

ISSUE 1; April 2016

Description

- A temperature compensated crystal oscillator with a voltage control function in a hermetically sealed surface mount package

Frequency Parameters

- Frequency 8.192MHz to 40.0MHz
- Frequency Tolerance $\pm 1.50\text{ppm}$
- Tolerance Condition @ 25°C $\pm 2^\circ\text{C}$
- Frequency Stability $\pm 2.50\text{ppm}$
- Ageing $\pm 1\text{ppm max per year @ } 25^\circ\text{C}$
- Supply Voltage Variation ($\pm 5\%$ change): $\pm 0.3\text{ppm}$
- Load Variation ($\pm 5\%$ change): $\pm 0.3\text{ppm}$

Electrical Parameters

- Supply Voltage Options ($\pm 5\%$): 2.5V, 2.8V, 3.0V & 3.3V

Frequency Adjustment

- Pulling $\pm 5\text{ppm min}$
- Control Voltage 50%Vs $\pm 50\%Vs$

Operating Temperature Ranges

- -30 to 85°C

Output Details

- Output Compatability CMOS/Clipped Sine
- Drive Capability 15pF or 10k Ω /10pF
- Output Voltage Levels:
 CMOS: Logic '1'; 80%Vs min / Logic '0'; 0.5V max
 Clipped Sine: 0.8V pk-pk min

Output Control

- Start Up Time (90% of final output level): 2.0ms max

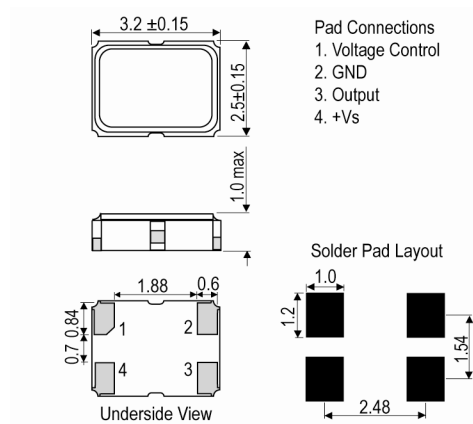
Noise Parameters

- Phase Noise (typ @ 19.44MHz CMOS):
 -94dBc/Hz @ 10Hz
 -115dBc/Hz @ 100Hz
 -128dBc/Hz @ 1kHz
 -145dBc/Hz @ 10kHz
 -149dBc/Hz @ 100kHz
 -150dBc/Hz @ 1MHz

Environmental Parameters

- Storage Temperature Range: -40 to 85°C
- Drop: JIS-C-6701: 75cm drop (3 times) onto hard wooden board
- Vibration: MIL-STD-883, Method 2007.2: 20G (20Hz-2000Hz), 1.5mm amplitude, in 3 mutually perpendicular planes, 4mins for each cycle

Outline (mm)



Pad Connections
 1. Voltage Control
 2. GND
 3. Output
 4. +Vs

Solder Pad Layout

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Ordering Information

- Frequency*
Model*
Output*
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Supply Voltage*
Frequency Adjustment*
(minimum required*)
- Example
16.0MHz IQXT-191-1
CMOS ± 2.5 ppm -30 to 85C 3.3V ± 5 ppm min

Compliance

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

Packaging Details

- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 3,000

Electrical Specification - maximum limiting values

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
8.192MHz	40.0MHz	-30 to 85	± 2.5	6	10	40/60%

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