

## SPECIFICATION FOR HC-49U/N CRYSTAL MtronPTI P/N M1006S034

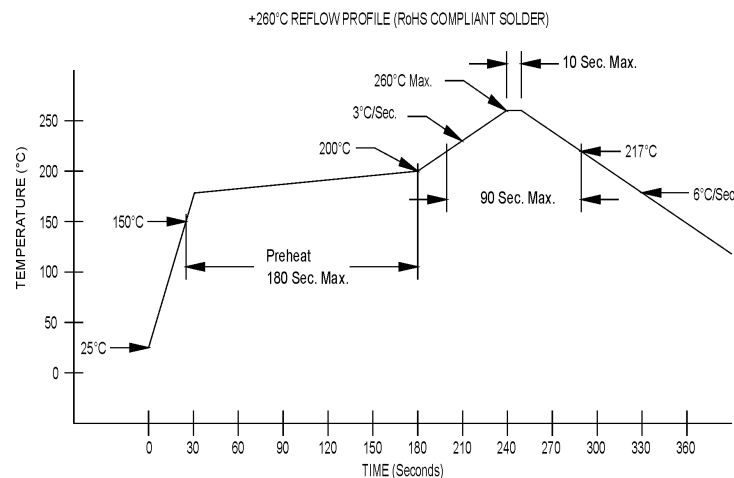
### I. GENERAL & ELECTRICAL REQUIREMENTS:

1. MODE OF OSCILLATION: Fundamental AT-Cut Crystal
2. FREQUENCY ( $F_{NOM}$ ): 20.000000 MHz
3. FREQUENCY TOLERANCE @ +25°C:  $\pm 15$  ppm
4. FREQUENCY STABILITY OVER TEMPERATURE:  $\pm 30$  ppm
5. OPERATING TEMPERATURE RANGE: -10°C to +70°C
6. EFFECTIVE SERIES RESISTANCE (ESR): 25 ohms max.
7. LOAD CAPACITANCE: 14 pF
8. SHUNT CAPACITANCE: 7.0 pF max.
9. MOTIONAL CAPACITANCE ( $C_M$ ): 14.4 fF min. 18 fF typical, 21.6 fF max.
10. RATIO OF 3<sup>RD</sup> OVERTONE MODE ESR TO FUNDAMENTAL MODE ESR: 3:1 min.
11. INSULATION RESISTANCE: 500 Megohms min. at 100 VDC.
12. Co/C1 RATIO: 180 min. 250 max.
13. AGING:  $\pm 3$  ppm max. first year.  $\pm 15$  ppm max. for 10 years max.
14. DRIVE LEVEL: 2 mW max. , 500  $\mu$ W for correlation, 50  $\mu$ W min.
15. 3<sup>RD</sup> OVERTONE SEPARATION FROM  $3 \cdot F_{NOM}$  (High Side): +300 ppm min.
16. 3<sup>RD</sup> OVERTONE SEPARATION FROM  $3 \cdot F_{NOM}$  (Low Side): -150 ppm min.

### II. ENVIRONMENTAL & MECHANICAL REQUIREMENTS:

1. SHOCK: Per MILSTD-202, Method 213, Condition C
2. VIBRATION: Per MIL-STD-202, Methods 201 & 204
3. HERMETICITY:  $1 \times 10^{-8}$  atm cc/sec min.
4. STORAGE TEMPERATURE: -46°C to +85°C
5. SOLDERABILITY: Per EIAJ-STD -002
6. PACKAGE: HC-49U/N resistance weld. RoHS compliant.

### III. MAXIMUM SOLDERING CONDITIONS:



Note: Exceeding these limits can damage the device.



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### III. DIMENSIONS:

