



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 12.80MHz
- Frequency Tolerance ± 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
- Frequency Tolerance (measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_s=3.3\text{V}$, $V_C=1.65\text{V}$ and after 15 minutes of operation, within 30 days after ex-works): ± 500 ppb
- Frequency Stability: TA varied over temperature, measurement referenced to frequency observed with $f_{\text{ref}}=(f_{\text{max}}+f_{\text{min}})/2$, $V_s=3.3\text{V}$, $V_C=1.65\text{V}$, load= 15pF , temperature variable speed less than 2°C per minute.
- Ageing: V_s , V_C , T_A constant measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_s=3.3\text{V}$, $V_C=1.65\text{V}$ and after 30 days of operation.
- Supply Voltage Variation (measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, V_s varied from 3.13V to 3.47V , $V_C=1.65\text{V}$ and load= 15pF): ± 10 ppb max
- Load Variation (5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_s=3.3\text{V}$, $V_C=1.65\text{V}$ 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): 0.1 ppb max / 1sec

Electrical Parameters

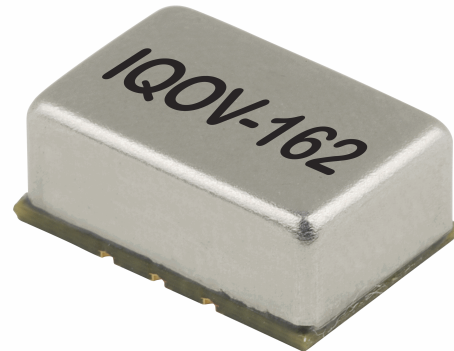
- Supply Voltage $3.3\text{V} \pm 5\%$
- Current Draw:
Warm up: 600mA max
Steady state (@ 25°C): 300mA max
- Warm-Up Time (@ 25°C , $F < \pm 100$ ppb of final frequency): 5mins max

Frequency Adjustment

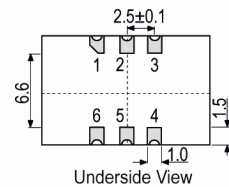
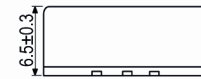
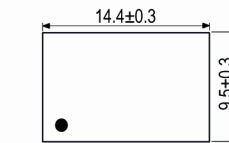
- Pulling ± 3 ppm to ± 8 ppm
- Control Voltage $1.65\text{V} \pm 1.65\text{V}$
- Input Impedance $100\text{k}\Omega$ min
- Linearity: $\pm 10\%$ max
- Slope: Positive

Output Details

- Output Compatibility HCMOS
- Drive Capability 15pF
- Rise and Fall Time 8.0ns max
- Duty Cycle $45/55\%$
- Output Low (@ $V_s=3.3\text{V}$, load= 15pF): 0.4V max
- Output High (@ $V_s=3.3\text{V}$, load= 15pF): 2.4V min



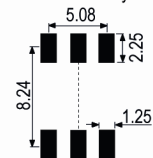
Outline (mm)



Pad Connections

1. Voltage Control
2. N/C
3. GND
4. Output
5. N/C
6. +Vs

Solder Pad Layout



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Noise Parameters

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

Environmental Parameters

- Operable Temperature Range: -40 to 85°C
- Storage Temperature Range: -55 to 105°C
- ESD Level:
 - HBM, Class 2: 2000V to 4000V, JEDEC JS-001-2010
 - Machine Model, Class B: 200V to 400V, JEDEC JS-001-2010
- 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

Manufacturing Details

- Maximum Reflow Temperature: 260°C (30secs max)

Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): 2

Packaging Details

- Pack Style: Bulk Loose in bulk pack
Pack Size: 1
- Alternative packing option available*

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