

## SPECIFICATION FOR RoHS 6 COMPLIANT HC-49U/S-SMD CRYSTAL

### MtronPTI Part Number: M1001S602

#### Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Mode of Oscillation		Fundamental (AT-Cut)				
Frequency	$F_0$		8.000000		MHz	Nominal Center Frequency
Frequency Tolerance	$\Delta F/F$	-30		+30	ppm	@ +25°C with 20 pF load
Frequency Stability	$\Delta F/F$	-50		+50	ppm	Deviation vs. temperature, referenced to +25 °C
Overall Frequency Stability	$\Delta F/F$	-100		+100	ppm	Including (tolerance at +25 °C with 20 pF load, deviation vs. temperature, and aging)
Operating Temperature	$T_A$	0		+70	°C	
Storage Temperature	$T_S$	-55		+125	°C	
Aging		-5		+5	ppm	1 <sup>st</sup> Year
Load Capacitance	$C_L$		20		pF	Parallel Resonant
Shunt Capacitance	$C_0$			7	pF	
ESR				50	$\Omega$	@ +25°C
Drive Level	$D_L$	25	100	1000	$\mu W$	

#### Environmental & Mechanical Requirements:

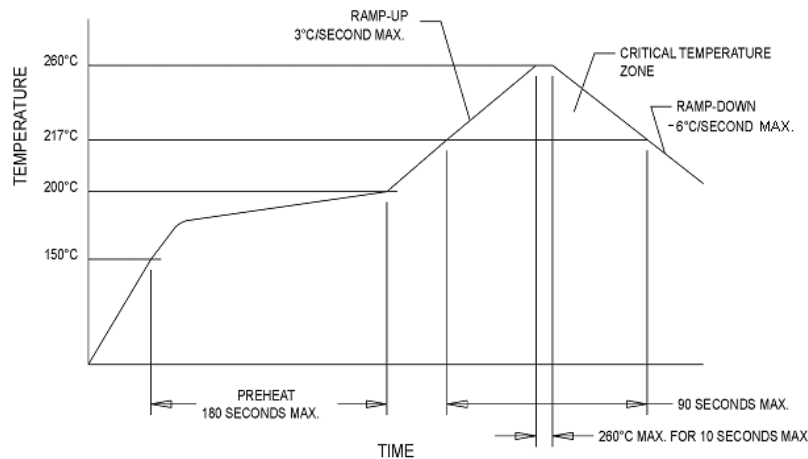
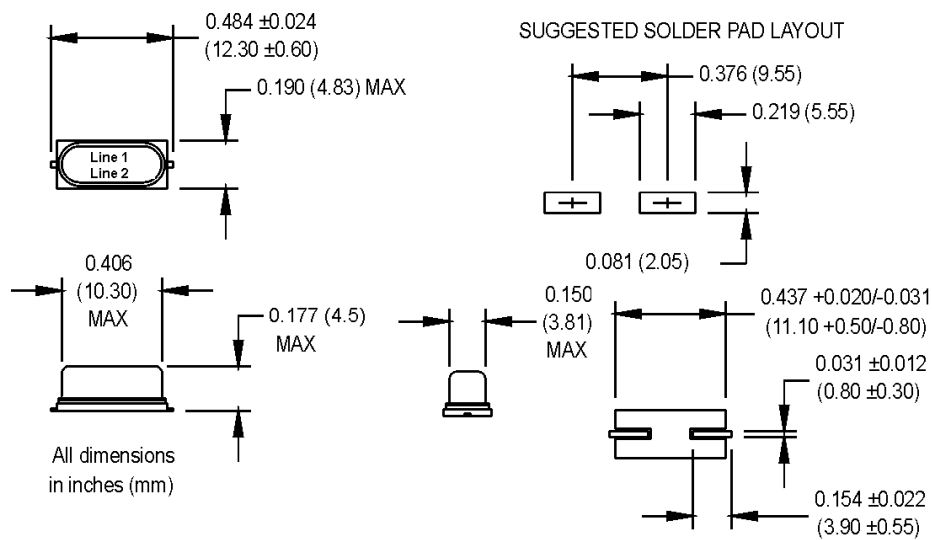
Mechanical Shock	1000 g's, 0.35 ms duration, half sinewave. 3 shocks in each of 3 mutually perpendicular directions. Frequency change shall be $\pm 10$ ppm maximum, and resistance change shall be $\pm 15\%$ maximum from before to after this test.
Vibration	10 – 55 Hz, 0.06 in. double amplitude; and 55 – 2000 Hz, 20 g's. Four hours vibration in each of 3 mutually perpendicular axes (12 hours total). Frequency change shall be $\pm 10$ ppm maximum, and resistance change shall be $\pm 15\%$ maximum from before to after this test.
Thermal Cycle	Per MIL-STD-202, Method 107, Condition A, 5 cycles, except temperatures shall be +10 °C and 120 °C. Frequency change shall be $\pm 10$ ppm maximum, and all specifications shall be met after completion of test.
Humidity	250 hrs. @ +85 °C and 85% RH. All specifications shall be met after completion of test.
Hermeticity	$1 \times 10^{-8}$ atm cc/sec minimum
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	2-pad HC-49U/S-SMD, 4.5 mm height, resistance weld, ATSM-49 type
RoHS	Full RoHS Compliance

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**Dimensions, Marking, and Pin Out Information:**

Part Marking	
Line 1	M0800VXY
Line 2	M1001S602

Legend	
M	MtronPTI
V	Internal code
X	Month
Y	Year



**Figure 1**

**Data Sheet Revision Table:**

Date	Rev.	Author	Details of Revision
03/07/18	0	DCO	Original release