



ISSUE 4; July 2014 - RoHS 2011/65/EU

Description

- Low EMI Spread Spectrum surface mount crystal oscillator in a ceramic package hermetically sealed with a seam sealed metal lid
- $\pm 0.125\%$ Centre Spread
- $\pm 0.25\%$ Centre Spread
- $\pm 0.5\%$ Centre Spread
- $\pm 1\%$ Centre Spread
- $\pm 2\%$ Centre Spread
- -0.25% Down Spread
- -0.5% Down Spread
- -1% Down Spread
- -2% Down Spread
- -4% Down Spread

Frequency Parameters

- Frequency 1.0MHz to 166.0MHz
- Frequency Stability $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing $\pm 3\text{ppm}$ max per year

Electrical Parameters

- Supply Voltage 2.5V $\pm 5\%$
- Internal Spread Spectrum Modulation Frequency: 30kHz to 40kHz

Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C

Output Details

- Output Compatibility CMOS
- Drive Capability 15pF max
- Modulation Ratios:
Centre Spread $\pm 0.125\%$, $\pm 0.25\%$, $\pm 0.5\%$, $\pm 1\%$, $\pm 2\%$
Down Spread -0.25% , -0.5% , -1% , -2% , -4%

Output Control

- Standby Operation:
Logic '1' to pad 1 enables oscillator output
Logic '0' to pad 1 disables oscillator output, the oscillator output goes to a high impedance state
No connection to pad 1 enables oscillator output
- Standby Current: 10 μA max

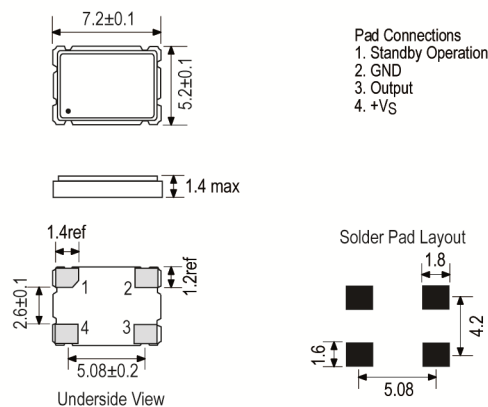
Noise Parameters

- Cycle to Cycle Jitter (1- σ): 100ps max

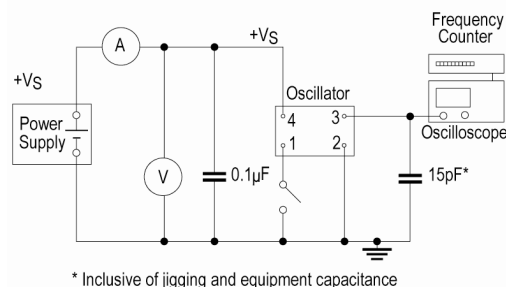
Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock: 1500G, 0.5ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 20G, 20-2000Hz, 1.52mm amplitude, 4 cycles of 20mins in 3 mutually perpendicular planes (total 4hrs)

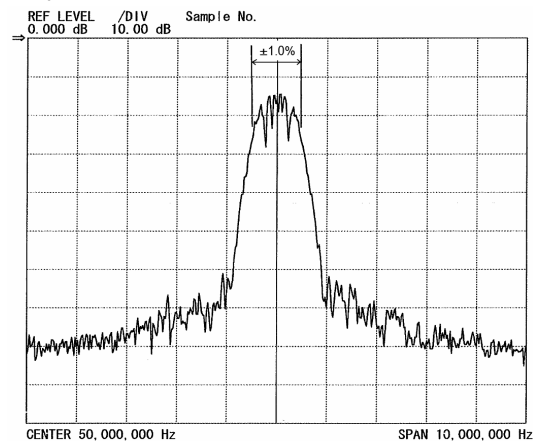
Outline (mm)



Test Circuit



Example Output Spectrum (Centre Spread $\pm 1\%$)



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- Frequency*
- Model*
- Modulation Ratio*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
- (*minimum required)
- Example
- 20.0MHz IQXS-31 $\pm 1\%$
- CMOS $\pm 50\text{ppm}$ -10 to 70°C 2.5V

■ RoHS Status	Compliant
■ REACH Status	Compliant
■ MSL Rating (JDEC-STD-033):	Not Applicable

■ Pack Style: Bulk Pack Size: 100	Loose in bulk pack
■ Pack Style: Reel Pack Size: 1,000	Tape & reel in accordance with EIA-481-D

Frequency Min	Frequency Max	Temperature Range	Stability (min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	49.999999MHz	-10 to 70	±25.0	20	10	40/60
		-40 to 85	±25.0	20	10	40/60
50.0MHz	99.999999MHz	-10 to 70	±25.0	30	5	40/60
		-40 to 85	±25.0	30	5	40/60
100.0MHz	149.999999MHz	-10 to 70	±25.0	30	4	40/60
		-40 to 85	±25.0	30	4	40/60
150.0MHz	166.0MHz	-10 to 70	±25.0	35	3	40/60
		-40 to 85	±25.0	35	3	40/60

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