

ISSUE 1; April 2016

Description

- The DQXO-3 oscillator has very high accuracy, stability and low current. The design consists of a CMOS compatible hybrid circuit, packaged in a hermetically sealed standard TO-39 metal package. Permanent, precision tuning of the oscillator allows for very tight calibration tolerance and eliminates the need for a trimming capacitor, a major source of long-term frequency drift. The specifications and characteristics of the DQXO-3 vary with frequency. The characteristics of the 400Hz model are presented in this data sheet.
- FEATURES:
 - Very low power consumption
 - Low ageing
 - Full military testing available
 - 3.3V version available
 - Multiple frequency output available (6-pin TO-5 package)
- APPLICATIONS:
 - Industrial, Computer & Communications -
 - General purpose clock oscillator
 - Remote data timers
 - Military & Aerospace -
 - Process controllers
 - Repeat cycle timers
 - Tone generators
 - Airborne hybrid computer
 - Flight recorder
- Please note that all data is only valid at 25°C unless otherwise stated.

Frequency Parameters

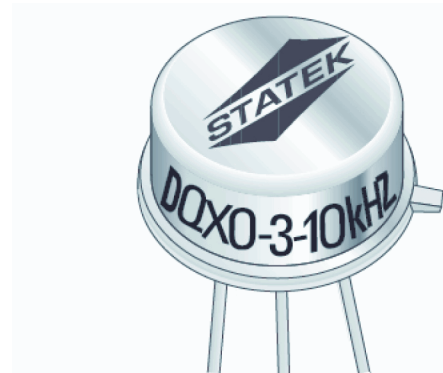
- Frequency 0.001kHz to 10.0kHz
- Frequency Tolerance $\pm 100.00\text{ppm}$ to $\pm 10,000.00\text{ppm}$
- Tolerance Condition @ 25°C
- Ageing $\pm 10\text{ppm}$ max in 1st year @ 25°C
- Frequency Stability:
 - 40 to +85°C: $\pm 150\text{ppm}$ typ, $\pm 300\text{ppm}$ max
 - 55 to +125°C: $\pm 350\text{ppm}$ typ, $\pm 600\text{ppm}$ max
 - Note: Frequency Stability does not include Frequency Tolerance @ 25°C
- Load Variation ($\pm 10\%$): $\pm 1\text{ppm}$ max
- Note: Other Frequencies and tighter Frequency Tolerances are available - please contact an IQD Sales Office

Electrical Parameters

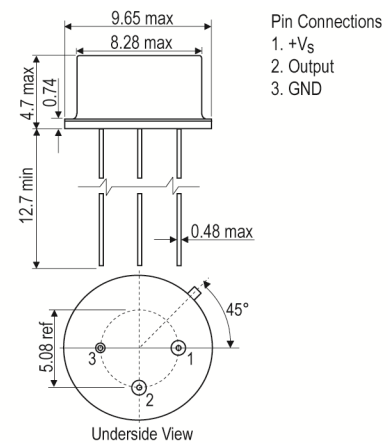
- Supply Voltage 5.0V $\pm 10\%$
- All parameters shown are based on a device frequency of 400Hz
- Supply Voltage Coefficient: $\pm 3\text{ppm/V}$ typ, $\pm 10\text{ppm/V}$ max
- Note: Faster rise and fall times are available - please contact an IQD Sales Office
- Absolute Maximum Supply Voltage: -0.3V to 7.0V

Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C
- -55 to 125°C



Outline (mm)



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Output Details

- Output Compatability CMOS
- Drive Capability 10pF//10MΩ

Output Levels

- Output High: 4.8V min
- Output Low: 0.4V max

Environmental Parameters

- Shock: 1000G, 1.0ms, 1/2 sine: Δfr ±3ppm max
- Vibration: 10G rms, 10-2000Hz: Δfr ±3ppm max
- Storage Temperature Range: -55 to 125°C

Manufacturing Details

- Maximum Process Temperature: 260°C for 10sec max

Ordering Information

- Frequency*
 Model*
 Supply Voltage
 Output Compatibility
 Frequency Tolerance (@ 25°C)*
 Operating Temperature Range*
 (*minimum required)
- Example
 1kHz DQXO-3 5.0V
 CMOS ±100ppm -10 to 70C

Compliance

- RoHS Status (2011/65/EU) Optional
- REACh Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: Tray Supplied on a tray
 Pack Size: 1

Electrical Specification - maximum limiting values 5.0V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
0.001000kHz	10.00kHz	-10 to 70	-	0.25	150	40/60%
		-40 to 85	-	0.25	150	40/60%
		-55 to 125	-	0.25	150	40/60%

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