

ISSUE 1; December 2019

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

Electrical Parameters

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

Frequency Adjustment

- Pulling: ± 5 ppm min
- Control Voltage: 50%Vs $\pm 50\%$ Vs

Operating Temperature Ranges

- 30 to 85°C

Output Details

- Output Compatibility: 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

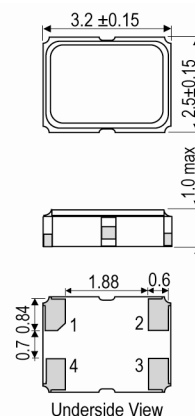
Noise Parameters

- 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

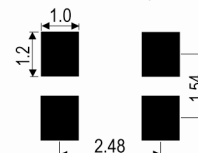
Outline (mm)



- Pad Connections
- Voltage Control
 - GND
 - Output
 - +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 ±2.5ppm -30 to 85C 3.3V ±5ppm min

Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: Cutt In tape cut from a reel
 Pack Size: 100
- 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%

*This document was correct at the time of printing; please contact your local sales office for the latest version.
[Click to view latest version on our website.](#)*

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