

FEATURES

- Frequency Range 460kHz to 50MHz
- Mechanical shock survivability up to 100,000g
- Supply voltage from 0.9V to 5.0Volts available
- Low EMI emission
- Hermetically sealed package
- Low acceleration sensitivity available
- Full MIL testing to MIL-PRF-55310 available
- SM1 and SM5 versions are pB free



DESCRIPTION

HGXO oscillators are miniature, surface mount units that can survive extremely high shocks, up to 100,000g. The design consists of a hermetically-sealed high shock crystal and a CMOS compatible integrated circuit housed in a SMD 7.5mm x 5.0mm ceramic package.

SPECIFICATION

Specifications are typical at 25°C unless otherwise indicated. Tighter specifications are available, contact Euroquartz technical sales.

| | |
|--|-------------------------------|
| Supply Voltage: | +0.9V to +5.0 Volts |
| Calibration Tolerance: | From ±10ppm |
| Frequency Stability over Operating Temperature Range** | |
| Commercial (0° ~ +70°C): | From ±10ppm |
| Industrial(-40° ~ +85°C): | From ±20ppm |
| Military (-55° ~ +125°C): | From ±40ppm |
| Total Frequency Tolerance** | |
| Commercial (0° ~ +70°C): | From ±15ppm |
| Industrial(-40° ~ +85°C): | From ±20ppm |
| Military (-55° ~ +125°C): | From ±50ppm |
| Output Load: | 15pF (Higher loads available) |
| Rise and Fall Time: | 6ns maximum |
| Duty Cycle: | 60/40% |
| Shock Survival: | Up to 100,000g, 0.5ms, ½ sine |
| Vibration Survival***: | 20g, 10~2000Hz swept sine |
| Maximum Process Temperature: | 260°C for 20 seconds |

* Does not include calibration tolerance.
 ** Frequency over temperature relative to nominal frequency.
 *** per MIL-STD-202G Method 204D, Condition D.
 Random testing is also available

PACKAGING OPTIONS

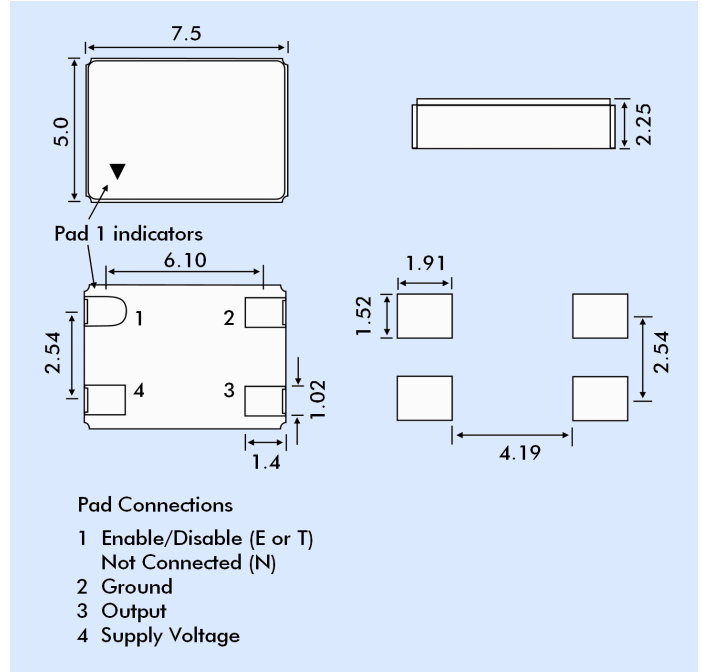
HGXO oscillators are available either tray packed (<250pcs) or tape and reel (>250 pieces).
 16mm tape, 178mm or 330mm reels (EIA 418).

HOW TO ORDER HGXO SMD CRYSTAL OSCILLATORS

Example: **HGXO3D-S-T-SM3-32.0M, 100/100/-/I**

| | | | | | | | | |
|--|--|---|----------------------------------|---|---------------------------------|-------------------------------|---|--|
| HGXO 3 | D | S | T | SM3 | 32.0M, | 100 | / 100 | / - / I |
| Supply Voltage 0 = 0.9V 1 = 1.8V 2 = 2.5V 3 = 3.0V 4 = 3.3V 5 = 5.0V | Shock Level A = 5,000g B = 10,000g C = 20,000g D = 30,000g F = 50,000g G = 75,000g H = 100,000g | Blank = standard S = special or custom | Enable/Disable option, E, T or N | Terminations Blank = SM1 = Gold plated SM3 = Solder dipped SM5 = Solder dipped (SM1 and SM5 are pB free) | Frequency K = kHz M = MHz | Calibration Tolerance at 25°C | Frequency Stability over Temp. Range (in ppm) | Temp. Range C = -10° ~ +70°C I = -40° ~ +85°C M = -55° ~ +125°C S = Customer specified |

OUTLINE & DIMENSIONS



COMPARISON OF ENABLE/DISABLE OPTIONS

| | Option 'E' | Option 'T' |
|--|-------------------------|---------------------------|
| When enabled (PIN 1 is high*) | | |
| Output Oscillator | Freq. Output Oscillates | Freq. Output Oscillates |
| Current Consumption: | Normal | Normal |
| When disabled (PIN 1 'low') | | |
| Output Oscillator | High 'Z' state Stops | High 'Z' state Oscillates |
| Current Consumption: | Very low | Lower than normal |
| When re-enabled (PIN 1 from low to high) | | |
| Output recovery | Delayed | Immediate |

* When Pin 1 is allowed to float it is held 'high' by an internal pull-up resistor.
 Option 'N' = Pin 1 not connected internally.