

EQXO-75BM Series Military Oscillator

7 x 5mm, SMD LVCMOS Military Clock Oscillator

2.0MHz to 60.0MHz

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FEATURES

- 2.0MHz to 60.0MHz frequency range
- Wide operating temp -55° to +125°C
- High shock ruggedised design, mil tested to 5000G survivability
- Designed for Aerospace and Defence applications
- Superior phase noise performance
- Femto second integrated phase jitter 150fs (typ)
- Custom crystal pre-ageing options available
- Supply Voltages: 2.5V and 3.3V
- X-tal Stabilisation: pre-age bake beyond 96hrs @ 100C
- Full screening to MIL-O-55310C, Class B available
- Made in UK ITAR RESTRICTION FREE





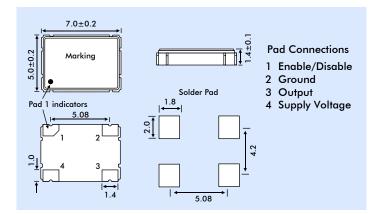




DESCRIPTION

EQXO-75BM military series is a high-reliability, high temp LVCMOS clock oscillator in a standard format 7x5mm SMD ceramic package with hermetic weld-sealed metal lid. Designed by Euroquartz for Aerospace and Defence applications, it will provide reliable operation with good frequency stability across the accepted military operating temp band of -55C to +125C. Mechanical shock survivability tested to 5000G MIL-STD-883K Meth 2002.5, Condition D. Temp stability $\pm 50,\,75\,$ & 100ppm are available with tighter options upon request (conditions dependant). This component is manufactured within our cleanroom facility in the south west UK, therefore comes free of ITAR restriction and can be produced with short lead time. Tighter ageing spec is available on request - all crystals are pre-aged as part of an additional process to aid long-term application stability.

OUTLINE & DIMENSIONS



SPECIFICATION

Model Number	EQXO-75BM					
Frequency Range	2.0MHz to 60.000MHz					
Output Logic	LVCMOS					
Supply Voltage Options VDD	+2.5V, +3.3V ±10% tol.					
Voltage Level: Logic Hi "1" Logic Lo "0"	90% of V ^{DD} (min.) 10% of V ^{DD} (max.)					
Current Consumption: 2.0~19.99MHz 20~60.00MHz Output State Disables	6mA (max.) 16mA (max.) 10μA (max.)					
Rise Time (Tr) / Fall Time (Tf)	10ns (max) measured 10% ~ 90% waveform					
Load	15pF (max.)					
Start-up Time	3ms (max)					
Duty Cycle	50% ±5%					
Enable/Disable Function	Enable/Disable function on Pad 1 is standard for EQXO-75BM series oscillators 70% of VDD(min) Enable Output 30% of VDD(max) Disable Output					
Phase Jitter (RMS) 12kHz-20MHz [36MHz, 3.3V]	150 fs typical					

SSB Phase Noise [36MHz, 3.3V]	Offset	10Hz	100Hz	1kHz	10kHz	100kHz	1MHz	5MHz
	dBc/Hz (typical)	-94	-123	-144	-153	-164	-165	-166
Storage Temperature	•	-65° to +125°C						
Ageing at 25°C		±1ppm maximum for first year						
Solder Profile	der Profile 260°C max.							

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DESIGN QUALIFICATION APPROVAL & ENVIRONMENTAL SPECIFICATION

Thermal Shock: MIL-STD-883F Method 1011.9 Condition B Mechanical Shock: MIL-STD-883K Method 2002.5 Condition D

Vibration: MIL-STD-883F Method 2007.3 High Temp Storage: MIL-STD-202 Method 108

Moisture Resistance: JIS C7021:B-11

Seal: Fine leak not to exceed 1x10-8mB litres

of He leakage.

Solerability: MIL-STD-883E Method 2003.7

OPTIONAL SCREENING

Screening in accordance with MIL-O-55310C Class B All devices are 100% tested to the following conditions:

Temp Cycling: -55C to +125C, 10 cycles.
Constant Acceleration: 49000m/s2 for 1 min in XY plane.
Seal: Fine leak not to exceed 1 x 10-8mB

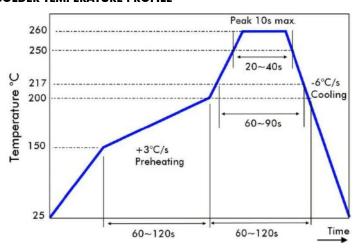
litres of He

Dynamic Burn-in: 125C for 168 hrs

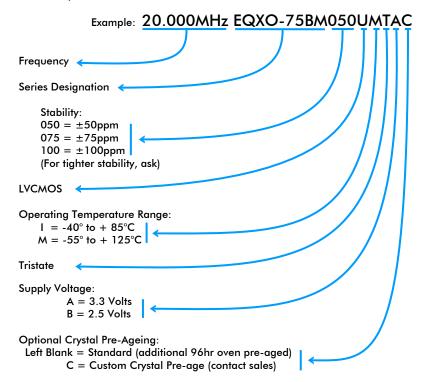
Electrical Test: Frequency, output waveform, output

Voltage input current.

SOLDER TEMPERATURE PROFILE



ORDERING/PART NUMBER GENERATION



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