



Description

- Oven Controlled Crystal Oscillator (OCXO) in a miniature 7.5x5.5mm package.
- Model IQOV-116-1
- Model Issue number 1

Frequency Parameters

- Frequency 20.0MHz
- Frequency Tolerance $\pm 1.50\text{ppm}$
- Frequency Stability $\pm 0.02\text{ppm}$
- Operating Temperature Range -40.00 to 95.00°C
- Ageing $\pm 5\text{ppb}$ max per day, $\pm 0.5\text{ppm}$ max per year
- Develop frequencies: 10.0MHz, 19.2MHz, 20MHz
- 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: temperature varied across the operating temperature range, measurement referenced to the frequency observed with $F_{\text{ref}}=(F_{\text{max}}+F_{\text{min}})/2$, $V_s=3.3\text{V}$, load=15pF, temperature variable speed less than 2°C per minute.
- Supply Voltage Variation (measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, V_s varied from 3.135V to 3.465V, load=15pF): $\pm 5\text{ppb}$ max
- Load Variation (measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_s=3.3\text{V}$, load change=5%, load=15pF): $\pm 5\text{ppb}$ max
- Ageing: Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_s=3.3\text{V}$ and after 30 days of operation.
- Short Term Stability (temperature stability, no EMI/EMC or other interference, test after powered for 1 hour ref to 25°C ; 1s): 0.05ppb max
- g-sensitivity: 1ppb/g max

Electrical Parameters

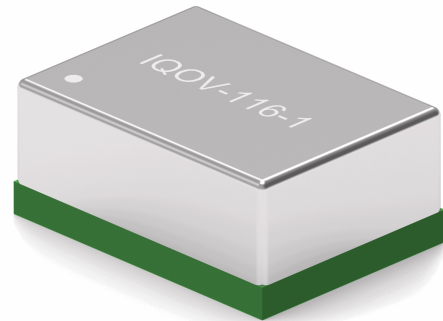
- Supply Voltage $3.3\text{V} \pm 5\%$
- Current Consumption:
Warm Up: 600mA max
Steady State: 230mA max @ 25°C
- Warm Up Time (time until the output is within $\pm 0.1\text{ppm}$, with reference to the last frequency reading taken 1hr after start-up @ 25°C): 5min max

Output Details

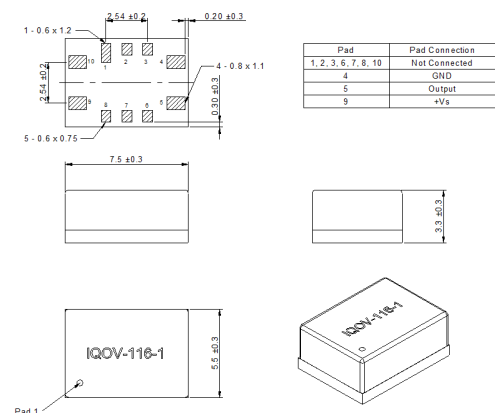
- Output Compatibility HCMOS
- Drive Capability 15pF
- Rise and Fall Time 6.0ns max
- Duty Cycle 45/55
- Output Low VoL (@ $V_s=3.3\text{V}$, load=15pF): 0.4V max
Output High VoH (@ $V_s=3.3\text{V}$, load=15pF): 2.4V min

Noise Parameters

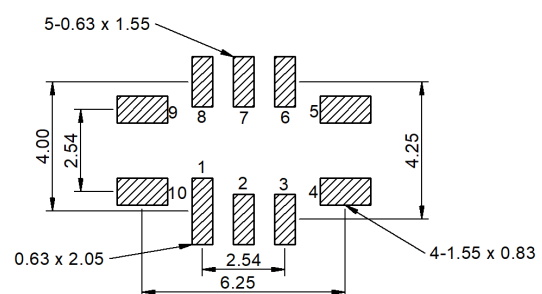
- Phase Noise (max @ 25°C):
-65dBc/Hz @ 1Hz
-100dBc/Hz @ 10Hz
-130dBc/Hz @ 100Hz
-150dBc/Hz @ 1kHz
-155dBc/Hz @ 10kHz
-155dBc/Hz @ 100kHz
-155dBc/Hz @ 1MHz



Outline (mm)



Recommended Solder Pad Layout



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Environmental Parameters

- Storage Temperature Range: -55 to 105°C
- ESD Levels:
Human Body Model (HBM), ANSI/ESDA/JEDEC JS-001-2010:
class 2: 2000V to 4000V
Machine Model (MM), JEDEC JESD22-A115C: class B: 200V to 400V
- Shock (IEC 68-2-27, Test Ea, Severity 50A): 100g, 6ms, half sine wave, 3 times in each of the 3 mutually perpendicular planes.
- Vibration (IEC 68-2-06, Test Fc): 10Hz-2000Hz, 0.75mm displacement, 10g acceleration, 30mins per cycle, 3 times in each of the 3 mutually perpendicular planes, test 2hrs.

Manufacturing Details

- Please note that this part is NOT suitable for inverted reflow process.
- RoHS Terminations Kovar 2~8µm
- RoHS Reflow Temp 260°C max for 30s max

Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): 3

Packaging Details

- Tape & reel in accordance with EIA-481
Quantities below the standard reel size to be supplied on cut tape

Standard Pack Quantity: 1,000

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