

ISSUE 10; April 2016

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 500.0kHz to 70.0MHz
- Frequency Tolerance $\pm 5.00\text{ppm}$ to $\pm 25.00\text{ppm}$
- Frequency Stability $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing $\pm 5\text{ppm}$ max per year

Electrical Parameters

- Supply Voltage 5.0V $\pm 0.25\text{V}$
- Standby Current: 50 μA typ

Operating Temperature Ranges

- -40 to 85°C

Output Details

- Output Compatibility HCMOS/TTL
- Drive Capability 50pF max or 10TTL

Output Control

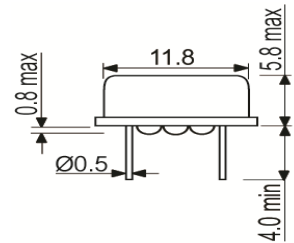
- Standby Operation:
No connection or Logic '1' to pin 1 enables oscillator output
Logic '0' to pin 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state
Maximum 'pull-down' resistance required to disable output = 20k Ω

Environmental Parameters

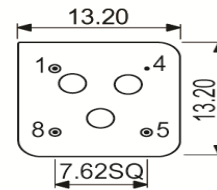
- Acceleration: 490m/s² for 1min in the 'Y1' plane
- Bump: 4000 bumps at 391m/s² in each of 3 mutually perpendicular planes
- Shock: 981m/s², 6ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 10Hz-60Hz, 0.75mm amplitude, 60Hz-2000Hz, 98.1m/s², 30mins in each of 3 mutually perpendicular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



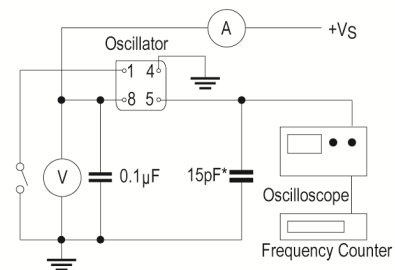
Outline (mm)



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

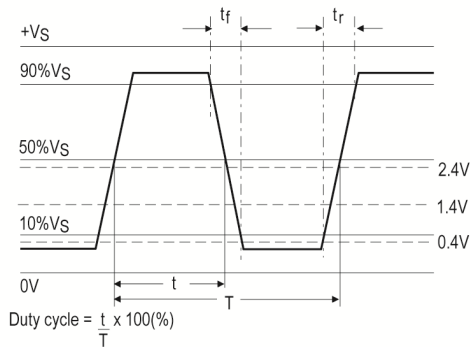
Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JEDEC-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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