

19013 36th Ave. W, Suite H • Lynnwood, WA 98036 USA Manufacturer of High Quality Frequency Control Products

# SM13T, SM13TS Crystal



- 4 Pad 7x5mm Surface Mount Crystal (Metal Cover Seam Sealed to Ceramic Base)
- SM13TS Specifically Designed for High Shock Applications
- Solder Pad Compatible with our SM13H

6.001 MHz - 80.000 MHz

### Standard Specifications

Calibration Frequency Tolerance at 25°C Operating Temperature Range (OTR) Frequency Stability (FS) over OTR Drive Level Aging at 25°C

SM13TS Only { Mechanical Shock Drop Test

± 50 PPM is standard, tighter tolerances available

0 to +70°C is standard, but can be extended to -40 to +85°C

± 50 PPM is standard, tighter tolerances available

100 mW is standard, customer may specify

± 3 PPM maximum

5000 g's, 1/2 sine, 0.2 mS

2 meter free fall onto a concrete floor, 10 times

#### **Part Numbering Guide** Portions of the part number that appear after the frequency may not be marked on part (C of C provided) SM13TS B E - xx - 70.0M - XXX (Internal Code or blank) Model Frequency in MHz SM13T: Standard Load Capacitance SM13TS: High Shock Parallel Resonance in pF (≥ 10 pF) Cal Tol / Freq Stability SR = Series Resonance Blank = 50/50**Temperature Range** A = 30/50B = 30/30Blank: 0 to +70°C C = 15/30E: - 40 to +85°C

ESR Values		
Oscillation Mode	Frequency Range (MHz)	Maximum ESR (Ohms)
Fundamental	6.001 - 8.000	150
AT Cut	8.001 - 9.000	80
	9.001 - 11.000	40
	11.001 - 50.000	30
3rd Overtone AT Cut	26.000 - 80.000	80

Consult factory for lower ESR

Consult factory for available frequencies and specs.

Not all options available for all frequencies. A special part number may be assigned.

H: - 20 to +70°C

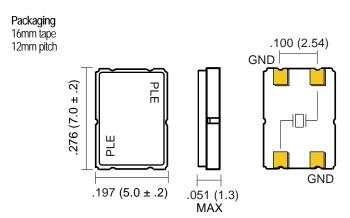
#### Mechanical: inches (mm)

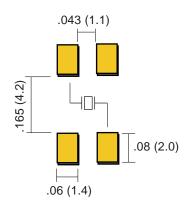
D = 10/20 (consult factory)

#### not to scale

## **Solder Pads**

Due to part size and factory abilities, part marking may vary from lot to lot and may contain our part number or an internal code.





Sept 2003