

OVEN CONTROLLED CRYSTAL OSCILLATOR



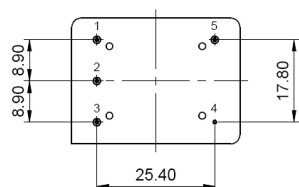
Part Number: 830606381702 | IQOV-164-4

AKA Number: LFOCX0063817B

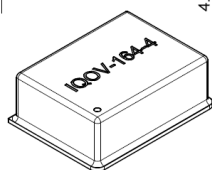
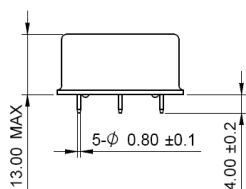
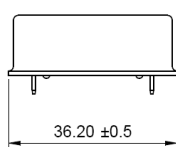
General Information

Oven controlled crystal oscillator (OCXO) with voltage control

Dimensions [mm]



Pin Connections
1. +Vs
2. NC
3. Control Voltage
4. GND
5. Output



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Frequency Parameters

Frequency	20.0 MHz
Frequency Tolerance	± 50 ppb @ 25 °C, 3.3V, VC=1.65V after 15mins warm-up
Frequency Stability	± 1 ppb
Operating Temperature	-30 °C to 75 °C
Ageing	± 0.5 ppb max per day, ± 50 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): ±50ppb
- Frequency Stability: TA varied across the operating temperature range, measurement referenced to frequency observed with $f_{ref} = (f_{max} + f_{min})/2$, 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): ±50% of frequency stability
- Load Variation (5% load change measurement referenced to frequency observed with TA=25 °C, Vs=3.3V, VC=1.65V and load=50Ω): ±50% of frequency stability
- 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 @ 10MHz
- Standard Frequencies: 5.0MHz, 10.0MHz, 12.80MHz, 13.0MHz, 16.3840MHz, 20.0MHz

Output Details

Output Compatibility	Sine
Output Amplitude: 0dBm min, 10dBm max	

Frequency Adjustment

Control Voltage	1.65 V ± 1.65 V
Slope	positive

- Linearity: ±10% max
- Input Impedance: 100kΩ min

Material Parameters

Moisture Sensitivity Level (MSL)	Not Applicable
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Electrical Parameters

Supply Voltage	3.3 V ± 5 %
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Current Consumption:

Warm up (3mins max): 5W max (6W max ≤10MHz over -30+75 °C, 7W max ≤10MHz over 40+85 °C)

Steady state (@ 25 °C): 2W max

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: -40dBc max
- Spurious Suppression: -75dBc max

Environmental Parameters

Storage Temperature Range:	-55 °C to 105 °C
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- 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
- 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
- Shock: IEC 60068-2-27, Test Ea: 50G, 11ms duration, 1/2 sine wave, 3 times in each of 3 mutually perpendicular planes

Technical Standards

RoHS Status	2015/863/EU
REACH Status	(EC)1907/2006

Packaging Details

Packaging SPQ	Bulk 1 pcs
Bulk pack	

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Manufacturing Details

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

Company Address

IQD Frequency Products Ltd.

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Crewkerne

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