

ISSUE 5; July 2016

Description

- Surface mount Voltage Controlled Temperature Compensated Oscillator (VCTCXO) 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 $\pm 0.50\text{ppm}$
- Ageing $\pm 1\text{ppm}$ typical in 1st year @ 25°C
- Frequency Stability Reference to $(F_{\text{max}} + F_{\text{min}})/2$

Electrical Parameters

- Supply Voltage 3.3V $\pm 5\%$
- Current Draw (Typical): 3mA @ 20MHz
- Supply Voltage Variation:
 $< 30\text{MHz} \pm 0.3\text{ppm}$
 $30\text{MHz to } 40\text{MHz} \pm 0.4\text{ppm}$
- 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

- -40 to 85°C

Output Details

- Output Compatibility HCMOS
- Drive Capability 15pF nom

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

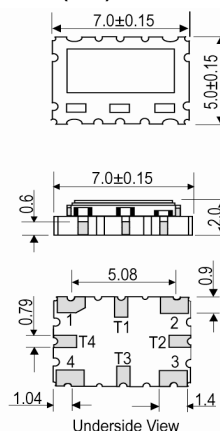
- Soldering: Suitable for Convection Reflow soldering. Peak temperature 260°C, 60sec max above 220°C
- Washing: Able to withstand aqueous washing

Ordering Information

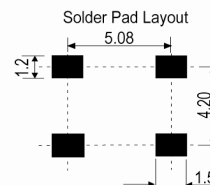
- Frequency*
Model*
Output
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Supply Voltage
- Example
13.0MHz CFPT-126
HCMOS $\pm 0.5\text{ppm}$ -40 to 85C 3.3V



Outline (mm)



Pad Connections
1. Voltage Control
2. GND
3. Output
4. +Vs
T1, T2, T3, T4,
Do Not Connect



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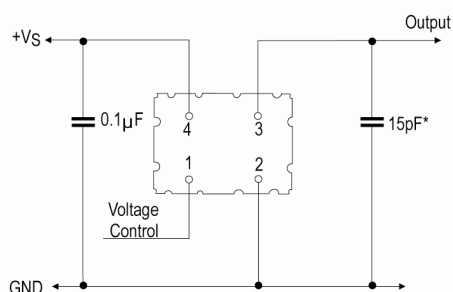
Compliance

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

Packaging Details

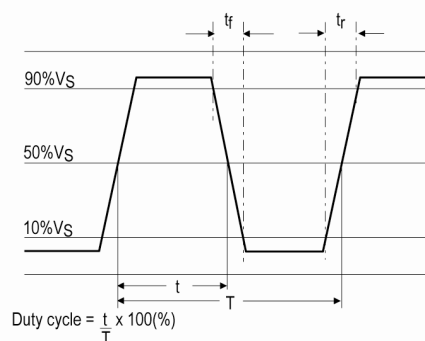
- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 1,000
- Pack Style: Bulk Loose in bulk pack
Pack Size: 100
- Pack Style: Cutt In tape cut from a reel
Pack Size: 1
- Pack Style: R250 Tape & reel in accordance with EIA-481-D
Pack Size: 250
- Pack Style: R500 Tape & reel in accordance with EIA-481-D
Pack Size: 500

Test Circuit



* Inclusive of probe and jig capacitance

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	-40 to 85	±0.5	-	8	45/55%
12.8MHz	12.8MHz	-40 to 85	±0.5	-	8	45/55%
13.0MHz	13.0MHz	-40 to 85	±0.5	-	8	45/55%
16.384MHz	16.384MHz	-40 to 85	±0.5	-	8	45/55%
19.44MHz	19.44MHz	-40 to 85	±0.5	-	8	45/55%
20.0MHz	20.0MHz	-40 to 85	±0.5	-	8	45/55%
24.0MHz	24.0MHz	-40 to 85	±0.5	-	8	45/55%
26.0MHz	26.0MHz	-40 to 85	±0.5	-	8	45/55%
32.768MHz	32.768MHz	-40 to 85	±0.5	-	8	45/55%
40.0MHz	40.0MHz	-40 to 85	±0.5	-	8	45/55%

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