

ISSUE 2; March 2023

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 A = Enable/Disable
- -B 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

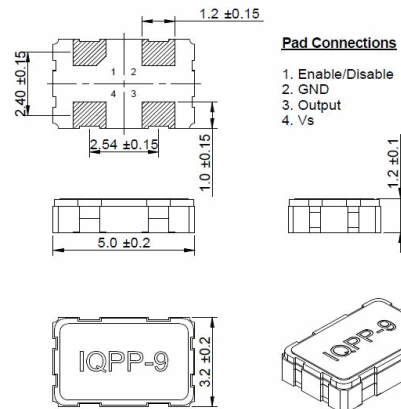
- Storage Temperature Range: -50 to 125°C

Manufacturing Details

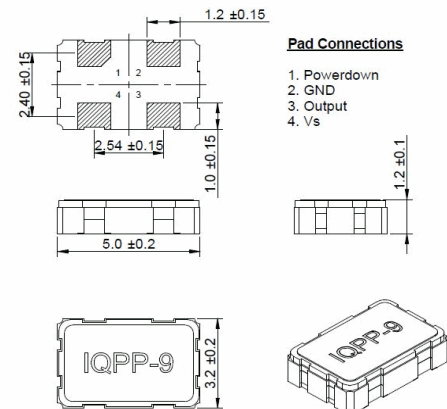
- Additional:
 - 1) Sample AQL reflow profile test.
 - 2) 100% frequency and output voltage test.
 - 3) Sample AQL electrical test over operating temperature range.
- RoHS Terminations Au
- RoHS Reflow 260degC 10s



Outline (mm) -A = A = Enable/Disable



Outline (mm) -B = B = Power-Down



Sales Office Contact Details:

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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 Aviation-A
CMOS ± 50 ppm -40 to 85°C 3.3V

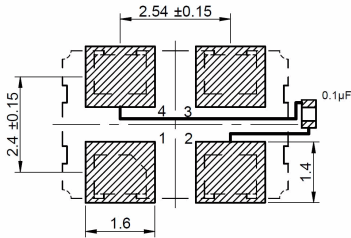
Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

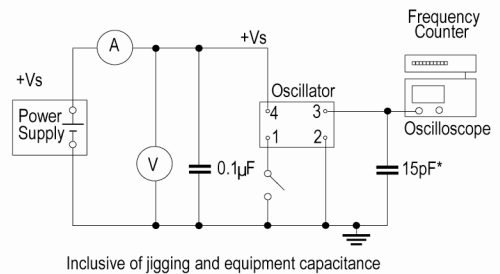
- Pack Style: Cutt In tape, cut from a reel
Pack Size: 100
- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 1,000

Solder Pad Layout

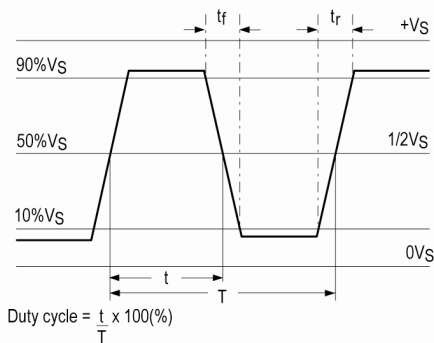


To ensure optimal oscillator performance, place a by-pass capacitor of $0.1\mu\text{F}$ as close to the part as possible between V_s & GND pads

Test Circuit



Wave Form



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Fast Make Oscillator Specification ***IQPP-9 Aviation***

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	%
1.0MHz	200.0MHz	-20 to 70	\pm 15.0	35	2	45/55%
		-40 to 85	\pm 25.0	35	2	45/55%
		-40 to 105	\pm 50.0	35	2	45/55%

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