

SMD Quartz Crystal Unit

4U Series

MEC Crystals

Seam Sealed Ceramic SMD Package (3.2 x 2.5 x 0.7mm)

(4 Pads)

Features:

- Ultra thin, thickness 0.70mm
- Leadless type
- High precision characteristic covering up to high frequency range
- Designed for automatic mounting and reflow soldering
- Embossed tapping specification
- The best choice for Bluetooth wireless communication sets, DSN, PDA and mobile phone

- RoHs Compliant (Pb Free)

Electrical Specifications:

Frequency Range	12.000MHz ~ 54.000MHz
Frequency Tolerance at 25°C	±10ppm, ±30ppm or specify
Frequency Stability over Operating Temperature Characteristic	±10ppm, ±30ppm or specify
Operating Temperature Range	-10°C ~ +60°C -20°C ~ +70°C -40°C ~ +85°C
Storage Temperature Range	-55°C ~ +125°C
Shunt Capacitance (C ₀)	5.0 pF max
Drive Level	10µW ~ 100µW
Load Capacitance (C _L)	Series, 16pF, 20pF, 30pF, 32pF or specify
Aging at 25°C 1st year (max)	±3ppm / year
Shock Resistance	Drop test of 3 times on 2mm stainless plate from 75cm height



Typical Frequencies, ESR & Operating Modes:

Frequency	E.S.R. (ohm)	Mode
12.000MHz ~ 23.999MHz	80 Max.	AT / Fundamental
24.000MHz ~ 47.999MHz	60 Max.	AT / Fundamental
48.000MHz ~ 54.000MHz	40 Max.	AT / Fundamental

Part Numbering System:

4U 16.000 F 16 X 10 30
① ② ③ ④ ⑤ ⑥ ⑦

① Series

4U

② Frequency

Frequency
ex. 16.000

③ Mode of Vibration

Code	Cut-Mode
F	AT Fund
3	AT 3rd OT

④ Load Capacitance CL

Code	Load Capacitance
S	Series
16	16pF
20	20pF
30	30pF
32	32pF

⑤ Operating Temperature

Code	Ranges
A	-10°C ~ +60°C
B	-20°C ~ +70°C
X	-40°C ~ +85°C

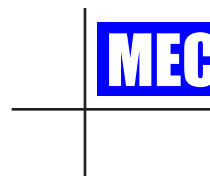
⑥ Frequency Tolerance

Code	Tolerance
10	± 10 ppm
15	± 15 ppm
20	± 20 ppm
25	± 25 ppm
30	± 30 ppm
50	± 50 ppm
or specify	

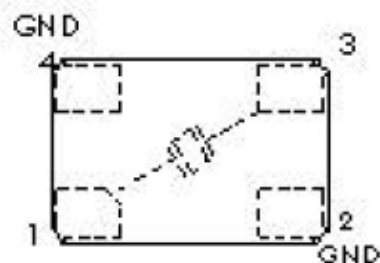
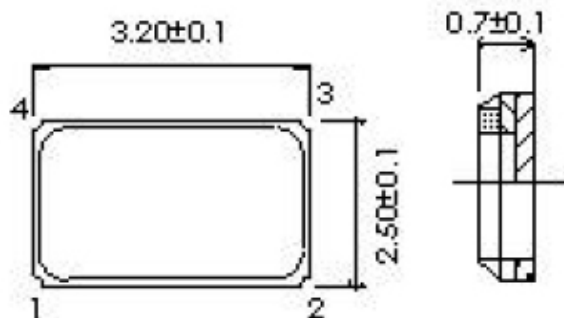
⑦ Frequency Stability

Code	Stability
10	± 10 ppm
15	± 15 ppm
20	± 20 ppm
25	± 25 ppm
30	± 30 ppm
50	± 50 ppm
or specify	

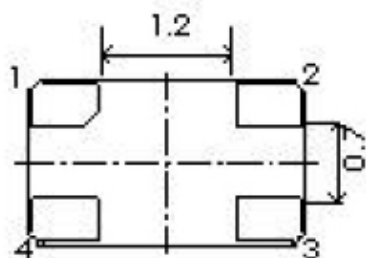
Remark: Specifications are subject to change without prior notice. Please confirm with our sales engineer.



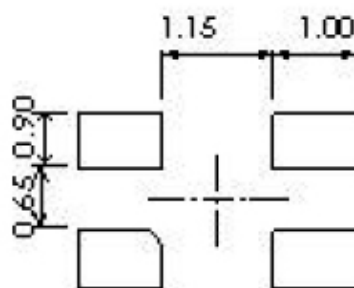
Dimension (mm):



