

ISSUE 10; April 2016

Description

- Surface mount temperature compensated voltage controlled oscillator (TCVCO) providing a high degree of frequency stability over a wide temperature range in a hermetically sealed ceramic package



Frequency Parameters

- Frequency: 10.0MHz to 40.0MHz
- Frequency Stability: $\pm 0.90\text{ppm}$
- Ageing: $\pm 1\text{ppm}$ typical in 1st year @25°C

Electrical Parameters

- Supply Voltage: 3.3V $\pm 5\%$
- Supply current typical at 20MHz
- Supply Voltage Variation
- <30MHz $\pm 0.3\text{ppm}$
- 30MHz to <40MHz $\pm 0.4\text{ppm}$
- 40MHz $\pm 0.5\text{ppm}$
- Load Variation: $\pm 0.2\text{ppm}$ (@15pF $\pm 10\%$)
- After Reflow: $\pm 1.0\text{ppm}$

Frequency Adjustment

- Pulling: $\pm 5\text{ppm}$ min
- Control Voltage: 1.65V $\pm 1.0\text{V}$

Operating Temperature Ranges

- 20 to 70°C

Output Details

- Output Compatibility: HCMOS
- Drive Capability: 15pF (nominal)

Environmental Parameters

- Shock: IEC 60068-2-27, Test Ea: 980m/s² acceleration for 6ms, 3 shocks in each of 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6, Test Fc, Procedure B4: 10Hz-60Hz 1.5mm displacement, 60-2000Hz at 98.1m/s², 30mins in 3 mutually perpendicular planes at 1 oct/min
- Solderability: MIL-STD-202, Method 208, Category 3
- Storage Temperature Range: -55 to 125°C

Manufacturing Details

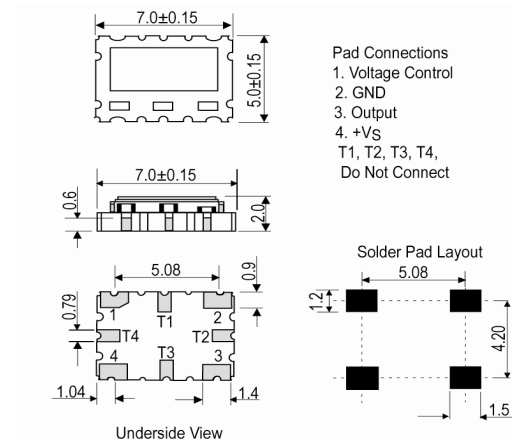
- Soldering: Suitable for Convection Reflow soldering. Peak temperature 260°C for 10sec max
- Washing: Able to withstand aqueous washing

Ordering Information

- Frequency*
- Model*
- Output
- Frequency Stability (over operating temperature range)
- Operating Temperature Range
- Supply Voltage
- Frequency Adjustment
- Example
- 10.0MHz CFPT-125
- HCMOS $\pm 0.9\text{ppm}$ -20 to 70C 3.3V $\pm 5\text{ppm}$ min



Outline (mm)



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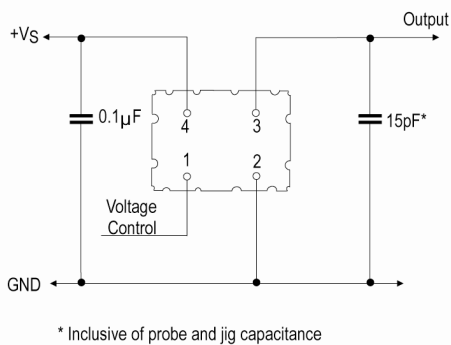
Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JEDEC-STD-033): 1

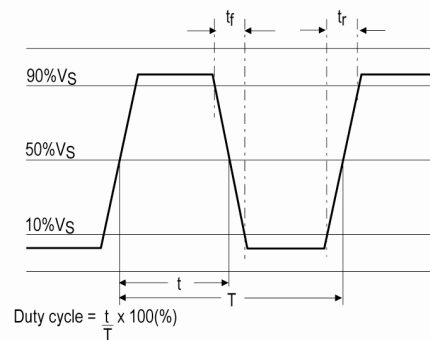
Packaging Details

- Pack Style: Cutt In tape, cut from a reel
Pack Size: 1
- Pack Style: Bulk Loose in bulk pack
Pack Size: 100
- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 1,000
- Pack Style: R500 Tape & reel in accordance with EIA-481-D
Pack Size: 500

Test Circuit



Wave Form



Electrical Specification - maximum limiting values 3.3V ±5%

| Frequency Min | Frequency Max | Temperature Range | Stability (Min) | Current Draw | Rise and Fall Time | Duty Cycle |
|---------------|---------------|-------------------|-----------------|--------------|--------------------|------------|
| | | °C | ppm | mA | ns | % |
| 10.0MHz | 10.0MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 12.8MHz | 12.8MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 13.0MHz | 13.0MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 14.4MHz | 14.4MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 16.32MHz | 16.32MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 16.384MHz | 16.384MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 19.44MHz | 19.44MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 20.0MHz | 20.0MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 26.0MHz | 26.0MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 32.768MHz | 32.768MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |
| 40.0MHz | 40.0MHz | -20 to 70 | ±0.9 | 3 | 8 | 45/55% |

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