



ISSUE 0.12; January 2014 - RoHS 2011/65/EU

**Description**

- Temperature compensated crystal oscillator  
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 Range**

- Frequency 10.000 to 50.000MHz

**Supply Voltage**

- Voltage 3.3V

**Output Compatibility & Load**

- Output Compatibility HCMOS or Clipped Sine

**Frequency Stabilities**

- Frequency Stability  $\pm 0.28\text{ppm}$  to  $\pm 2.0\text{ppm}$

**Operating Temperature Ranges**

- -20 to 70°C
- -30 to 75°C
- -40 to 85°C

**Frequency Parameters**

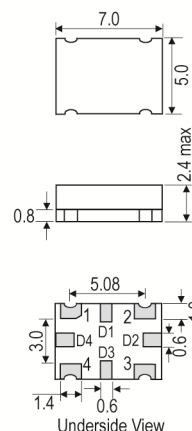
- Developed Frequencies:  
10.0MHz, 12.80MHz, 16.320MHz, 16.3840MHz, 19.20MHz, 19.440MHz, 20.0MHz, 25.0MHz, 26.0MHz, 30.720MHz, 50.0MHz
- Short Term Stability (@ 25°C after 10mins power on): 5E-10/s typ @ 10.0MHz
- Ageing (per day): 0.02ppm  
Note: 0.01ppm also available for specific combinations, please contact one of IQD's Sales Offices for further details
- Ageing (per year): 1ppm  
Note: 0.5ppm also available for specific combinations, please contact one of IQD's Sales Offices for further details

**Electrical Parameters**

- Current Draw: 1mA to 5mA typ

**Frequency Adjustment**

- Control Voltage Options (Central Voltage): 1.5V or 1.65V
- Pulling Range Options:  
 $\pm 5\text{ppm}$  to  $\pm 10\text{ppm}$   
 $\pm 10\text{ppm}$  to  $\pm 15\text{ppm}$
- Note: Also available with no pulling range
- Linearity: 10% max
- Slope: Positive

**Outline (mm)**

Pad Connections  
1. Voltage Control  
2. GND  
3. Output  
4. +VS  
D1, D2, D3, D5. N/C

**Sales Office Contact Details:**

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**Output Details**

- HCMOS Output Details:  
Load: 15pF
- Clipped Sinewave Output Details:  
Output Levels: 0.8Vpk-pk min  
Load: 10k $\Omega$ //10pF

**Noise Parameter**

- Phase Noise @ 10MHz (typical):  
-90dBc/Hz @ 10Hz  
-115dBc/Hz @ 100Hz  
-138dBc/Hz @ 1kHz  
-148dBc/Hz @ 10kHz  
-150dBc/Hz @ 100kHz

**Environmental Parameters**

- Operable Temperature Range: -40 to 85°C
- Storage Temperature Range: -55 to 105°C
- Drop Test: IEC 60068-2-32: 100cm drop onto concrete or steel
- Shock: IEC 60068-2-27, Test Ea: 100G acceleration for 6ms, sinewave, in 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6, Test Fc: 10Hz-2000Hz, 0.75mm amplitude, 10G acceleration, 30mins per cycle, in 3 mutually perpendicular planes, test duration 2hrs

**Packing Details**

- Pack Style: **Bulk**                      Loose in bulk pack  
Pack Size                                  1
- Pack Style: **Reel**                      Tape and reel in accordance with EIA-481-D  
Pack Size                                  600
- Alternative packing options available

**Electrical Specification - maximum limiting values 3.3V**

Frequency Range	Temp Range	Stability	Output Waveform	Supply Current
10.00 to 50.000MHz	-40 to 85°C	±0.50ppm	HCMOS or Clipped Sine	-
	-20 to 70°C	±0.28ppm		-
	-30 to 75°C	±0.50ppm		-

*This document was correct at the time of printing; please contact your local sales office for the latest version*

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