

ISSUE 20; December 2015

Description

- A standard 5.0V crystal oscillator in an 8-pin DIL hermetically sealed package with a standby function.
For parts that meet tougher environmental specifications please see our IQXO-36 range.
For parts that meet tough environmental specifications and military temperature range please see our IQXO-87 range.
For individually screened parts that meet tough environmental specifications and military temperature range please see our IQXO-88 range.
Fast Make capability: CFPP-23 series programmable oscillators are the nearest equivalent fast make model.

Frequency Parameters

- Frequency: 500.0kHz to 160.0MHz
- 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: $5.0\text{V} \pm 0.25\text{V}$

Operating Temperature Ranges

- 0 to 70°C
- -40 to 85°C

Output Details

- Output Compatibility: HCMOS/TTL

Drive Capability	
0.5MHz to 70.0MHz	50pF max or 10TTL
70.0MHz to 160.0MHz	30pF max

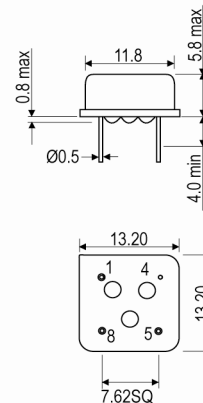
Output Control

- 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 = $20\text{k}\Omega$
Standby Current: $50\mu\text{A}$ typical

Environmental Parameters

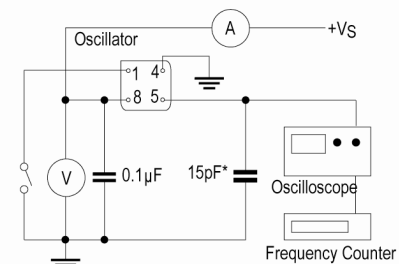
- Storage Temperature Range: -55 to 125°C
- Terminal Strength: 0.91kg max force perpendicular to top and bottom
- Hermetic Seal: Not to exceed 1×10^{-8} mBar litres of Helium leakage
- Solderability: MIL-STD-202E, Method 208C
- Vibration: 0.76mm displacement, 10Hz - 55Hz , 1min in 3 mutually perpendicular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

Outline (mm)



Pin Connections
1. Standby Operation
4. GND
5. Output
8. +VS

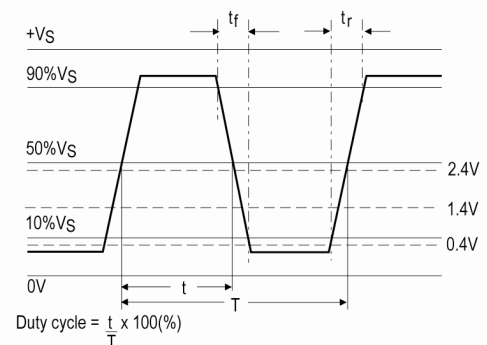
Test Circuit



*Inclusive of jigging and equipment capacitance

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

Wave Form



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Ordering Information

- Frequency*
Model*
Output
Frequency Stability*
Operating Temperature Range*
Supply Voltage
- Example:
20.0MHz IQXO-23
HCMOS ±50ppm 0 to 70C 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: 40

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	0 to 70	±25.0	20	15	45/55%
		-40 to 85	±25.0	20	15	45/55%
5.0MHz	15.999999MHz	0 to 70	±25.0	20	10	44/55%
		-40 to 85	±25.0	20	10	45/55%
16.0MHz	29.999999MHz	0 to 70	±25.0	30	10	45/55%
		-40 to 85	±25.0	30	10	45/55%
30.0MHz	49.999999MHz	0 to 70	±25.0	40	8	45/55%
		-40 to 85	±25.0	40	8	45/55%
50.0MHz	69.999999MHz	0 to 70	±25.0	50	6	40/60%
		-40 to 85	±25.0	50	6	40/60%
70.0MHz	160.0MHz	0 to 70	±25.0	70	5	40/60%
		-40 to 85	±25.0	70	5	40/60%

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