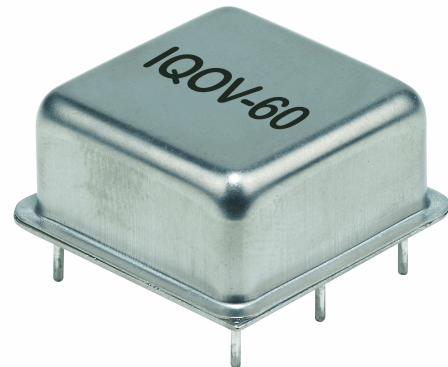


ISSUE 2; January 2016

Description

- Oven controlled hermetically sealed crystal oscillator. Reference voltage available. Low phase noise and low jitter optimised design.

Please note: This document is intended to illustrate the general capability and versatility of IQD's design. For specific enquiries please contact one of IQD's sales offices where we can tailor a unique specification to meet your needs.



Frequency Parameters

- Frequency: 4.0MHz to 20.0MHz
- Frequency Stability: $\pm 3.00\text{ppb}$ to $\pm 5.00\text{ppb}$
- Developed Frequencies: 10.0MHz 13.0MHz 16.3840MHz
- Frequency Tolerance Example: $\pm 500\text{ppb}$
Measurement at 25°C reference to nominal frequency.
- Frequency Stability vs Temperature Range:
Tightest Stability: $\pm 3\text{ppb}$ 0 to 60°C
Widest Temperature Range: $\pm 5\text{ppb}$ -40 to 75°C
- For other frequency/specification combinations please contact our sales offices
- Ageing (typ @ 10.0MHz after 30 days continuous operation):
Aging pr day: $\pm 0.5\text{ppb}$
After 1st year: $\pm 50\text{ppb}$
After 10 years: $\pm 300\text{ppb}$
- Supply Voltage Coefficient Example: $\pm 1\text{ppb}$ ref Vs $\pm 5\%$
- Load Coefficient Example: $\pm 1\text{ppb}$ ref $\pm 5\%$ load change

Electrical Parameters

- Supply Voltage: 3.3V
- Supply Voltage: Available in 5.0V and 3.3V
- Current Consumption:
5.0V @ 25°C steady state, 200mA max
5.0V Warm up, 500mA max
3.3V @ 25°C steady state, 300mA max
3.3V Warm up, 900mA max
- Reference Voltage Output (Pin 4): Customer specified value (A very stable DC output voltage, made available to the designer for use with a voltage divider circuit on the Voltage Control Input)

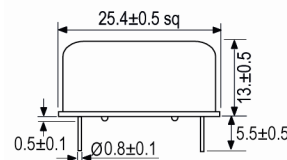
Frequency Adjustment

- Frequency Adjustment Range: $\pm 500\text{ppb}$ to $\pm 1500\text{ppb}$
- Control Voltage Example:
For 3.3V supply: 1.65V $\pm 1.65\text{V}$
For 5.0V supply: 2.5V $\pm 2.5\text{V}$
- Linearity Example: 10% max
- Slope (standard): Positive
- Input Impedance Example: 100k Ohms

Operating Temperature Ranges

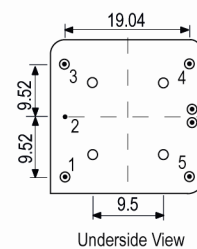
- 0 to 60°C
- -40 to 75°C

Outline (mm)



Pin Connection

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



Sales Office Contact Details:

UK: +44 (0)1460 270200

Germany: 0800 1808 443

France: 0800 901 383

USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com

Output Details

- Output Compatability HCMOS/Sinewave
- Available with either HCMOS or Sinewave output
- HCMOS Typical Parameters (15pF load):
Rise and fall time: 10ns max
Duty Cycle 45/55%
- Sinewave Typical Parameters (50ohm load):
Output Level: 6 to 10dBm
Harmonic Suppression: -30dBc max
Spurious Suppression: -60dBc max

Noise Parameters

- Phase Noise typical figures @ 10.0MHz (dBc/Hz):
Offset Typ Max
1Hz -90 -80
10Hz -120 -110
100Hz -140 -130
1kHz -145 -140
10kHz -150 -145
100kHz -150 -145
- Allan Variance Example: 1E-11 for 1s

Environmental Parameters

- Storage Temperature Range: -55 to 105°C
- Vibration: IEC 68-2-06 Test Fc, Test condition 0.75mm 10G acceleration 10Hz to 500Hz, one cycle per 30mins 2hrs test time
- Shock: IEC 68-2-27, 50G, 11ms, half sine, 3 times in 3 directions

Ordering Information

- Minimum data needed to open an enquiry:-
Frequency
Model
Supply Voltage
Output
Frequency Stability (over operating temperature range)
Operating Temperature Range
Frequency Adjustment
Reference Voltage Output

Compliance

- RoHS Status (2011/65/EU) Compliant
- REACh Status Compliant
- MSL Rating (JEDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: Bulk Supplied tube or box packaging
Pack Size: 60

Electrical Specification - example values 3.3V

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppb	mA	ns	%
4.0MHz	20.0MHz	0 to 60	±3.0	-	10	45/55
		-40 to 75	±5.0	-	10	45/55

This document was correct at the time of printing; please contact your local sales office for the latest version.
[Click to view latest version on our website.](#)

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