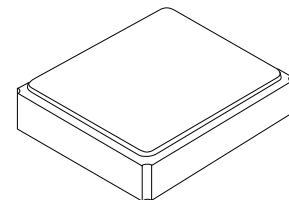


XTL1020P

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

The XTL1020P is a high stability 12.8000 MHz crystal suitable for a wide range of communications applications where small size is important.

**12.8000 MHz
Crystal Unit**

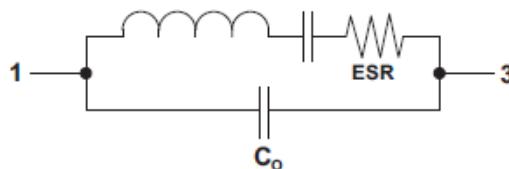


SM3225-4 Case

Electrical Characteristics

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Nominal Frequency	f_0			12.8000		MHz
Mode of Oscillation				Fundamental		
Storage Temperature Range in Tape and Reel			-40		+85	°C
Operating Temperature Range			-40		+85	°C
Frequency Make Tolerance	f_L		±15 ppm @ 25 °C ±3 °C			
Frequency Stability over Operating Temperature Range			±20 ppm (referenced to the value at 25 °C)			
Equivalent Series Resistance	ESR				100	Ω
Shunt Capacitance	C_0			3		pF
Nominal Drive Level					10	μW
Load Capacitance	C_L			15		pF
Aging at 25 °C					±1.0	ppm/yr
Insulation Resistance, 100 VDC			500			MΩ
Standard Shipping Quantity on 178 mm (7") Reel				3000		units
Lid Symbolization (Y = year, WW = week, S = shift)			1020P YWWs			

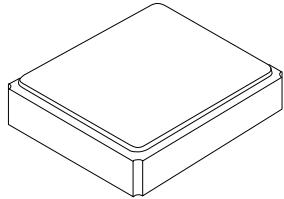
Crystal Equivalent Circuit



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.

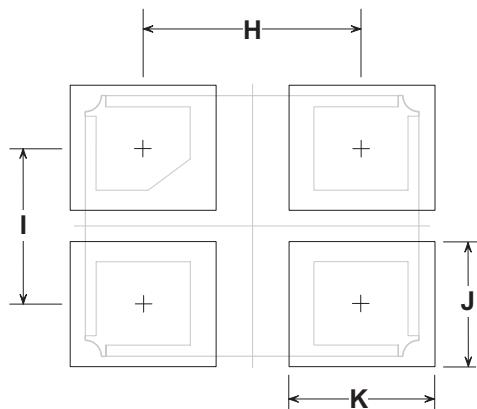
SM3225-4 Case

4 Terminal Surface Mount Seam Weld Case 3.2 x 2.5 mm Nominal Footprint



Electrical Connections

Connection	Terminals
Input / Output	1
Ground	2
Input / Output	3
Ground	4

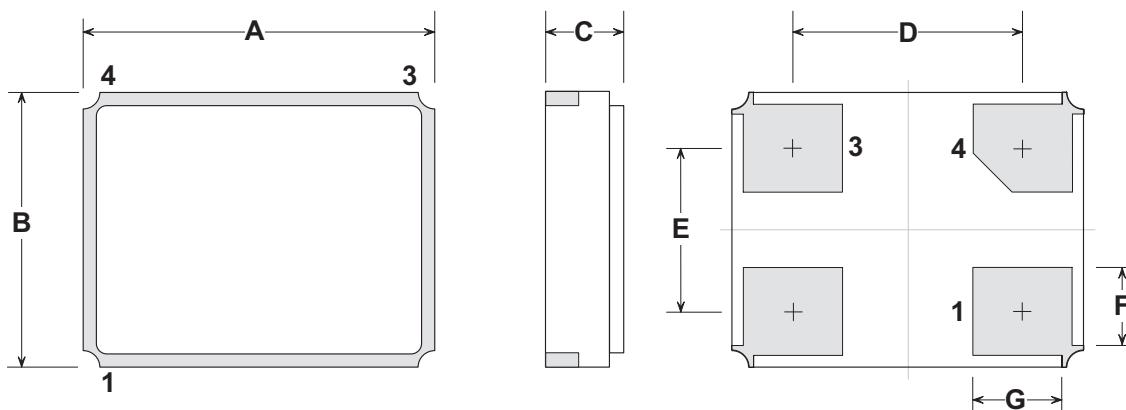


Typical PCB Land Footprint
(Top View)

