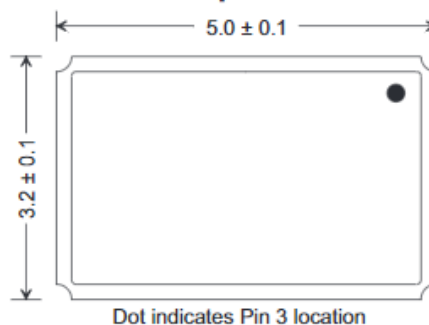
Electrical Connections

Pin	Connection
1	IN/OUT
2	GND (lid)
3	IN/OUT
4	GND (lid)



Footprint (mm)

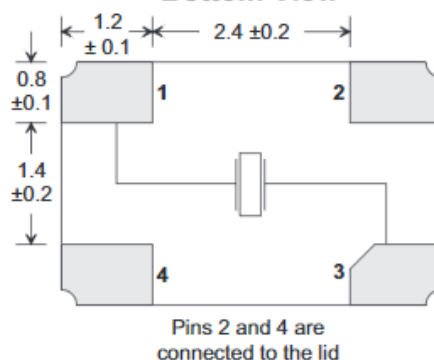
Top View



Side View

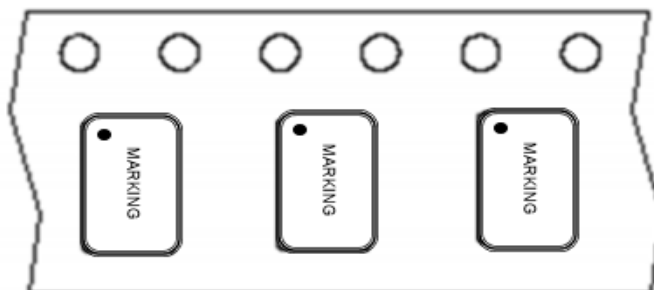
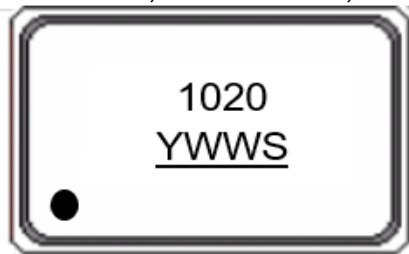


Bottom View



Marking:

Y = Year, WW = Week,



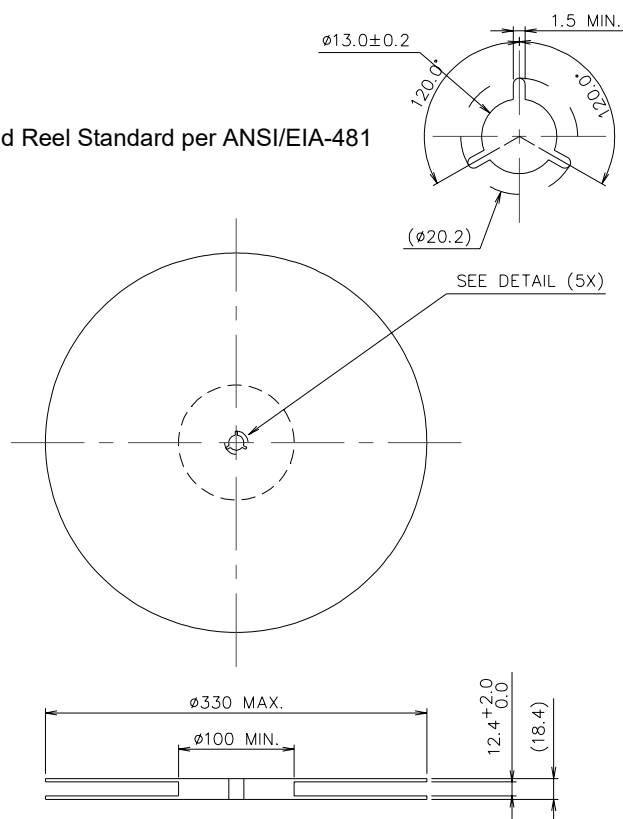
Reel Dimensions

Reel Count:

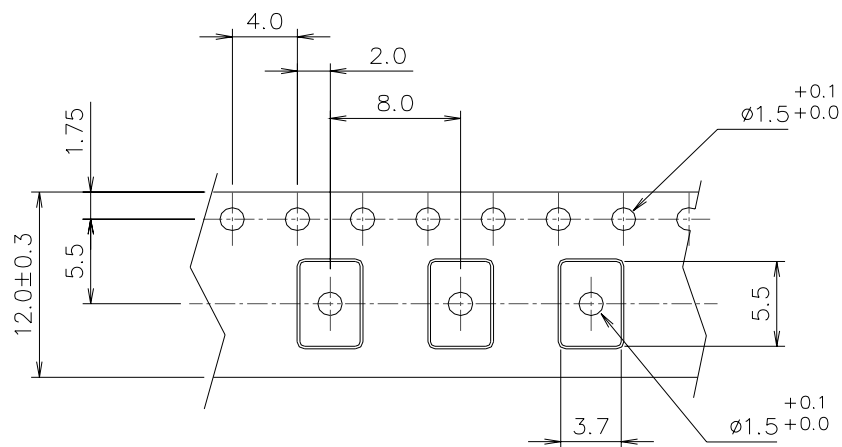
7" = 500

13" = 3000

Tape and Reel Standard per ANSI/EIA-481



Tape Dimensions



Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

