

ISSUE 1; October 2018

Description

- Surface mount Voltage Controlled Temperature Compensated Crystal Oscillator (VCTCXO) in a miniature 1.6 x 1.2mm surface mount package.

Frequency Parameters

- Frequency: 26.0MHz, 52.0MHz
- Frequency Tolerance: $\pm 1.50\text{ppm}$
- Tolerance Condition: @ 25°C $\pm 2^\circ\text{C}$
- Frequency Stability: $\pm 0.50\text{ppm}$ to $\pm 1.50\text{ppm}$
- Ageing: $\pm 1\text{ppm}$ max per year @ 25°C $\pm 3^\circ\text{C}$
- Developed Frequencies: 26.0MHz and 52.0MHz
- Supply Voltage Variation ($\pm 5\%$ change @ 25°C): $\pm 0.1\text{ppm}$ max
- Load Variation ($\pm 10\%$ change @ 25°C): $\pm 0.1\text{ppm}$ max
- IR Reflow Resistance (referred to frequency before reflow): $\pm 1\text{ppm}$ max

Electrical Parameters

- Supply Voltage: 1.8V $\pm 5\%$
- Absolute Maximum Supply Voltage: -0.6V to 4.6V

Frequency Adjustment

- Pulling: $\pm 8\text{ppm}$ to $\pm 13\text{ppm}$
- Control Voltage: 0.9V $\pm 0.8\text{V}$
- Absolute Maximum Control Voltage: -0.6V to $V_s + 0.6\text{V}$
- Slope: Positive

Operating Temperature Ranges

- 30 to 85°C
- 40 to 85°C

Output Details

- Output Compatibility: Clipped Sine
- Drive Capability: 10k Ω /10pF
- Output Voltage Level: 0.8V pk-pk min
- Output: DC coupled
- Start Up Time ($V_{out} \geq 90\%V_{pk-pk}$): 2ms max

Noise Parameters

- Harmonic distortion: -5.0dBc max
- Phase Noise @ 25°C: -135dBc/Hz @ 1kHz typ

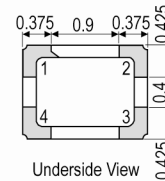
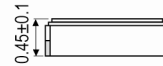
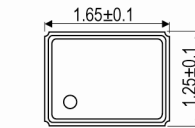
Environmental Parameters

- Storage Temperature Range: -40 to 85°C

Manufacturing Details

- Reflow Process
 - Preheating: 170°C $\pm 10^\circ\text{C}$ for 1 to 2 minutes.
 - Maximum reflow: 250°C $\pm 10^\circ\text{C}$ for 10secs.
- A DC-cut capacitor is not built in to the oscillator; a 1000pF DC-cut capacitor is therefore required in the output line.
- RoHS Terminations: AuNi
- RoHS Reflow: Maximum reflow: 250°C $\pm 10^\circ\text{C}$ for 10secs.

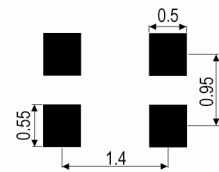
Outline (mm)



- Pad Connections
- Voltage Control
 - GND
 - Output
 - +Vs



Solder Pad Layout



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Ordering Information

- *Minimum information required
 - Frequency*
 - Model*
 - Supply Voltage
 - Frequency Stability*
 - Operating Temperature Range*
 - Pulling
- Example:
 - 26.0MHz IQXT-351
 - ±0.5ppm -30 to 85C 1.8V ±8ppm to ±13ppm

Compliance

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

Packaging Details

- Pack Style: Cutt Cut tape
 Pack Size: 100
- Pack Style: Reel Tape and reel in accordance with
 Pack Size: 1,000 EIA-481-D

Electrical Specification - maximum limiting values 1.80V ±5%

Frequency	Temperature Range	Stability	Current Draw	Rise and Fall Time	Duty Cycle
	°C	ppm	mA	ns	%
26.0MHz	-40 to 85	±1.50	1.5	-	-
	-30 to 85	±0.50	1.5	-	-
52.0MHz	-40 to 85	±1.50	2	-	-
	-30 to 85	±0.50	2	-	-

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