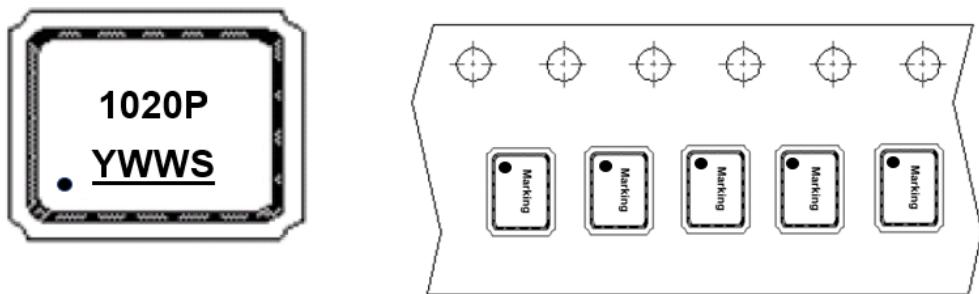
Case and PCB Land Dimensions

Dimensions	Millimeters			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.10	3.20	3.30	0.122	0.126	0.130
B	2.40	2.50	2.60	0.094	0.098	0.102
C			0.70			0.028
D		2.10			0.083	
E		1.50			0.059	
F		0.80			0.031	
G		0.90			0.035	
H		2.10			0.083	
I		1.50			0.059	
J		1.20			0.047	
K		1.40			0.055	

Case Outline Drawing



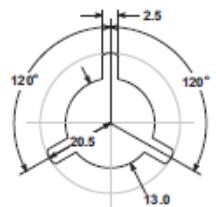
Marking:



Reel Dimensions

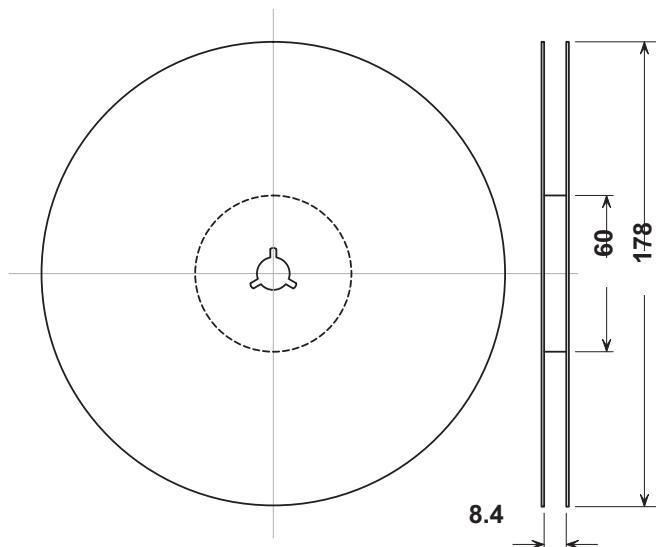
Reel Count"
7" = 1000
13" = 3000

Tape and Reel Standard per ANSI/EIA-481

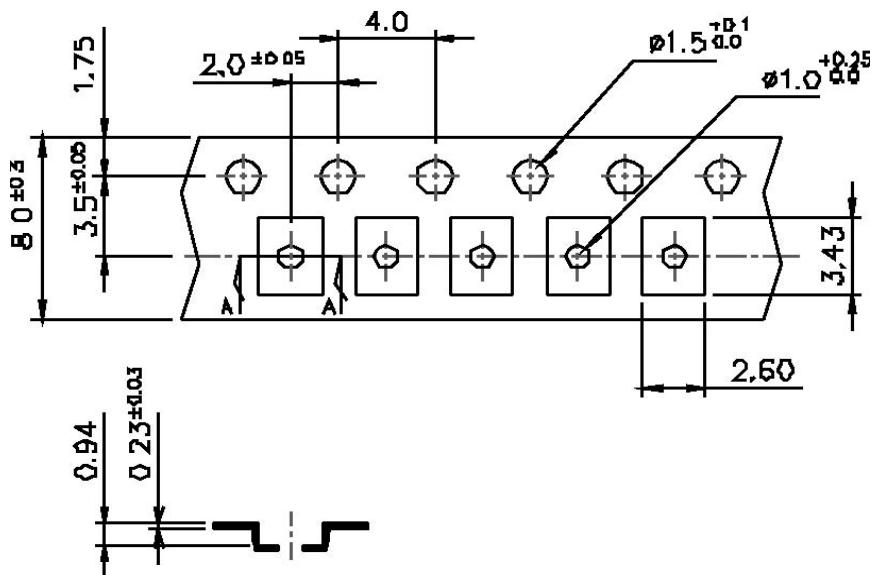


Reel Hub Detail

Dimensions in mm



Tape Dimensions



SECTION "A-A"

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.