Internal View Connection

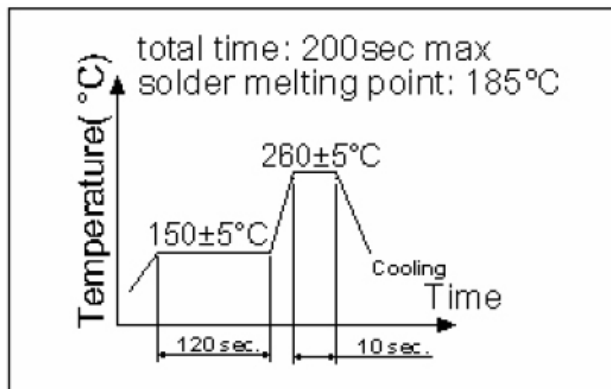


Bottom View

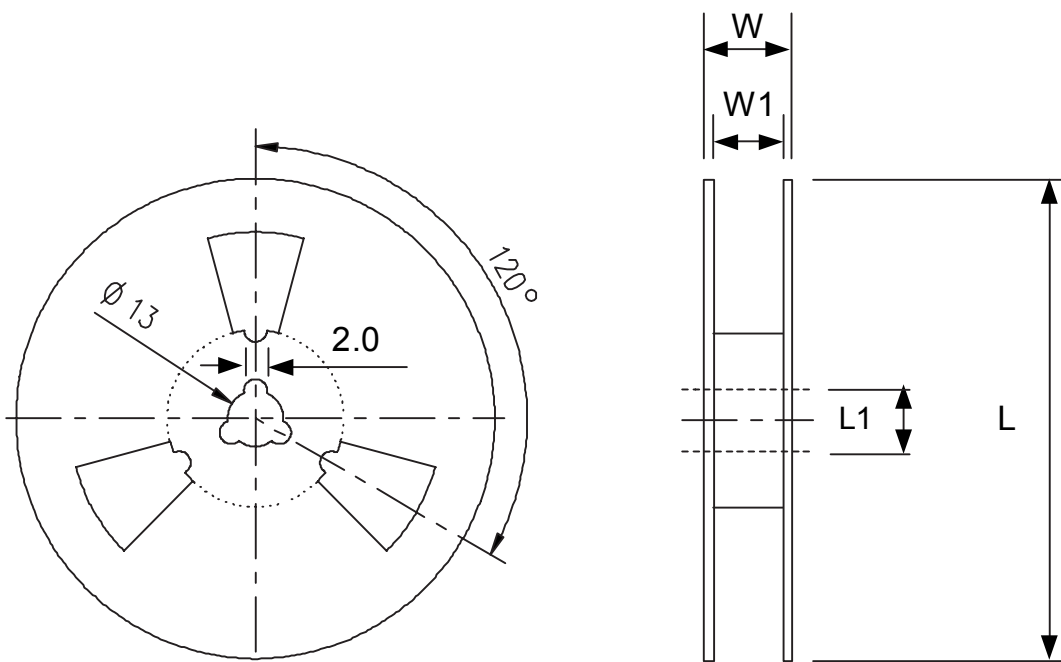
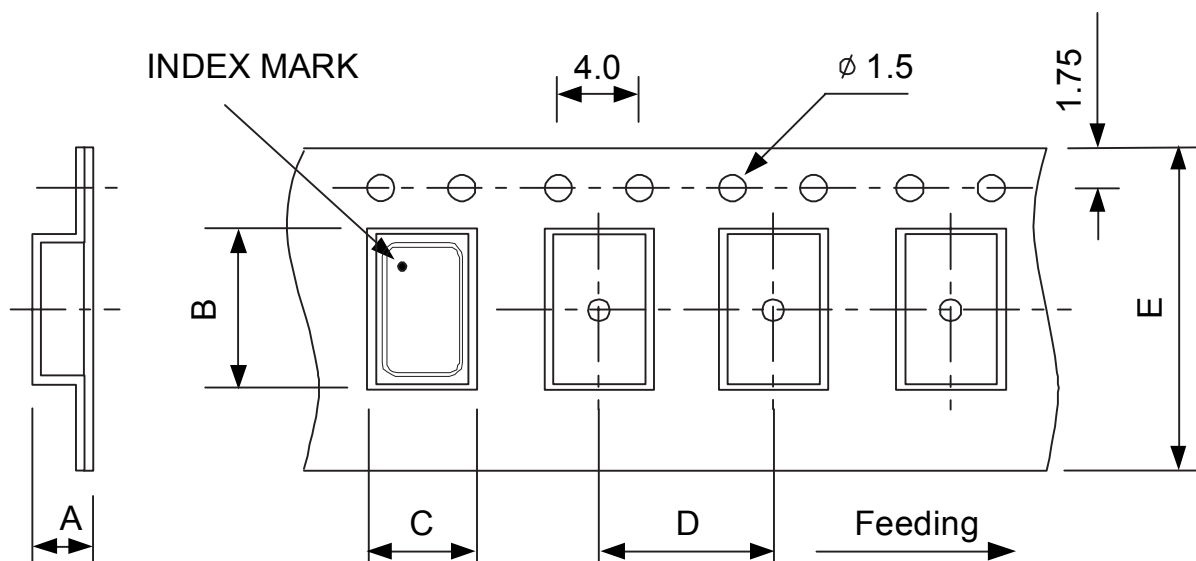


Suggest Layout

Solder Reflow Diagram:



Packing:



Dimensions (Units: mm):

Size	A	B	C	D	E	L	L1	W	W1	pcs/Reel
3225	1.40	3.4	4.0	4.0	8	178	13	11.5	8.0	3K