

Description

- Microcomputer Compensated Crystal Oscillator (MCXO)
- 8 pad package
- Model IQMT-100-29-B
- Model Issue number 1

Frequency Parameters

- Frequency 50.0MHz
- Frequency Tolerance $\pm 1.00\text{ppm}$
- Frequency Stability $\pm 0.28\text{ppm}$
- Operating Temperature Range -40.00 to 85.00°C
- Ageing $\pm 0.02\text{ppm}$ max per day, $\pm 1\text{ppm}$ max per year
- Frequency Tolerance: Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_S=3.3\text{V}$ within 30 days after ex-works.
- Frequency Stability: TA varied over operating temperature range, measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_S=3.3\text{V}$, load= $10\text{k}\Omega//10\text{pF}$ and temperature variable speed less than $2^\circ\text{C}/\text{min}$.
- Ageing: $T_A=25^\circ\text{C}$, $V_S=3.3\text{V}$ and after 1hr of operation.
- Supply Voltage Variation (measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, V_S varied from 3.13V to 3.47V and load= $10\text{k}\Omega//10\text{pF}$): $\pm 0.05\text{ppm}$ max
- Load Variation (measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_S=3.3\text{V}$ and load change = $10\text{k}\Omega//10\text{pF} \pm 5\%$): $\pm 0.05\text{ppm}$ max

Electrical Parameters

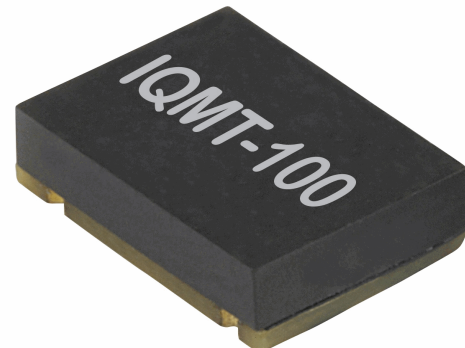
- Supply Voltage $3.3\text{V} \pm 5\%$
- Current Draw 10.000mA
- Current: $T_A=25^\circ\text{C}$, $V_S=3.3\text{V}$ and load= $10\text{k}\Omega//10\text{pF}$

Output Details

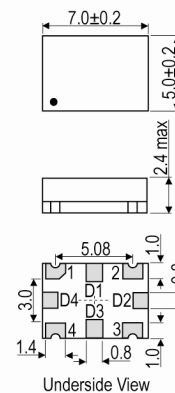
- Output Compatibility Clipped Sine
- Drive Capability $10\text{k}\Omega//10\text{pF}$
- Output Voltage Level: 0.6V pk-pk min

Noise Parameters

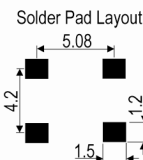
- Phase Noise (typ @ 25°C):
 - $-75\text{dBc}/\text{Hz}$ @ 10Hz
 - $-105\text{dBc}/\text{Hz}$ @ 100Hz
 - $-125\text{dBc}/\text{Hz}$ @ 1kHz
 - $-143\text{dBc}/\text{Hz}$ @ 10kHz
 - $-145\text{dBc}/\text{Hz}$ @ 100kHz
 - $-148\text{dBc}/\text{Hz}$ @ 1MHz
- Phase Noise (max @ 25°C):
 - $-70\text{dBc}/\text{Hz}$ @ 10Hz
 - $-100\text{dBc}/\text{Hz}$ @ 100Hz
 - $-120\text{dBc}/\text{Hz}$ @ 1kHz
 - $-138\text{dBc}/\text{Hz}$ @ 10kHz
 - $-140\text{dBc}/\text{Hz}$ @ 100kHz
 - $-143\text{dBc}/\text{Hz}$ @ 1MHz



Outline (mm)



Pad Connections
 1. N/C
 2. GND
 3. Output
 4. +Vs
 D1, D2, D3, D4. N/C



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Environmental Parameters

- Operable Temperature Range: -40 to 85°C
- Storage Temperature Range: -55 to 105°C
- ESD Levels: JEDEC JS-001-2010:
Human Body Model, Class 2: 2000V to 4000V
Machine Model, Class B: 200V to 400V
- Shock: IEC 60068-2-27, Test Ea, Severity 50A: 100G
acceleration for 6ms, half sinewave, 3 times in 3 mutually
perpendicular planes.
- Vibration: IEC 60068-2-06, Test Fc: 10Hz-2000Hz, 0.75mm
amplitude, 10G acceleration, 30mins per cycle, 3 times in 3
mutually perpendicular planes, test duration 2hrs.

Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): 2

Packaging Details

- Pack Style: Bulk Loose in bulk pack
Pack Size: 1
- *Alternative packing option available*

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