

ISSUE 9; October 2015

Description

- 5V supply screened crystal oscillator with standby function in a 14-pin DIL metal package, hermetically sealed
- Meets military temperature range and tough environmental specifications
- See IQXO-627 for non-screened product with Standby Operation
- See IQXO-626 for screened product with no Standby Operation
- See IQXO-625 for non-screened product with no Standby Operation
- For standard parts that meet tough environmental specifications please see our IQXO-366
- For standard parts with tight stabilities over temperature please see our IQXO-415
- For standard parts in this package please see our IQXO-149

Frequency Parameters

- | | |
|---------------------|---|
| Frequency | 250.0kHz to 72.0MHz |
| Frequency Tolerance | $\pm 10.00\text{ppm}$ to $\pm 25.00\text{ppm}$ |
| Frequency Stability | $\pm 50.00\text{ppm}$ to $\pm 100.00\text{ppm}$ |
| Ageing | $\pm 5\text{ppm}$ max per year |

Electrical Parameters

- | | |
|---------------------------------------|------------------------|
| Supply Voltage | 5.0V $\pm 0.5\text{V}$ |
| Standby Current: 50 μA typ | |

Operating Temperature Ranges

- 55 to 125°C

Output Details

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

Output Control

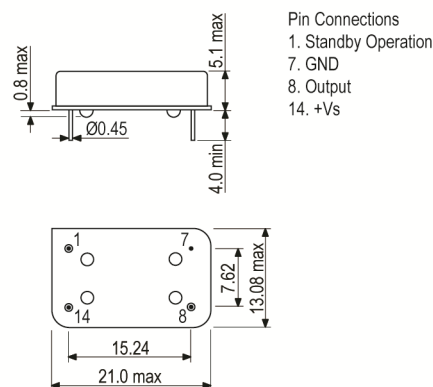
- Standby Operation:
No connection or Logic '1' to pin 1 enables oscillator output
Logic '0' to pin 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state

Environmental Parameters

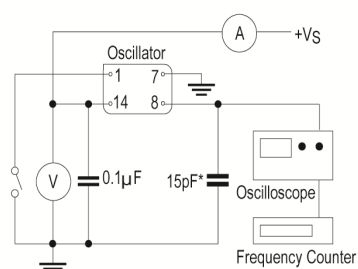
- Bump: 4000 bumps at 391m/s² in each of 3 mutually perpendicular planes
- Shock: 981m/s², 6ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 10Hz-60Hz, 0.75mm amplitude, 60Hz-2000Hz, 98.1m/s², 30mins in each of 3 mutually perpendicular planes
- Humidity:
Steady State: In accordance 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
- Hermetic Seal: Not to exceed 1 x 10⁻⁸ mBar litres of Helium leakage
- Storage Temperature Range: -55 to 125°C



Outline (mm)



Test Circuit



*Inclusive of jigging and equipment capacitance

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

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Manufacturing Details

- Screening (on each device):
 - Acceleration: 49000m/s² for 1min in the 'Y1' plane
 - High Temperature Storage: 24hrs at 150°C
 - Rapid Change of Temperature over Operating Temperature Range:
 - 10 cycles
 - Dynamic burn-in: 168hrs at 125°C
 - Check all parameters and assess

Ordering Information

- Frequency*
- Model*
- Output
- Frequency Tolerance*
- Frequency Stability*
- Operating Temperature Range
- Supply Voltage
- (*minimum required)
- Example
 - 20.0MHz IQXO-628
 - HCMOS ±10ppm ±50ppm -55 to 125C 5.0V

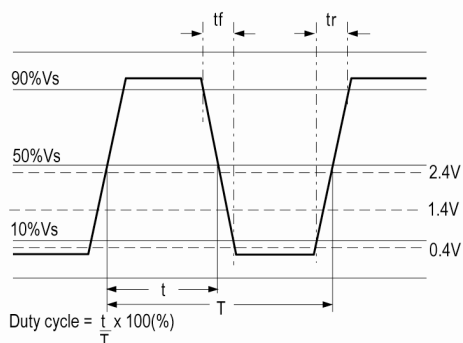
Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: Bulk Loose in bulk pack
- Pack Size: 25

Wave Form



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Electrical Specification - maximum limiting values 5.0V $\pm$ 0.5V

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
250.00kHz	7.999999MHz	-55 to 125	$\pm$ 50.0	5	10	45/55
8.0MHz	22.999999MHz	-55 to 125	$\pm$ 50.0	10	5	40/60
23.0MHz	47.999999MHz	-55 to 125	$\pm$ 50.0	50	5	40/60
48.0MHz	72.0MHz	-55 to 125	$\pm$ 50.0	65	3	40/60

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