M1253 Surface Mount Crystal
2.5 x 3.2 x 0.65 mm

Features:
- Ultra-Miniature Size
- Tape & Reel
- Leadless Ceramic Package - Seam Sealed

Applications:
- Handheld Electronic Devices
- PDA, GPS, MP3
- Portable Instruments
- PCMCIA Cards
- Bluetooth

RoHS Compliant

Ordering Information

M1253 1 J M XX 00.0000 MHz

Product Series

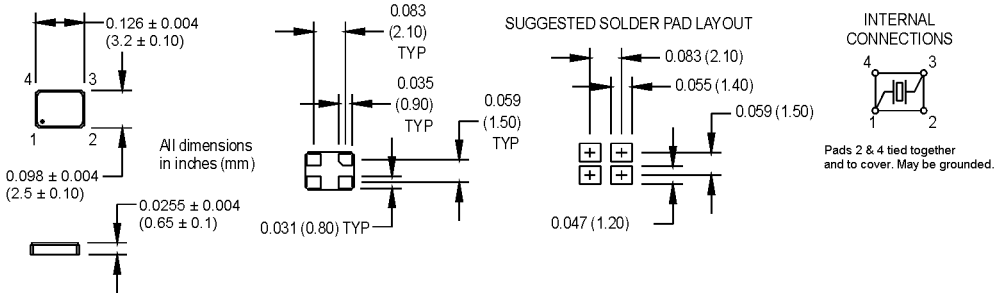
Operating Temperature
- **1:** -10°C to +70°C (std)
- **2:** -40°C to +85°C
- **3:** -10°C to +60°C
- **6:** -20°C to +70°C

Tolerance @ +25°C
- **D:** ±10 ppm
- **E:** ±15 ppm
- **G:** ±20 ppm
- **H:** ±25 ppm
- **J:** ±30 ppm (std)
- **M:** ±50 ppm
- **P:** ±100 ppm

Stability
- **D:** ±10 ppm
- **E:** ±15 ppm
- **G:** ±20 ppm
- **H:** ±25 ppm
- **J:** ±30 ppm
- **M:** ±50 ppm (std)
- **P:** ±100 ppm

Load Capacitance
- **Blank:** 18 pF (std)
- **S:** Series Resonant
- **XX:** Customer Specified 8 pF to 32 pF

Frequency (customer specified)



Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency Range	F	13		54	MHz	
Frequency Tolerance	F/F	See Ordering Information			ppm	+25°C
Frequency Stability	F/F	See Ordering Information			ppm	Over Operating Temperature
Operating Temperature	T_{opr}	See Ordering Information			°C	
Storage Temperature	T_{stg}	-55		+125	°C	
Aging	F_a			±5	ppm/yr	+25°C
Load Capacitance	C_L					See Ordering Information
Shunt Capacitance	C_0			3	pF	
ESR						
Fundamental AT-Cut Frequencies						
13.000000 to 19.999999 MHz				80	Ohms	All
20.000000 to 29.999999 MHz				70	Ohms	All
30.000000 to 54.000000 MHz				50	Ohms	All
Drive Level	D_L	10	100	300	µW	
Insulation Resistance	I_R	500			Megohms	100 VDC
Aging	Internal Specification					168 hrs. at +55°C
Physical Dimensions	MIL-STD-883, Method 2016					
Shock	MIL-STD-202, Method 213 Condition C					100 g
Vibration	MIL-STD-202, Methods 201 & 204					10 g from 10-2000 Hz
Thermal Cycle	MIL-STD-883, Method 1010, Condition B					-55°C to +125°C
Gross Leak	MIL-STD-202, Method 112					30 sec. Immersion
Fine Leak	MIL-STD-202, Method 112					1 x 10^{-18} atmcc/sec. min.
Resistance to Solvents	MIL-STD-883, Method 2015					Three 1 minute soaks
Reflow Solder Conditions	MIL-STD-202, Method 210, Condition C					Pb Free = +260°C for 10 secs. max