

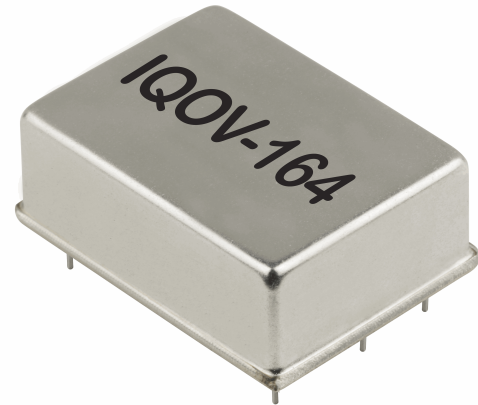
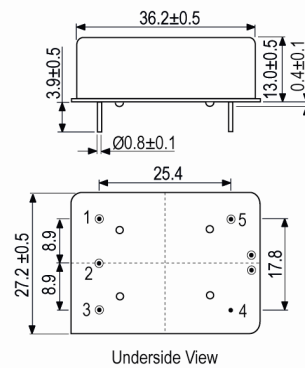
**Customer Part:**

**Description**

- Oven controlled crystal oscillator (OCXO) with voltage control
- Model IQOV-164-4
- Model Issue number 2

**Frequency Parameters**

- Frequency 12.80MHz
- Frequency Tolerance  $\pm 50.00\text{ppb}$
- Tolerance Condition @ 25°C, 3.3V, VC=1.65V after 15mins warm-up
- Frequency Stability  $\pm 1.00\text{ppb}$
- Operating Temperature Range -30.00 to 75.00°C
- Ageing  $\pm 0.5\text{ppb}$  max per day,  $\pm 50\text{ppb}$  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):  $\pm 50\text{ppb}$
- Frequency Stability: TA varied across the operating temperature range, measurement referenced to frequency observed with  $f_{\text{ref}} = (f_{\text{max}} + f_{\text{min}}) / 2$ , Vs=3.3V, VC=1.65V, load=50Ω and 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):  $\pm 0.5\text{ppb}$  max
- Load Variation (5% load change measurement referenced to frequency observed with TA=25°C, Vs=3.3V, VC=1.65V and load=50Ω):  $\pm 0.5\text{ppb}$  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): 0.01ppb max / 1sec


**Outline (mm)**


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

**Electrical Parameters**

- Supply Voltage 3.3V  $\pm 5\%$
- Current Consumption:  
 Warm up: 1400mA max  
 Steady state (@ 25°C): 500mA max

**Frequency Adjustment**

- Pulling  $\pm 0.7\text{ppm}$  to  $\pm 1\text{ppm}$
- Control Voltage 1.65V  $\pm 1.65\text{V}$
- Linearity:  $\pm 10\%$  max
- Slope: Positive
- Input Impedance: 100kΩ min

**Output Details**

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

**Sales Office Contact Details:**

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

- Phase Noise (@ 10MHz typ):
  - 125dBc/Hz @ 10Hz
  - 145dBc/Hz @ 100Hz
  - 150dBc/Hz @ 1kHz
  - 155dBc/Hz @ 10kHz
  - 155dBc/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: 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 (JDEC-STD-033):      Not Applicable

**Packaging Details**

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

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