


**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 19.20MHz
- Frequency Tolerance  $\pm 500.00$ ppb
- Frequency Stability  $\pm 20.00$ ppb
- Operating Temperature Range -40.00 to 85.00°C
- Ageing  $\pm 5$ ppb max per day,  $\pm 500$ ppb max per year
- 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):  $\pm 500$ ppb
- Frequency Stability: TA varied over temperature, 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.
- 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.
- 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):  $\pm 10$ ppb max
- Load Variation (5% load change measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC =1.65V and load=15pF):  $\pm 10$ 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

**Electrical Parameters**

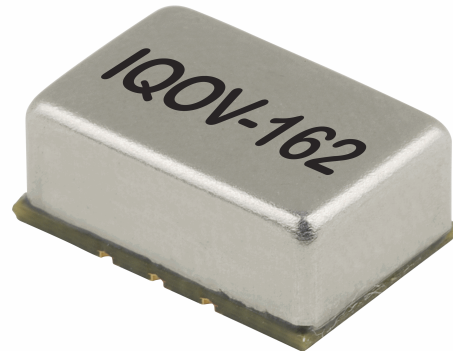
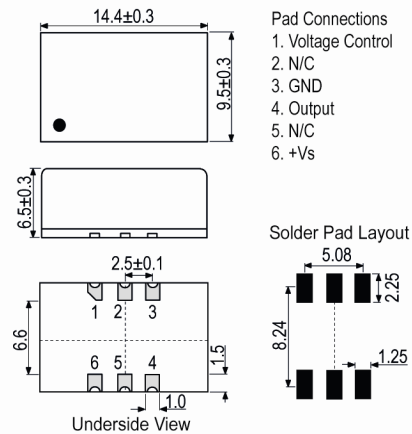
- Supply Voltage 3.3V  $\pm 5\%$
- Current Draw:  
Warm up: 600mA max  
Steady state (@ 25°C): 300mA max
- Warm-Up Time (@ 25°C, F $\leq$  $\pm 100$ ppb of final frequency): 5mins max

**Frequency Adjustment**

- Pulling  $\pm 3$ ppm to  $\pm 8$ ppm
- Control Voltage 1.65V  $\pm 1.65$ V
- Input Impedance 100k $\Omega$  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 (@ Vs=3.3V, load=15pF): 0.4V max
- Output High (@ Vs=3.3V, load=15pF): 2.4V min


**Outline (mm)**

**Sales Office Contact Details:**

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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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