

ISSUE 1; July 2020

Description

- PLL based, one time only factory programmable for a fast lead time crystal oscillator in a hermetically sealed ceramic package with a metal lid. This model has extra testing performed during manufacture specifically for Aviation customers buying this standard commercial product.
- -A Enable/Disable
- -B Power-Down



Frequency Parameters

- Frequency 1.0MHz to 200.0MHz
- Frequency Stability $\pm 15.00\text{ppm}$ to $\pm 50.00\text{ppm}$
- Ageing $\pm 3\text{ppm}$ max in 1st year @ 25°C

Electrical Parameters

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

Operating Temperature Ranges

- -20 to 70°C
- -40 to 85°C
- -40 to 105°C

Output Details

- Output Compatibility CMOS
- Drive Capability 15pF max
- Start Up Time: 5ms max.
In Power-Down mode, the internal oscillator shuts down and the start-up time will be longer compared to Enable/Disable mode.
- Logic '1' (>70% Vs) to pad 1 enables oscillator output
Logic '0' (<30% Vs) to pad 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state
No connection to pad 1 enables oscillator output

Output Control

- Standby Current (Enable/Disable): 20mA max
- Standby Current (Power-Down): 400µA max

Noise Parameters

- RMS Phase Jitter (12KHz to 20MHz)@3.3V: 1ps max

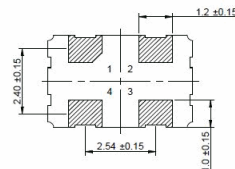
Environmental Parameters

- Storage Temperature Range: -50 to 125°C

Manufacturing Details

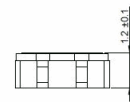
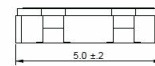
- Additional:
 - 1) Sample AQL reflow profile test.
 - 2) 100% frequency and output voltage test.
 - 3) Sample AQL electrical test over operating temperature range.
- RoHS Terminations Au
- RoHS Reflow 260degC 10s

Outline (mm) -A = Enable/Disable

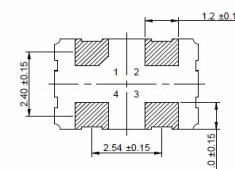


Pad Connections

1. Enable/Disable
2. GND
3. Output
4. Vs

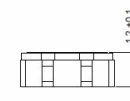
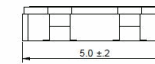


Outline (mm) -B = Power-Down



Pad Connections

1. Powerdown
2. GND
3. Output
4. Vs



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Ordering Information

- Frequency*
 Model*
 -A = Enable/Disable or -B = Power-Down
 Output Compatibility
 Frequency Stability (over operating temperature range)*
 Operating Temperature Range*
 Supply Voltage
- Example
 20.0MHz IQPP-9-A
 CMOS ± 50 ppm -40 to 85°C 3.3V

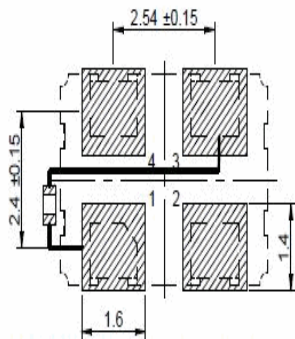
Compliance

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

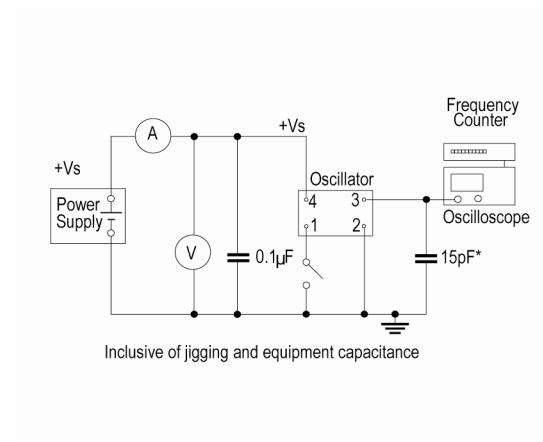
Solder Pad Layout



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1 μF as close to the part as possible between Vdd & GND pads

Wave Form

Test Circuit

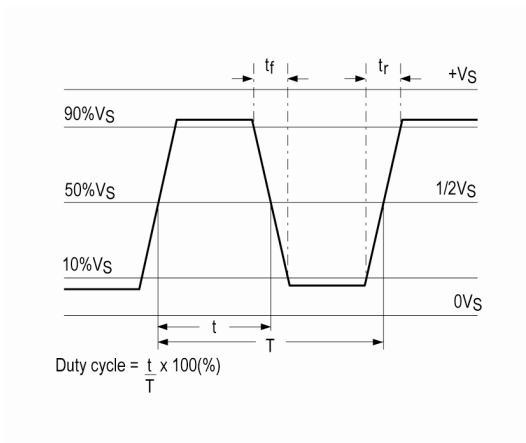


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Electrical Specification - maximum limiting values 3.3V ±5%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	200.0MHz	-20 to 70	±15.0	30	2	45/55%
		-40 to 85	±25.0	30	2	45/55%
		-40 to 105	±50.0	30	2	45/55%

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