

ISSUE 4; April 2021

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
- Modulation Ratio $\pm 0.125\%$ Centre Spread
- $\pm 0.25\%$ Centre Spread
- Modulation Ratio $\pm 0.25\%$ Centre Spread
- $\pm 0.5\%$ Centre Spread
- Modulation Ratio $\pm 0.5\%$ Centre Spread
- $\pm 1\%$ Centre Spread
- Modulation Ratio $\pm 1\%$ Centre Spread
- $\pm 1.5\%$ Centre Spread
- $\pm 2\%$ Centre Spread
- Modulation Ratio $\pm 2\%$ Centre Spread
- -0.25% Down Spread
- Modulation Ratio -0.25% Down Spread
- -0.5% Down Spread
- Modulation Ratio -0.5% Down Spread
- -1% Down Spread
- Modulation Ratio -1% Down Spread
- -2% Down Spread
- Modulation Ratio -2% Down Spread
- -4% Down Spread
- Modulation Ratio -4% Down Spread

Frequency Parameters

- Frequency 1.0MHz to 200.0MHz
- 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 3.3V $\pm 10\%$
- Internal Spread Spectrum Modulation Frequency: 30kHz to 40kHz

Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C

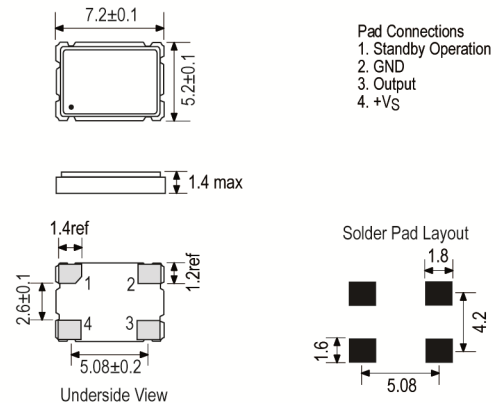
Output Details

- 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%

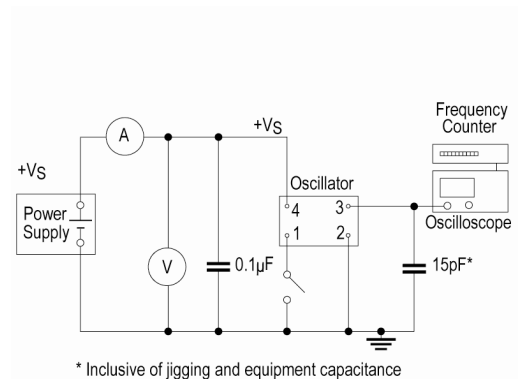
Output Control

- 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: 10µA max

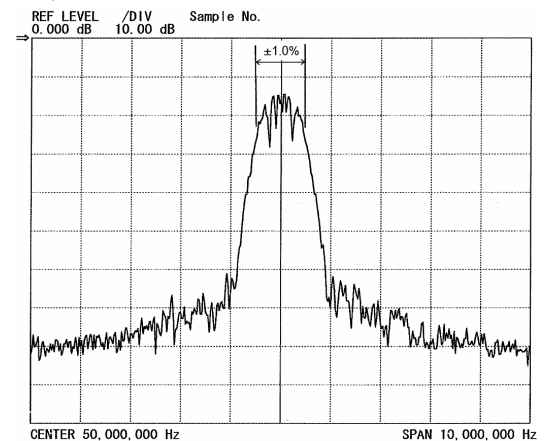
Outline (mm) $\pm 0.125\%$ = Centre Spread



Test Circuit



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



Sales Office Contact Details:

UK: +44 (0)1460 270200

USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com

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)

Ordering Information

- Frequency*
- Model*
- Modulation Ratio*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
(*minimum required)
- Example
20.0MHz IQXS-30 ±1%
CMOS ±50ppm -10 to 70C 3.3V

Compliance

- RoHS Status (2015/863/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: 1,000
- Pack Style: Cutt Cut tape
Pack Size: 1

Electrical Specification - maximum limiting values 3.3V ±10%

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 -40 to 85	±25.0 ±25.0	20 20	10 10	40/60% 40/60%
50.0MHz	99.999999MHz	-10 to 70 -40 to 85	±25.0 ±25.0	30 30	5 5	40/60% 40/60%
100.0MHz	149.999999MHz	-10 to 70 -40 to 85	±25.0 ±25.0	35 35	4 4	40/60% 40/60%
150.0MHz	200.0MHz	-10 to 70 -40 to 85	±25.0 ±25.0	40 40	3 3	40/60% 40/60%

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