

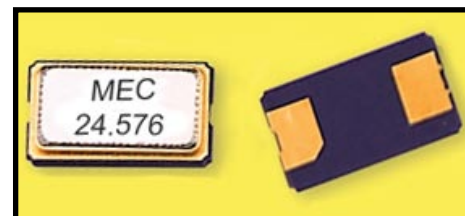
Quartz Crystal Unit

2M Series

MEC Crystals

Seam Sealed Ceramic SMD Package (5.0 x 3.2mm)

(2 Pads)



Features:

- Ultra small SMD type crystal unit
- High reliable environmental performance (ceramic package, seam sealed)
- Automatic mounting
- Embossed taping specifications
- Suitable for reflow soldering
- **RoHs Compliant (Pb Free)**

Electrical Specifications:

Frequency Range	10.000MHz ~ 48.000MHz
Frequency Tolerance	±30ppm @ 25°C (Typical), or specify (±10ppm ~ ±50ppm available)
Aging (at 25°C)	±3ppm, ±5ppm / year
Operating Temperature Range	-20°C ~ +70°C Standard -40°C ~ +85°C Extended -10°C ~ +60°C Available
Storage Temperature Range	-55°C ~ +125°C
Shunt Capacitance (C0)	5.0pF max
Drive Level (Typical)	10µW ~ 100µW
Load Capacitance (CL)	Series, 16pF, 20pF, 30pF, 32pF or specify
Equivalent Series Resistance ESR	see chart
Shock Resistance	Drop test of 3 times on 2mm stainless plate from 75cm height

Equivalent Series Resistance (ESR) and Mode of Operation (Mode)

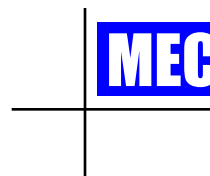
Frequency Range	E.S.R. (Ω)	Mode
10.000MHz ~ 30.000MHz	60 max	Fundamental / AT
30.000MHz ~ 48.000MHz	45 max	Fundamental / AT

Part Numbering System:

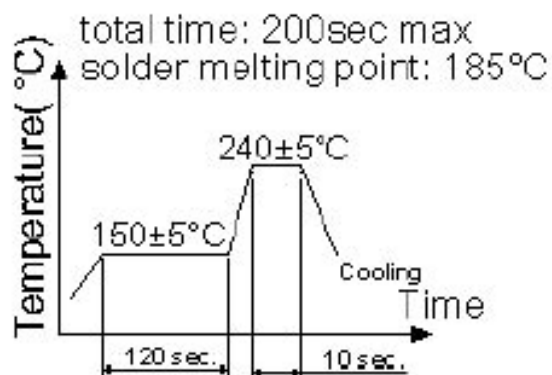
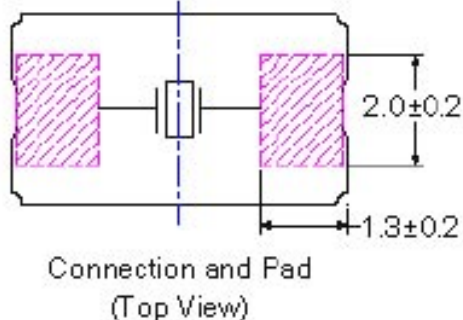
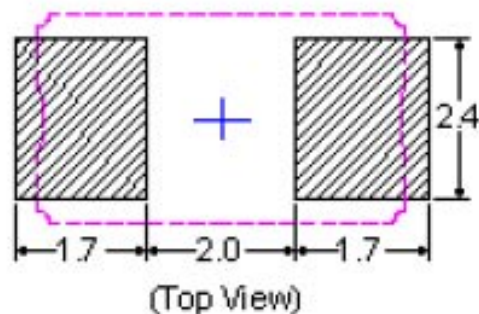
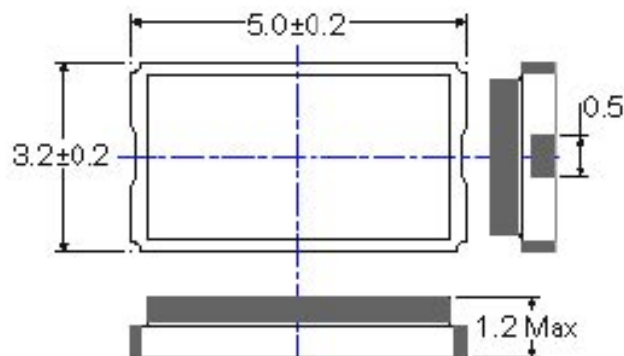
2M 16.000 F 16 X 1 3
① ② ③ ④ ⑤ ⑥ ⑦

① Series	② Frequency	③ Mode of Vibration		④ Load Capacitance CL		⑤ Operating Temperature		⑥ Frequency Tolerance		⑦ Frequency Stability	
2M	Frequency ex. 16.000	Code	Cut-Mode	Code	Load Capacitance	Code	Ranges	Code	Tolerance	Code	Stability
		F	AT Fund	S	Series	A	-10°C ~ +60°C	1	± 10 ppm	1	± 10 ppm
				16	16pF	B	-20°C ~ +70°C	2	± 20 ppm	2	± 20 ppm
				20	20pF	X	-40°C ~ +85°C	3	± 30 ppm (Standard)	3	± 30 ppm
				30	30pF					4	± 40 ppm
				32	32pF					5	± 50 ppm (Standard)

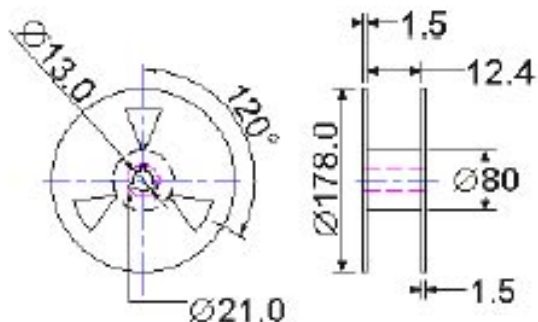
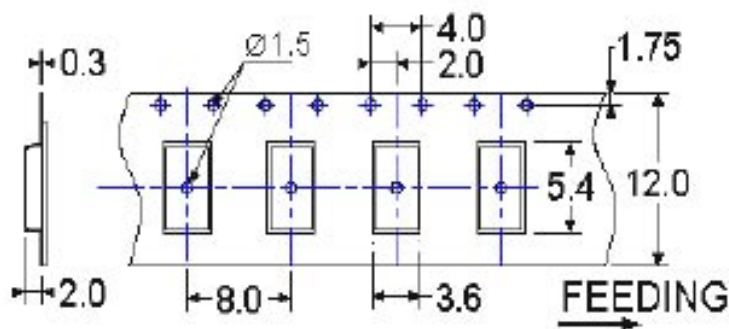
Remark: Specifications are subject to change without prior notice. Please confirm with our sales engineer.



Dimensions:



Packing:



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