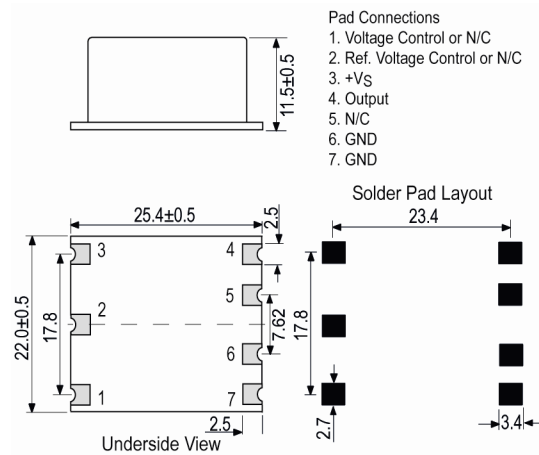


Outline (mm)



Description

- Small SMD case style/low height with hermetically sealed oven controlled crystal oscillator (OCXO)
- Tight temperature stability
- Low phase noise and short term stability optimised design
- AT-Cut and SC-Cut crystal designs
- Optional reference voltage

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 10.0MHz to 40.0MHz
- Frequency Stability  $\pm 3.00\text{ppb}$  to  $\pm 5.00\text{ppb}$
- Developed Frequency:  
10.0MHz, 13.0MHz, 16.3840MHz, 32.7680MHz, 38.40MHz
- Frequency Tolerance Example:  $\pm 50\text{ppb}$   
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 (after 30 days of continuous operation, referred @ 25°C):  
Ageing per day:  $\pm 0.5\text{ppb}$  max  
After 1st year:  $\pm 50\text{ppb}$  max  
After 10 years:  $\pm 300\text{ppb}$  max
- Supply Voltage Coefficient Example:  $\pm 1\text{ppb}$  ref Vs  $\pm 5\%$
- Load Coefficient Example:  $\pm 1\text{ppb}$  ref  $\pm 5\%$  load change

Sales Office Contact Details:

UK: +44 (0)1460 270200  
USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

### 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, 180mA max
  - 12.0V Warm-up, 350mA max
  - 5.0V @ 25°C steady state, 200mA max
  - 5.0V Warm-up, 500mA max
  - 3.3V @ 25°C steady state, 350mA max
  - 3.3V Warm-up, 800mA max
- Reference Voltage Output: 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:  $\pm 1000$ ppb to  $\pm 2000$ ppb
- Control Voltage Example:
  - For 3.3V supply:  $1.65V \pm 1.65V$
  - For 5.0V supply:  $2.5V \pm 2.5V$
- Linearity Example: 10% max
- Input Impedance Example: 100kohms
- Slope (standard): Positive

### Operating Temperature Ranges

- 0 to 60°C
- 40 to 75°C

### Output Details

- Output Compatibility 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:  $5E-11$  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

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### 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 (2015/863/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

### Packaging Details

- Pack Style: Bulk                  Supplied tube or box packaging  
Pack Size: 75
- Pack Style: Reel                  Tape & reel in accordance with EIA-481-D  
Pack Size: 75

### 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	%
10.0MHz	40.0MHz	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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