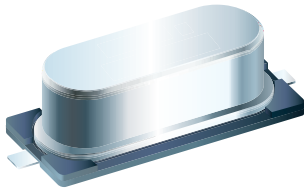




利明  
49MD 系列



**Type**  
**12.5 x 4.5 mm Crystal**

**FEATURE**

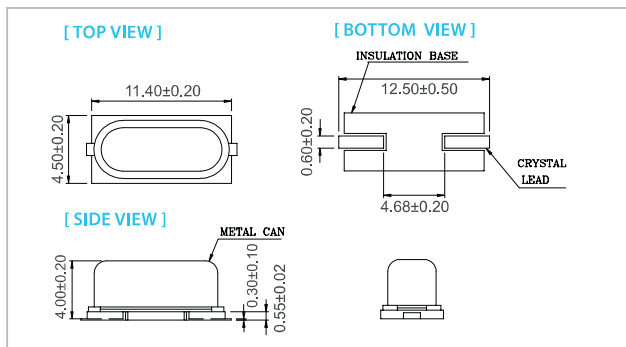
- Typical 12.5 x 4.5 x 4.0 mm metal can SMD package.
- 24mm width Tape & Reel package for automatic assembly.

**TYPICAL APPLICATION**

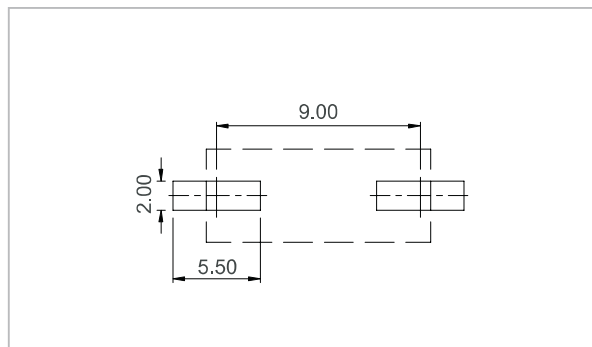
- Automotive
- Bluetooth, Wireless
- Computers, Modems, Communications
- Set-top Box, DECT/WDCT

Frequency range	3.00~100.00MHZ
Load Capacitance	Series, 6~32pf, or specify
Frequency Tolerance(at25 °C )	± 10 PPM± 20 PPM± 30 PPM or specify
Frequency stability Over Operating Temperature Range	± 10 PPM± 20 PPM± 30 PPM or specify
Operating Temperature Range	-20~+70°C -40~+85°C or specify
Storage Temperature Range	-40~+85°C
Shunt Capacitance(C0)	7pf-Max
Drive Level	1~1000uW (100uW typical)
Insulation Resistance	500m Minimum at 100VDC
Aging(at25°C)	± 3PPM/year Max.

**DIMENSION (mm)**



**SOLDER PAD LAYOUT (mm)**



**ELECTRICAL SPECIFICATION**

Parameter	Min.	Typical	Max.	Unit
Storage Temp. Range	-55	-	125	°C
Standard Frequency	4.096, 10.368, 16, 25, 32, 48			MHz
Level of Drive	-	10	800	µw
Shunt Capacitance (Co)	-	-	7.0	pF
Insulation Resistance	500 MΩ @ DC100V			
Aging (@25°C 1 <sup>st</sup> year)	±5.0			ppm / year

**FREQ. STABILITY vs. TEMP. RANGE**

Temp. (°C)	ppm	±5	±10	±15	±20
-10 ~ +60		×	○	○	○
-20 ~ +70		×	△	○	○
-40 ~ +85		×	×	×	○



# Model Numbering Guide – Crystal Units

## Available options

①	②	③	④		⑤						
Type	package (mm)	Frequency range	Load Capacitance (pF)	Freq. Tol. @25°C (ppm)	Freq. Stability (ppm)	Temp. Range(°C)	Special Requirement	Oscillator Mode	Appearance	Lead Free	Dash
1612	1.6x1.2	3.00~100.00MHZ	6	± 5	± 5	A:-20~+70 B:-40~+85 J:-40~+105	For Automotive Spurious Dld No special Pullability Several	AT Fundamental At3rd Overtone	Normal	Rohs Compliant	-
2016	2.0x1.6										
2520	2.5x2.0										
3225	3.2x2.5										
5032	5.0x3.2(4pads)										
6035	6.0x3.5										
3225	3.2x2.5(2pads)										
5032	5.0x3.2(2pads)										
8045	8.0x4.5										
49S	11.1x4.68										
49SS	11.05x4.65x2.5										
49MD	13.0x4.85										
49SSMD	12.2x4.8x3.0										

产品编号：  -  -  -  -

① ② ③ ④ ⑤  
 ①型号 ②频率 ③负载电容 ④频率稳定度(X10<sup>-6</sup>,+25°C) ⑤温度

范例： 49MD-12.00-20-20-20/A

① ② ③ ④ ⑤

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