

ISSUE 5; November 2021

### 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:
  - <30MHz  $\pm 0.3\text{ppm}$
  - 30MHz to 40MHz  $\pm 0.4\text{ppm}$
- 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

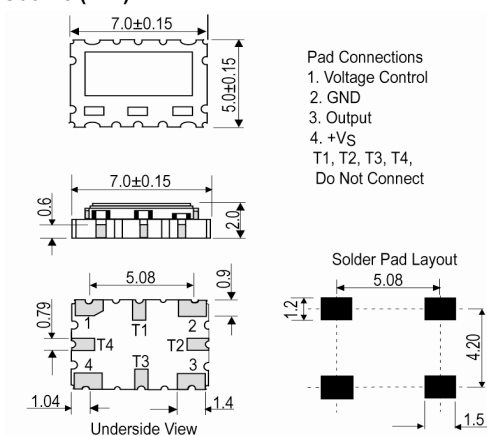
- Shock: IEC 60068-2-27, Test Ea: 980m/s<sup>2</sup> acceleration for 6ms, 3 shocks in each of 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6, Test Fc, Procedure B4: 10Hz-60Hz 1.5mm displacement, 60-2000Hz at 98.1m/s<sup>2</sup>, 30mins in 3 mutually perpendicular planes at 1 oct/min
- Solderability: 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)



### Sales Office Contact Details:

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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  $\pm 0.5$ ppm  $-40$  to  $85$ C 3.3V

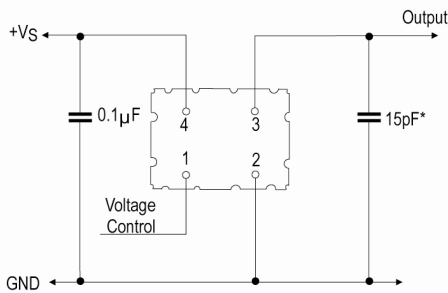
### Compliance

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

### Packaging Details

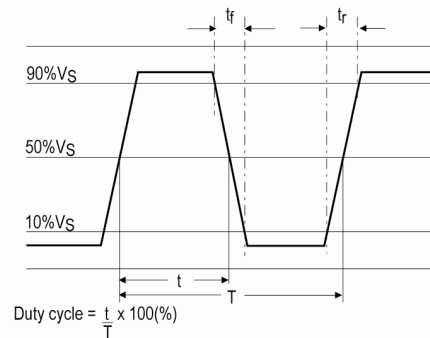
- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000
- Pack Style: Bulk      Loose in bulk pack  
Pack Size: 100
- Pack Style: Cutt      In tape cut from a reel  
Pack Size: 100
- Pack Style: R250      Tape & reel in accordance with EIA-481-D  
Pack Size: 250
- Pack Style: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

*This document was correct at the time of printing; please contact your local sales office for the latest version.*

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