



ISSUE 20; June 2012 - RoHS 2011/65/EU



### Description

- Standard 5V supply crystal oscillator in a 14-pin DIL metal package, hermetically sealed
- See IQXO-149 for standard product with Standby Operation
- For product that meets tough environmental specifications please see our IQXO-365
- For product that meets tough environmental specifications and military temperature range please see our IQXO-625
- For individually screened product that meet tough environmental specifications and military temperature range please see our IQXO-626

### Frequency Range

- Frequency 0.001 to 160.0 MHz

### Supply Voltage

- Voltage 5.0V  $\pm 0.25V$

### Ageing

- Ageing  $\pm 5\text{ppm}$  max per year

### Output Compatibility & Load

- Output Compatibility HCMOS/TTL
- Drive Capability 50pF max or 10TTL (100kHz to <70.0MHz) 30pF max (70 to 160kHz) 15pF max (1 to <100kHz)

### Frequency Stabilities

- Frequency Stability  $\pm 25\text{ppm}$ ,  $\pm 100\text{ppm}$   
(inclusive of supply voltage and output load variations over the operating temperature range)

### Operating Temperature Ranges

- 0 to 70°C
- 40 to 85°C

### Environmental Parameters

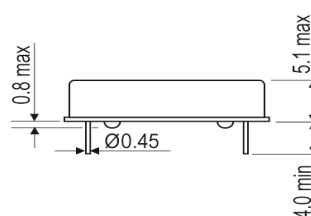
- Shock: 981m/s<sup>2</sup>, 6ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 10Hz-55Hz, 0.76mm amplitude, 1min in each of 3 mutually perpendicular planes, duration 2hrs in each plane
- Terminal Strength: 0.91kg max force perpendicular to top and bottom
- Hermetic Seal: Not to exceed 1 x 10<sup>-8</sup> mBar litres of Helium leakage
- Rapid Change of Temperature over Operating Temperature Range: 10 cycles
- Solderability: MIL-STD-202E, Method 208C
- Storage Temperature Range: -55 to 125°C

### Ordering Information (\*minimum required)

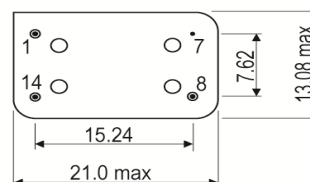
- Frequency\*
- Model\*
- Output
- Frequency Stability\*
- Operating Temperature Range\*
- Supply Voltage
- (\*minimum requirement)



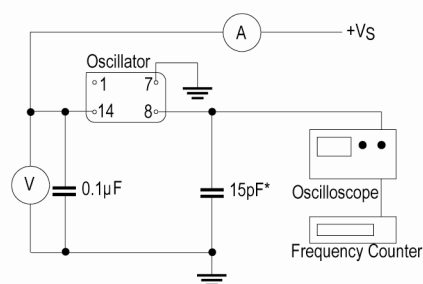
### Outline (mm)



Pin Connections  
1. N/C  
7. GND  
8. Output  
14. +Vs



### Test Circuit



\*Inclusive of jigging and equipment capacitance

### Sales Office Contact Details:

UK: +44 (0)1460 270200  
Germany: +49 (0)7264 9145-0

France: +33 (0)5 34 50 91 18  
USA: +1 (0)408.273.4530

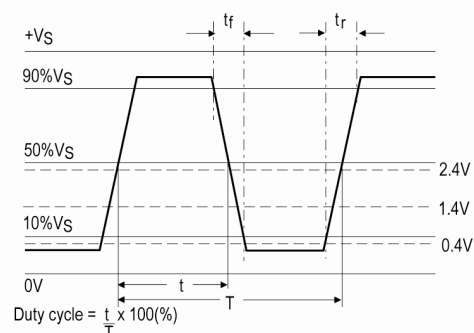
Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)



- Example  
20.0MHz IQXO-350  
HCMOS  $\pm 50$ ppm 0 to 70°C 5.0V

**Packing Details**

- Pack Style: **Bulk**                      Loose in bulk pack  
Pack Size                                      25
- Alternative packing options available

**Wave Form****Electrical Specification - maximum limiting values 5.0V  $\pm 0.25$ V**

Frequency Range	Temp Range	Stability Inclusive		Current Draw	Rise & Fall (10 to 90%)	Duty Cycle %
		Min	Max			
0.001 to 99.999kHz	0 to 70°C	$\pm 25$ ppm	$\pm 100$ ppm	10.0mA	10ns	45/55%
	-40 to 85°C	$\pm 25$ ppm	$\pm 100$ ppm	10.0mA	10ns	45/55%
0.1 to 249.999kHz	0 to 70°C	$\pm 25$ ppm	$\pm 100$ ppm	10.0mA	15ns	45/55%
	-40 to 85°C	$\pm 25$ ppm	$\pm 100$ ppm	10.0mA	15ns	45/55%
0.25 to 4.999999MHz	0 to 70°C	$\pm 25$ ppm	$\pm 100$ ppm	30.0mA	15ns	45/55%
	-40 to 85°C	$\pm 25$ ppm	$\pm 100$ ppm	30.0mA	15ns	45/55%
5.0 to 15.999999MHz	0 to 70°C	$\pm 25$ ppm	$\pm 100$ ppm	15.0mA	10ns	45/55%
	-40 to 85°C	$\pm 25$ ppm	$\pm 100$ ppm	15.0mA	10ns	45/55%
16.0 to 29.999999MHz	0 to 70°C	$\pm 25$ ppm	$\pm 100$ ppm	30.0mA	10ns	45/55%
	-40 to 85°C	$\pm 25$ ppm	$\pm 100$ ppm	30.0mA	10ns	45/55%
30.0 to 49.999999MHz	0 to 70°C	$\pm 25$ ppm	$\pm 100$ ppm	40.0mA	8ns	45/55%
	-40 to 85°C	$\pm 25$ ppm	$\pm 100$ ppm	40.0mA	8ns	45/55%
50.0 to 69.999999MHz	0 to 70°C	$\pm 25$ ppm	$\pm 100$ ppm	50.0mA	6ns	40/60%
	-40 to 85°C	$\pm 25$ ppm	$\pm 100$ ppm	50.0mA	6ns	40/60%
70.0 to 160.0MHz	0 to 70°C	$\pm 25$ ppm	$\pm 100$ ppm	70.0mA	5ns	40/60%
	-40 to 85°C	$\pm 25$ ppm	$\pm 100$ ppm	70.0mA	5ns	40/60%

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

**Sales Office Contact Details:**

UK: +44 (0)1460 270200  
Germany: +49 (0)7264 9145-0

France: +33 (0)5 34 50 91 18  
USA: +1 (0)408.273.4530

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