

ISSUE 3; April 2016

Description

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

Frequency Parameters

- Frequency 12.0MHz to 168.0MHz
- Frequency Stability $\pm 50.00\text{ppm}$
- Ageing $\pm 5\text{ppm max per year}$

Electrical Parameters

- Supply Voltage 3.3V $\pm 5\%$

Operating Temperature Ranges

- -10 to 70°C

Output Details

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

Output Control

- Tri-state Operation:
Logic '1' to pad 1 ($>80\%$ Vs) enables oscillator output
Logic '0' to pad 1 ($<20\%$ Vs) disables oscillator output, the oscillator output goes to a high impedance state
No connection to pad 1 enables oscillator output

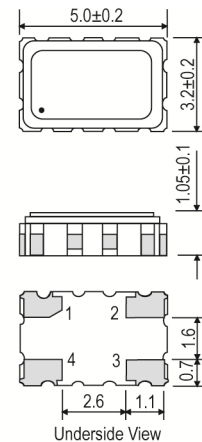
Noise Parameters

- Cycle to Cycle Jitter (1σ):
12MHz to $<20\text{MHz}$: 200ps max
20MHz to 168MHz: 100ps max

Environmental Parameters

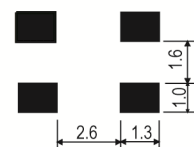
- Storage Temperature Range: -40 to 85°C
- Drop: Natural drop, 3 times from 100cm onto a hard wooden board 30mm thick
- Vibration: 10-55Hz, 1.5mm displacement (10Hz-36Hz), 4G (36Hz-55Hz), sweep time 1min/oct, 2hrs duration in each of 3 mutually perpendicular planes

Outline (mm) $\pm 0.5\%$ = Centre Spread

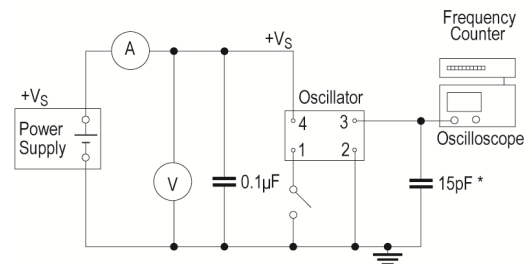


- Pad Connections
1. Tri-state Operation
 2. GND
 3. Output
 4. +Vs

Solder Pad Layout

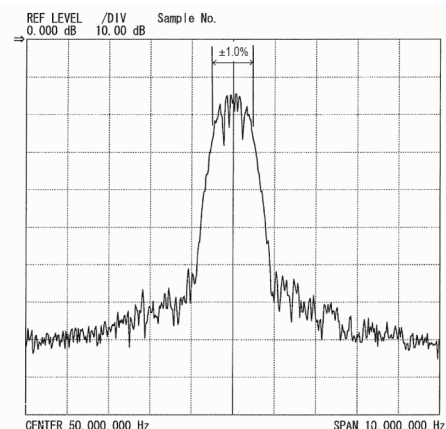


Test Circuit



* Inclusive of jigging and equipment capacitance

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



Sales Office Contact Details:

UK: +44 (0)1460 270200

Germany: 0800 1808 443

France: 0800 901 383

USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com

Ordering Information

- Frequency*
Model*
Modulation Ratio*
Output
Frequency Stability
Operating Temperature Range
Supply Voltage
(*minimum requirement)
- Example
90MHz CFSS-3 $\pm 1\%$
CMOS $\pm 50\text{ppm}$ -10 to 70C 3.3V

Compliance

- RoHS Status (2011/65/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: 1
- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 1,000
- Pack Style: Bulk Loose in bulk pack
Pack Size: 100

Electrical Specification - maximum limiting values 3.3V $\pm 5\%$

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
12.0MHz	27.999999MHz	-10 to 70	± 50.0	13	5	40/60%
28.0MHz	79.999999MHz	-10 to 70	± 50.0	15	5	40/60%
80.0MHz	168.0MHz	-10 to 70	± 50.0	30	5	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.](#)

Sales Office Contact Details:

UK: +44 (0)1460 270200
Germany: 0800 1808 443

France: 0800 901 383
USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com
Web: www.iqdfrequencyproducts.com