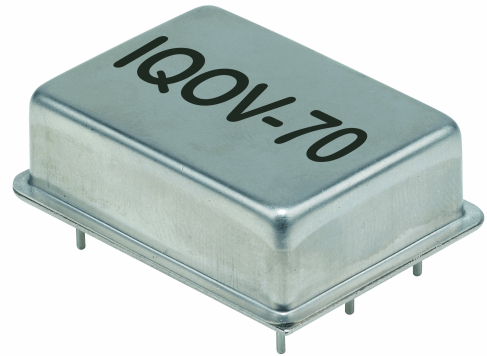


ISSUE 2; February 2016

Description

- Oven controlled hermetically sealed crystal oscillator
- Low phase noise and low jitter optimised design
- Optional voltage reference

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 80.0MHz
- Frequency Stability: $\pm 3.00\text{ppb}$ to $\pm 5.00\text{ppb}$
- Developed Frequencies:
10.0MHz 12.80MHz 13.0MHz 16.3840MHz 20.0MHz
32.7680MHz 38.40MHz 38.880MHz
- 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):
Ageing per 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 12.0V, 5.0V and 3.3V
- Current Consumption:
12.0V @ 25°C steady state, 200mA max
12.0V Warm up, 400mA max
5.0V @ 25°C steady state, 300mA max
5.0V Warm up, 600mA max
3.3V @ 25°C steady state, 400mA max
3.3V Warm up, 900mA max

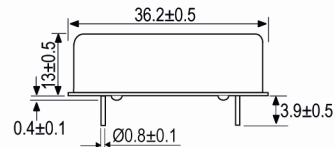
Frequency Adjustment

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

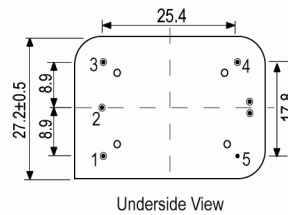
Operating Temperature Ranges

- 0 to 60°C
- -40 to 75°C

Outline (mm)



- Pin Connection
1. Voltage Control
 2. Ref. Control Voltage
 3. +VS
 4. Output
 5. GND



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

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

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

Compliance

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

Packaging Details

- Pack Style: Bulk Supplied tube or box packaging
 Pack Size: 40

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 | 80.0MHz | 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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