



Description

- Oven controlled crystal oscillator (OCXO) with voltage control on a FR4 base with a metal lid.
- Model IQOV-162-3
- Model Issue number 2

Frequency Parameters

- Frequency 38.880MHz
- Frequency Tolerance @ 25°C ± 500.00 ppb
- Frequency Stability ± 20.00 ppb
- Operating Temperature Range -40.00 to 85.00°C
- Ageing ± 5 ppb max per day, ± 500 ppb max per year
- Supply Voltage Variation (measurement referenced to frequency observed with TA=25°C, Vs varied from 3.13V to 3.47V, VC =1.65V and load=15pF): ± 10 ppb max
- Ageing: Vs, VC, TA constant measurement referenced to frequency observed with TA=25°C, Vs= 3.3V, VC=1.65V and after 30 days of operation.
- Load Variation (5% load change measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC =1.65V and load=15pF): ± 10 ppb max
- Short Term Stability - Allan Variance (temperature stability, no EMI\EMC or other interference test after power for 1hr ref. to 25°C; 1s, using PN9000 equipment): 0.1ppb max / 1sec
- Frequency Tolerance (measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC=1.65V and after 15 minutes of operation, within 30 days after ex-works): ± 500 ppb
- Frequency Stability: TA varied from -40°C to 85°C, measurement referenced to frequency observed with $f_{ref} = (f_{max} + f_{min}) / 2$, Vs=3.3V, VC=1.65V, load=15pF, temperature variable speed less than 2°C per minute.

Electrical Parameters

- Supply Voltage 3.3V
- Supply Voltage Tolerance $\pm 5\%$
- Current Draw:
Warm up: 560mA max
Steady state (@ 25°C): 250mA max
- Warm-Up Time (@ 25°C, F ± 100 ppb of final frequency): 5mins max

Frequency Adjustment

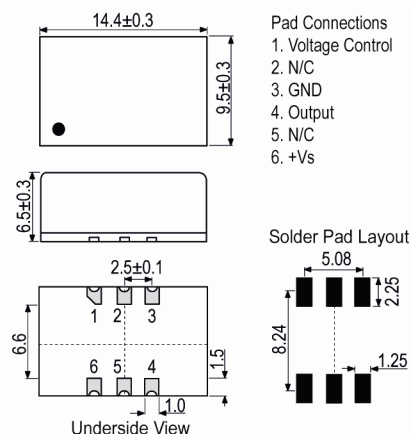
- Pulling ± 3 ppm to ± 8 ppm
- Control Voltage Details 1.65V ± 1.65 V
- Linearity: $\pm 10\%$ max
- Slope: Positive
- Input Impedance: 100k Ω min

Output Details

- Output Compatibility HCMOS
- Output Load 15pF
- Rise and Fall time 8ns max
- Duty Cycle 45/55%
- Output Low (@ Vs=3.3V, load=15pF): 0.4V max
Output High (@ Vs=3.3V, load=15pF): 2.4V min



Outline (mm)



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Noise Parameters

- Phase Noise (@ 100MHz typ):
 - 90dBc/Hz @ 10Hz
 - 120dBc/Hz @ 100Hz
 - 145dBc/Hz @ 1kHz
 - 150dBc/Hz @ 10kHz
 - 150dBc/Hz @ 100kHz
 - 155dBc/Hz @ 1MHz
- Phase Noise (@ 10MHz typ):
 - 100dBc/Hz @ 10Hz
 - 130dBc/Hz @ 100Hz
 - 145dBc/Hz @ 1kHz
 - 150dBc/Hz @ 10kHz
 - 150dBc/Hz @ 100kHz
 - 155dBc/Hz @ 1MHz

Environmental Parameters

- Shock: IEC 60068-2-27, Test Ea, Severity 50A: 50G, 11ms duration, 1/2 sine wave, 3 times in each of 3 mutually perpendicular planes
- Vibration: IEC 60068-2-06, Test Fc: 10Hz-500Hz, 0.75mm displacement, 10G acceleration, one cycle per 30mins, 3 times in each of 3 mutually perpendicular planes, test 2hrs
- Storage Temperature Range: -55 to 105°C
- Operable Temperature Range: -40 to 85°C
- ESD Level:
 - HBM, Class 2: 2000V to 4000V, JEDEC JS-001-2010
 - Machine Model, Class B: 200V to 400V, JEDEC JS-001-2010

Manufacturing Details

- Maximum Reflow Temperature: 260°C (30secs max)
- Moisture Sensitivity Level: 2

Compliance

- | | |
|----------------|-----------|
| ■ RoHS Status | Compliant |
| ■ REACH Status | Compliant |

Packaging

- | | |
|-------------------|--------------------|
| ■ Pack Type: Bulk | Loose in bulk pack |
| Pack Size | 1 |
- Alternative packing option available

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