

ISSUE 5; January 2024

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: $3.3\text{V} \pm 5\%$
- Current Draw (Typical): 3mA @ 20MHz
- Supply Voltage Variation:
 - <30MHz $\pm 0.3\text{ppm}$
 - 30MHz to 40MHz $\pm 0.4\text{ppm}$
- Load Variation: $\pm 0.2\text{ppm}$ (@ $15\text{pF} \pm 10\%$)
After Reflow: $\pm 1.0\text{ppm}$

Frequency Adjustment

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

Operating Temperature Ranges

- -40 to 85°C

Output Details

- Output Compatibility: HCMOS
- Drive Capability: 15pF nom

Environmental Parameters

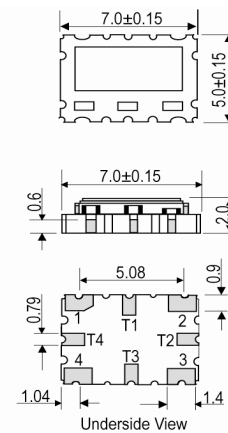
- Shock: IEC 60068-2-27, Test Ea: 980m/s^2 acceleration for 6ms, 3 shocks in each of 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6, Test Fc, Procedure B4: 10Hz - 60Hz 1.5mm displacement, 60 - 2000Hz at 98.1m/s^2 , 30mins in 3 mutually perpendicular planes at 1 oct/min
- Solderability: MIL-STD-202,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

Manufacturing Details

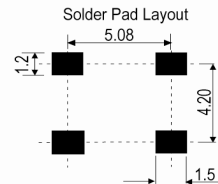
- Soldering: Suitable for Convection Reflow soldering. Peak temperature 260°C , 60sec max above 220°C
- Washing: Able to withstand aqueous washing
- RoHS Terminations: NiCoAu
- RoHS Reflow: 260degC 10s



Outline (mm)



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



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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 85°C 3.3V

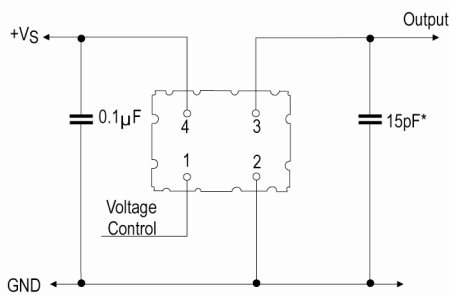
Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): 1

Packaging Details

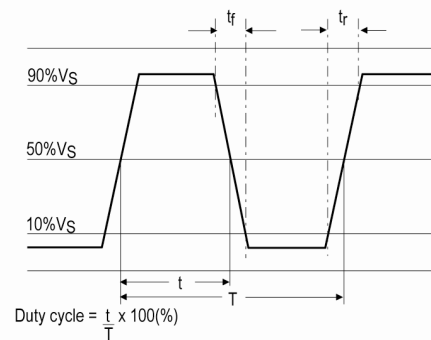
- Pack Style: Reel Tape & reel in accordance with EIA-481-D
- Pack Size: 1,000
- Pack Style: Bulk Loose in bulk pack
- Pack Size: 100
- Pack Style: Cutt In tape cut from a reel
- Pack Size: 100
- Pack Style: R250 Tape & reel in accordance with EIA-481-D
- Pack Size: 250
- Pack Style: R500 Tape & reel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

Test Circuit



* Inclusive of probe and jig capacitance

Wave Form



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Electrical Specification - maximum limiting values 3.3V $\pm$ 5%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		$^{\circ}\text{C}$	ppm	mA	ns	%
10.0MHz	10.0MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%
12.8MHz	12.8MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%
13.0MHz	13.0MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%
16.384MHz	16.384MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%
19.44MHz	19.44MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%
20.0MHz	20.0MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%
24.0MHz	24.0MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%
26.0MHz	26.0MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%
32.768MHz	32.768MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%
40.0MHz	40.0MHz	-40 to 85	$\pm$ 0.5	-	8	45/55%

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