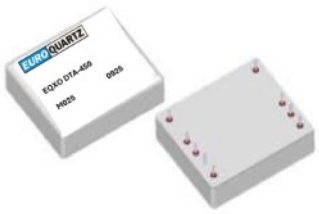
EUROQUARTZ

# Atomic Oscillator

## EQXO-DTA450 Low Power Atomic Oscillator 10.000MHz



- **Low power consumption**
- **1pps input and output for timing synchronization**
- **ToD (Time of Day)**
- **RS232 digital interface**



### GENERAL SPECIFICATION

| | |
|---|---|
| Frequency | 10.000MHz |
| Output Waveform | 3.3V CMOS |
| Load Impedance | 1MΩ |
| Rise/Fall Time | 10ns max. |
| Output Logic 'High' | 2.2V min. |
| Output Logic 'Low' | 0.7V max. |
| Short Term (ADEV) | 0.3ppb max. @ Tau = 1sec |
| | 0.1ppb max. @ Tau = 10sec |
| | 0.03ppb max. @ Tau = 100sec |
| Duty Cycle | 50±5% |
| Frequency Stability Over Temperature | ±1ppb max.<br>(-10°C to 70°C, Temperature Slope <0.5°C/min) |
| Frequency Accuracy | ±0.05ppb max. |
| Daily Aging | ±0.03ppb max. |
| Frequency Control<br>(Resolution = 1x10^-12, Vcon = 0V~2.5V) | ±20ppb min. |

### 1pps Time Output

| | |
|---|---|
| 1pps | 10Hz |
| Output Amplitude | 3.3V LVTTL |
| Pulse Width | 1ms min. |
| Rise/Fall Time | 10ns max. |
| Load | 1MΩ |

### Built-In Test Equipment (BITE) Output

| | |
|---|---|
| Format | 3.3V |
| Load Impedance | 1MΩ |
| Logic | 0 = Normal Operation<br>1 = Alarm |

### Supply Voltage

| | |
|---|---|
| Supply Voltage | 3.3±0.1Vdc |
| Steady Power | 130mW max. |
| Warm-up Power | 200mW max. |
| Warm-up Time | 180 sec. max. |

### 1pps Time Input

| | |
|---|---|
| 1pps | 1Hz |
| Timing Edge | Rising Edge |
| Low Level | 0.7V max. |
| High Level | 2.2V min. |

### Phase Noise @10MHz

| Offset | Phase Noise |
|---|---|
| 1Hz | -55dBc/Hz |
| 10Hz | -80dBc/Hz |
| 100Hz | -113dBc/Hz |
| 1kHz | -125dBc/Hz |
| 10kHz | -135dBc/Hz |

### Digital Communication

| | |
|---|---|
| Protocol | RS202 |
| Logic Level | LVTTL |
| Baud Rate | 57600 |
| Number of Data Bits | 8 |
| Number of Stop Bits | 1 |
| Parity | None |

### Digital Communication

| | |
|---|---|
| Storage Temperature | -55°C to +85°C |
| Vibration | Lock Under Below:<br>20Hz~80Hz, +3dB/oct;<br>80Hz~350Hz, 0.4g2/Hz;<br>350Hz~2000Hz, -3dB/oct;<br>6.06g RMS |
| Humidity | 0-95%, RH |
| Magnetic Sensitivity | <+9x10^-11/Gauss |

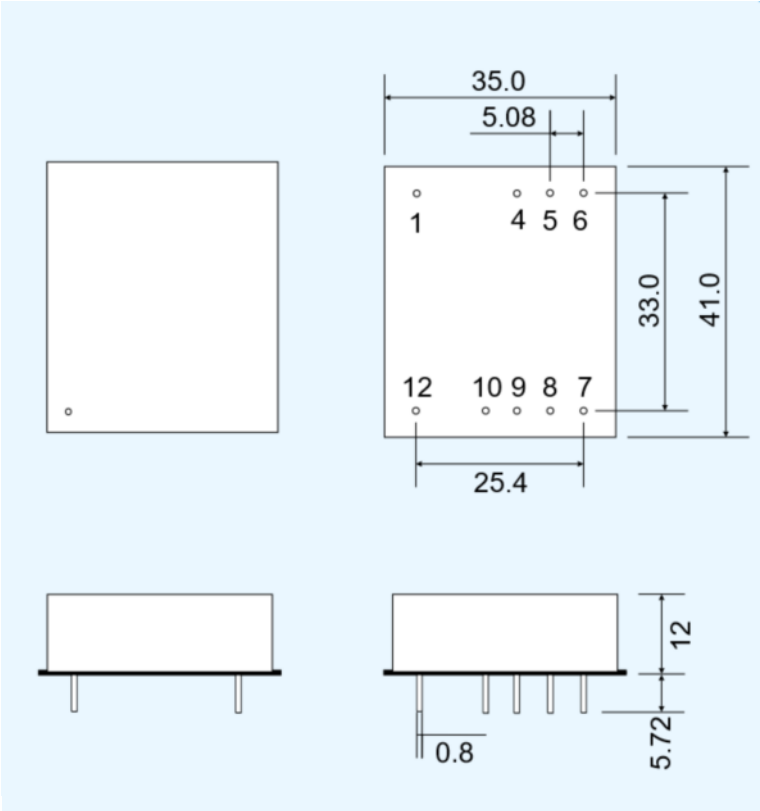


**EUROQUARTZ LIMITED Blacknell Lane CREWKERNE Somerset UK TA18 7HE**
**Tel: +44 (0)1460 230000 info@euroquartz.co.uk www.euroquartz.co.uk**

# EQXO-DTA450 Low Power Atomic Oscillator 10.000MHz

**OUTLINES AND DIMENSIONS (in mm)**






Pin Connections

Pin 1: Tune
Pin 4: BITE
Pin 5: TX
Pin 6: RX
Pin 7: Vcc
Pin 8: GND
Pin 9: 1pps in
Pin 10: 1pps out
Pin 12: 10MHz out

**Ordering Part Number**

**EQXO-DTA450**



**EUROQUARTZ LIMITED Blacknell Lane CREWKERNE Somerset UK TA18 7HE**
**Tel: +44 (0)1460 230000 info@euroquartz.co.uk www.euroquartz.co.uk**