

ISSUE 10; August 2014 - RoHS 2011/65/EU

Description

A 5V supply, 8-pin DIL crystal oscillator with standby function in a hermetically sealed metal package designed to meet tough environmental specifications See our IQXO-35 for product with no standby function For standard parts in this package please see our IQXO-826 For parts that meet tough environmental specifications and military temperature range please see our IQXO-87 For individually screened parts that meet tough environmental specifications and military temperature range please see our IQXO-88

Frequency Parameters

Frequency
 Frequency Tolerance
 Frequency Stability
 Ageing
 500.0kHz to 70.0MHz
 ±5.00ppm to ±25.00ppm
 ±25.00ppm to ±100.00ppm
 ±5ppm max per year

Electrical Parameters

■ Supply Voltage 5.0V ±0.25V

■ Standby Current: 50µA typ

Operating Temperature Ranges

■ -40 to 85°C

Output Details

Output Compatability HCMOS/TTL
 Drive Capability 50pF max or 10TTL

Output Control

Standby Operation:

No connection or Logic '1' to pin 1 enables oscillator output Logic '0' to pin 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state Maximum 'pull-down' resistance required to disable output = 20kO

Environmental Parameters

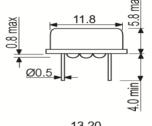
- Acceleration: 490m/s² for 1min in the 'Y1' plane
- Bump: 4000 bumps at 391m/s² in each of 3 mutually perpendicular planes
- Shock: 981m/s², 6ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 10Hz-60Hz, 0.75mm amplitude, 60Hz-2000Hz, 98.1m/s², 30mins in each of 3 mutually perpendicular planes
- Humidity:

Steady State: In accordance with Test Ca of IEC 60068-2-3, for 56 days at 40°C at a relative humidity of 93% Cyclic: In accordance with Test Db (variant 1) of IEC 60068-2-30, at severity b, 55°C for 6 cycles

- Solderability: In accordance with Test Ta of IEC 60068
- Rapid Change of Temperature over Operating Temperature Range:
 10 cycles
- Hermetic Seal: Not to exceed 1 x 10-8 mBar litres of Helium leakage
- Storage Temperature Range: –55 to 125°C

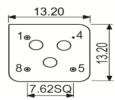


Outline (mm)

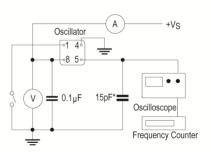


Pin Connection

- 1. Standby Operation
- 4. GND
- 5. Output
- 8. +Vs



Test Circuit



*Inclusive of jigging and equipment capacitance

Note: Pin 1 = No connection on non standby option models

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Ordering Information

■ Frequency*

Model*

Output

Frequency Tolerance*

Frequency Stability*

Operating Temperature Range

Supply Voltage

(*minimum required)

Example

20.0MHz IQXO-36

HCMOS ±10ppm ±50ppm -40 to 85C 5.0V

Compliance

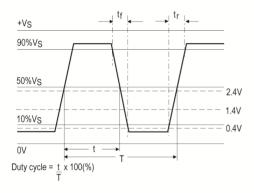
RoHS Status Compliant
 REACh Status Compliant
 MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

■ Pack Style: Bulk Loose in bulk pack

Pack Size: 1

Wave Form



Electrical Specification - maximum limiting values 5.0V ±0.25V

Frequency Min	Frequency Max	Temperature Range	Stability (min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
500.0kHz	4.999999MHz	-40 to 85	±25.0	20	15	45/55
5.0MHz	15.999999MHz	-40 to 85	±25.0	20	10	45/55
16.0MHz	29.999999MHz	-40 to 85	±25.0	30	10	45/55
30.0MHz	49.999999MHz	-40 to 85	±25.0	40	8	45/55
50.0MHz	70.0MHz	-40 to 85	±25.0	50	6	40/60

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