

**Customer Part:**

**Description**

- Oven controlled crystal oscillator (OCXO) with voltage control on a FR4 base with a metal lid.
- Model IQOV-162-4
- Model Issue number 2

**Frequency Parameters**

- Frequency 20.0MHz
- Frequency Tolerance  $\pm 500.00\text{ppb}$
- Tolerance Condition @ 25°C, 3.3V, VC=1.65V after 15mins warm-up
- Frequency Stability  $\pm 20.00\text{ppb}$
- Operating Temperature Range -40.00 to 85.00°C
- Ageing  $\pm 5\text{ppb}$  max per day,  $\pm 500\text{ppb}$  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):  $\pm 500\text{ppb}$
- Frequency Stability: TA varied over temperature, measurement referenced to frequency observed with  $f_{\text{ref}} = (f_{\text{max}} + f_{\text{min}}) / 2$ , Vs=3.3V, VC=1.65V, load=50Ω, 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, load=50Ω 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=50Ω):  $\pm 10\text{ppb}$  max
- Load Variation (5% load change measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC =1.65V and load=50Ω):  $\pm 10\text{ppb}$  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**

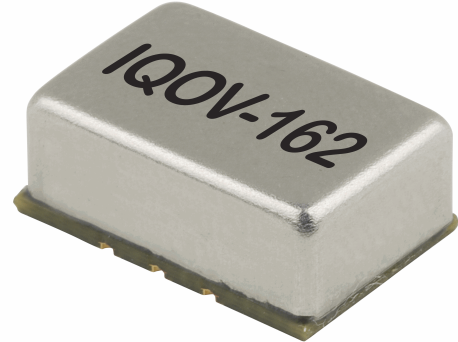
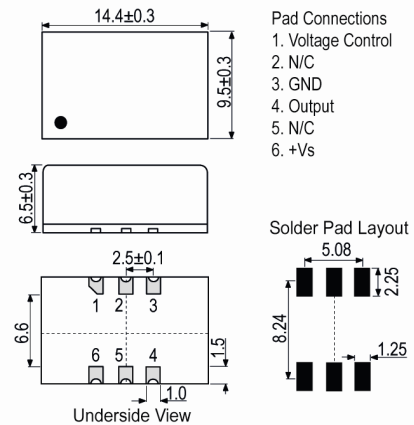
- Supply Voltage 3.3V  $\pm 5\%$
- Current Draw:  
Warm up: 600mA max  
Steady state (@ 25°C): 300mA max
- Warm-Up Time (@ 25°C, F< $\pm 100\text{ppb}$  of final frequency): 5mins max

**Frequency Adjustment**

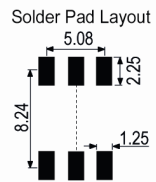
- Pulling  $\pm 3\text{ppm}$  to  $\pm 8\text{ppm}$
- Control Voltage 1.65V  $\pm 1.65\text{V}$
- Input Impedance 100kΩ min
- Linearity:  $\pm 10\%$  max
- Slope: Positive

**Output Details**

- Output Compatibility Sine
- Drive Capability 50Ω
- Output Level: 6dBm min, 10dBm max


**Outline (mm)**


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


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**Customer Part:****Noise Parameters**

- Phase Noise (@ 10MHz typ):
  - 100dBc/Hz @ 10Hz
  - 130dBc/Hz @ 100Hz
  - 150dBc/Hz @ 1kHz
  - 150dBc/Hz @ 10kHz
  - 150dBc/Hz @ 100kHz
  - 155dBc/Hz @ 1MHz
- Harmonic Suppression: -30dBc max
- Spurious Suppression: -60dBc max

**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 (2015/863/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JEDEC-STD-033):    2

**Packaging Details**

- Pack Style: Reel      Tape & reel in accordance with EIA-481-D
- Pack Size: 500
- *Alternative packing option available*

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