

ISSUE 1; June 2018

Description

- LVPECL output crystal oscillator using a high frequency fundamental crystal to give very low jitter. Hermetically sealed ceramic package with a seam sealed metal lid.



Frequency Parameters

- Frequency 13.5MHz to 156.25MHz
- Frequency Stability $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing $\pm 3\text{ppm}$ max per year @ 25°C

Electrical Parameters

- Supply Voltage 2.5V $\pm 5\%$

Operating Temperature Ranges

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

Output Details

- Output Compatibility LVPECL
- Drive Capability 50Ω terminated to $V_s - 2.0V$
- Output Voltage Levels:
Output Low (VoL): 1.095V max
Output High (VoH): 1.475V min

Output Control

- Enable/Disable:
Logic '1' (70% V_s min) to pad 1 enables oscillator output.
Logic '0' (30% V_s max) to pad 1 disables oscillator output.
No connection to pad 1 enables oscillator output due to internal pull-up resistor.
- Standby Current: 10μA max

Noise Parameters

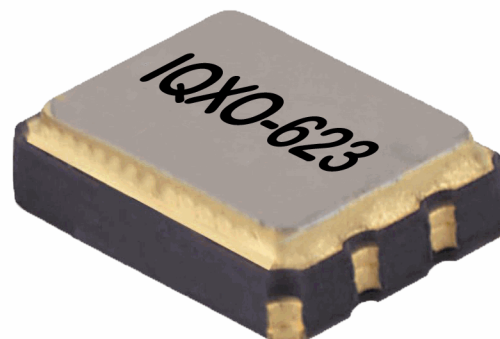
- Phase Jitter (12kHz to 20MHz): 1ps rms max
Phase Jitter (12kHz to 20MHz): 0.171ps rms typ @ 100MHz

Environmental Parameters

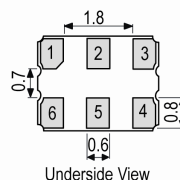
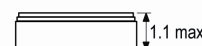
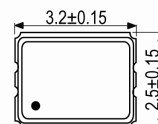
- Storage Temperature Range: -55 to 125°C
- Shock: 1500G, 0.5ms, 3 times for each surface, total 18 times.
- Vibration: Freq. range: 20~2000Hz, peak to peak amplitude: 1.52mm, peak acceleration: 20G (196m/s²), 3 direction(X, Y,Z), each cycle: 20min, 4 cycles for each direction.

Manufacturing Details

- RoHS Terminations Au over Ni
- RoHS Reflow 260°C max for 10sec max

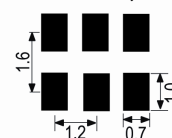


Outline (mm)



- Pad Connections
1. Enable/Disable
 2. N/C
 3. GND
 4. Output -
 5. Output +
 6. +Vs

Solder Pad Layout



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Ordering Information

- Frequency*
 - Model*
 - Output
 - Frequency Stability (over operating temperature range)*
 - Operating Temperature Range*
 - Supply Voltage
 - (*minimum required)
- Example
 - 156.25MHz IQXO-623
 - LVPECL ±50ppm -40 to 85C 2.5V

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
- Pack Style: Cutt Cut tape
Pack Size: 100

Electrical Specification - maximum limiting values 2.5V ±5%

Frequency Min	Frequency Max	Temperature Range	Stability Min	Current Draw	Rise and Fall Time (20-80%)	Duty Cycle
		°C	ppm	mA	ns	%
13.5MHz	99.999999MHz	-10 to 70	±25.0	50	1	45/55%
		-40 to 85	±25.0	50	1	45/55%
		-40 to 125	±100.0	50	1	45/55%
100.0MHz	156.25MHz	-10 to 70	±25.0	50	0.5	45/55%
		-40 to 85	±25.0	50	0.5	45/55%
		-40 to 125	±100.0	50	0.5	45/55%

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