

## EQLXO-2000 SERIES 8 pin Dual-in-Line MIL SPECIFICATION OSCILLATORS

### DESCRIPTION

Euroquartz EQLXO-2000 series 8 pin DIL oscillators are designed for military, aerospace and similar applications requiring high reliability components. Material specification consists of a hybrid circuit substrate with all-ceramic components coupled with a ruggedized crystal mounting system. This design specification ensures that EQLXO-2000 series oscillators provide a highly reliable and accurate source of clock signals, in a package able to withstand severe environmental conditions.

### FEATURES

- Ceramic substrate and ruggedized mounts for high reliability
- Industry-standard 8 pin DIL package for ease of design
- 5.0 Volt and 3.3 Volt operation
- Option of Tristate or Output Enable
- Full Screening in accordance with MIL-O-55310C, Class B

### GENERAL SPECIFICATION

|   |   |            |
|---|---|------------|
| <b>Frequency Range:</b>                   | 500kHz to 120MHz                                |            |
| <b>Supply Voltage:</b>                    | +5.0 V $\pm$ 10% or +3.3V $\pm$ 10%             |            |
| <b>Calibration Tolerance (+5V, 25°C)*</b> |   |            |
| Code A:                                   | $\pm$ 0.01% ( $\pm$ 100ppm)                     |            |
| Code B:                                   | $\pm$ 0.03%                                     |            |
| Code C:                                   | $\pm$ 0.10%                                     |            |
| <b>Temperature Stability**</b>            |   |            |
| 0° to +50°C:                              | from $\pm$ 5ppm to $\pm$ 30ppm                  |            |
| -10° to +70°C:                            | from $\pm$ 10ppm to $\pm$ 50ppm                 |            |
| -40° to +85°C:                            | from $\pm$ 20ppm to $\pm$ 100ppm                |            |
| -55° to +125°C:                           | from $\pm$ 30ppm to $\pm$ 100ppm                |            |
| <b>Supply Current:</b>                    | 4mA to 60mA<br>(Frequency dependent)            |            |
| <b>Output Levels (5 Volt supply)</b>      | <b>VOL</b>                                      | <b>VOH</b> |
| TTL:                                      | 0.4V max.                                       | 2.4V min.  |
| CMOS:                                     | 0.5V max.                                       | 4.5V min.  |
| <b>Start-up Time:</b>                     | 5ms max.  |            |
| <b>Rise/Fall Time:</b>                    | 6ns typical, 10ns max.<br>(Frequency dependent) |            |
| <b>Symmetry*:</b>                         | 40%/60%   |            |
| <b>Ageing:</b>                            | 5ppm max., first year                           |            |
| <b>Shock, Survival:</b>                   | 1000g peak 1ms, 1/2 sine                        |            |
| <b>Vibration, Survival:</b>               | 10g rms 10–2000Hz random                        |            |
| <b>Operating Temperature</b>              |   |            |
| Commercial:                               | -10° to +70°C                                   |            |
| Industrial:                               | -40° to +85°C                                   |            |
| Military:                                 | -55° to +125°C                                  |            |
| <b>Storage Temperature:</b>               | -55° to +125°C                                  |            |

\* Tighter tolerances are available for calibration, stability and duty cycle.

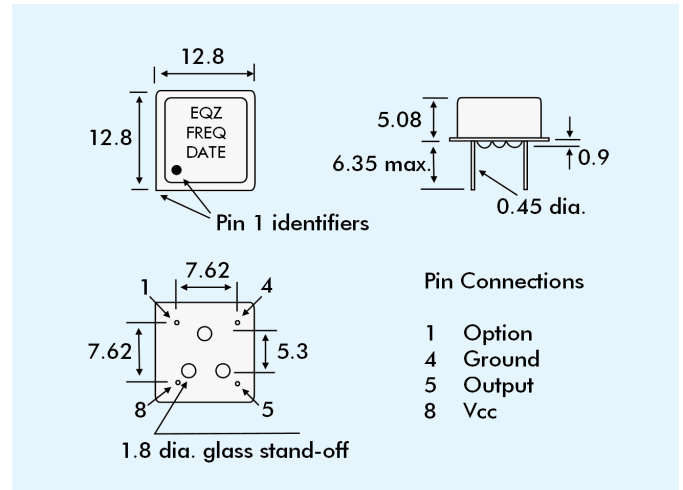
\*\* Does not include calibration tolerance.

Note: All parameters measured at ambient temperature with a 10MW and 10pF load at 5.0 Volts.

### ABSOLUTE MAXIMUM RATINGS

|                             |                |
|-----------------------------|----------------|
| <b>Supply Voltage Vcc:</b>  | -0.V to +7V    |
| <b>Storage Temperature:</b> | -55° to +125°C |

### OUTLINES AND DIMENSIONS



### TRUTH TABLE (PIN 1 OPTION)

| Option            | Pin 1* (Option)     | Pin 5 (Output)           |
|-------------------|---------------------|--------------------------|
| <b>Power Down</b> | Low (0)<br>High (1) | High (1)<br>Freq. Output |
| <b>Tristate</b>   | Low (0)<br>High (1) | High (Z)<br>Freq. Output |

\* Normally High (internal pull-up resistor)

### POWER DOWN vs TRISTATE

- Power Down:** When Pin 1 is low (0) the oscillator stops oscillation.
- Tristate:** When Pin 1 is low the oscillator is running. However, the output buffer amplifier stops functioning and the Pin 5 output is in high impedance state.

### PART NUMBERS & ORDERING INFORMATION

|                                    |  |                                |
|------------------------------------|--|--------------------------------|
| <b>Example:</b>                    | <b>10.000MHz</b>   | <b>EQLXO-2100UM-A-SCREENED</b> |
| <b>Frequency</b>                   | 10.000MHz  | EQLXO-2100UM-A-SCREENED        |
| <b>Series</b>                      | EQLXO  | EQLXO-2100UM-A-SCREENED        |
| <b>Stability</b>                   | 100 = $\pm$ 100ppm<br>050 = $\pm$ 50ppm<br>030 = $\pm$ 30ppm | EQLXO-2100UM-A-SCREENED        |
| <b>Output</b>                      | U = CMOS<br>T = TTL  | EQLXO-2100UM-A-SCREENED        |
| <b>Operating Temperature Range</b> | M = Military<br>I = Industrial<br>C = Commercial             | EQLXO-2100UM-A-SCREENED        |
| <b>Calibration Tolerance Code</b>  | A, B or C (see gen. spec.)                                   | EQLXO-2100UM-A-SCREENED        |
| <b>Testing Status</b>              | 'Screened' for MIL-O-55310C, Class B<br>Blank - Unscreened   | EQLXO-2100UM-A-SCREENED        |

(Check with Euroquartz sales office for details of Screening)