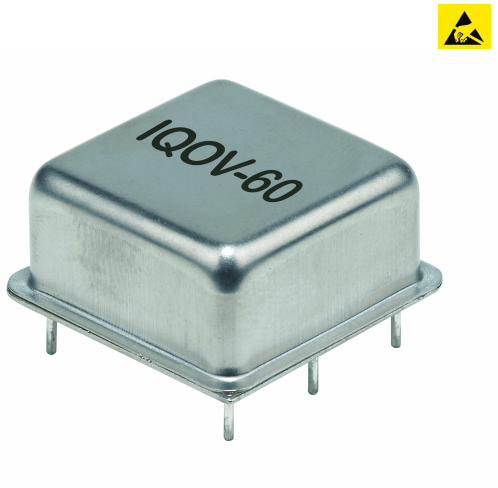
ISSUE 2; January 2016

Description

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

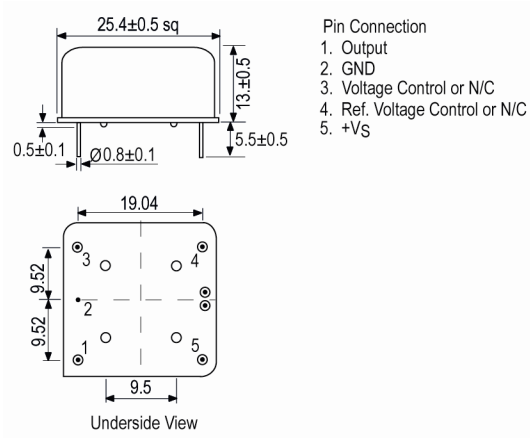
  Please note: This document is intended to illustrate the general capability and versatility of IQD's design. For specific enquiries please contact one of IQD's sales offices where we can tailor a unique specification to meet your needs.



Frequency Parameters

- Frequency 4.0MHz to 20.0MHz
- Frequency Stability ±3.00ppb to ±5.00ppb
- Developed Frequencies:
  10.0MHz 13.0MHz 16.3840MHz
- Frequency Tolerance Example: ±500ppb
  Measurment at 25°C referance to nominal frequency.
- Frequency Stability vs Temperature Range:
  Tightest Stability: ±3ppb 0 to 60°C
  Widest Temperature Range: ±5ppb -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: ±0.5ppb
  After 1st year: ±50ppb
  After 10 years: ±300ppb
- Supply Voltage Coefficiant Example: ±1ppb ref Vs±5%
- Load Coefficiant Example: ±1ppb ref ±5% load change

Outline (mm)



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: ±500ppb to ±1500ppb
- Control Voltage Example:
  For 3.3V supply: 1.65V ±1.65V
  For 5.0V supply: 2.5V ±2.5V
- Linearity Example: 10% max
- Slope (standard): Positive
- Input Impedance Example: 100k Ohms

Operating Temperature Ranges

- 0 to 60°C
- -40 to 75°C

Sales Office Contact Details:

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Germany: 0800 1808 443 USA: +1.760.318.2824 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 (JDEC-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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