

ISSUE 10; September 2021

### Description

- Surface mount temperature compensated voltage controlled oscillator (TCVCXO) 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:  $\pm 0.90$ ppm
- Ageing:  $\pm 1$ ppm typical in 1st year @25°C

### Electrical Parameters

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

### Frequency Adjustment

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

### Operating Temperature Ranges

- 20 to 70°C

### Output Details

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

### Environmental Parameters

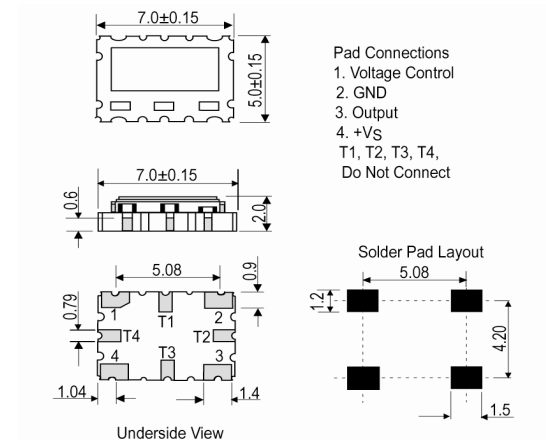
- Shock: IEC 60068-2-27, Test Ea: 980m/s<sup>2</sup> acceleration for 6ms, 3 shocks in each of 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6, Test Fc, Procedure B4: 10Hz-60Hz 1.5mm displacement, 60-2000Hz at 98.1m/s<sup>2</sup>, 30mins in 3 mutually perpendicular planes at 1 oct/min
- Solderability: 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 for 10sec max
- Washing: Able to withstand aqueous washing
- RoHS Terminations: NiCoAu
- RoHS Reflow: 260degC 30s



### 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  
Frequency Adjustment
- Example  
10.0MHz CFPT-125  
HCMOS  $\pm 0.9\text{ppm}$   $-20$  to  $70\text{C}$   $3.3\text{V}$   $\pm 5\text{ppm}$  min

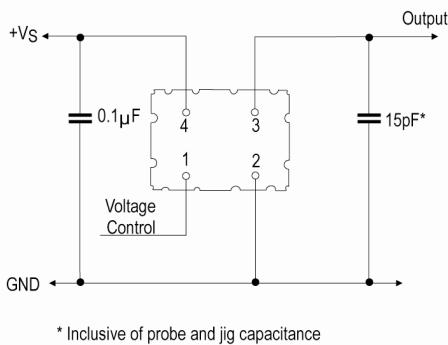
### Compliance

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

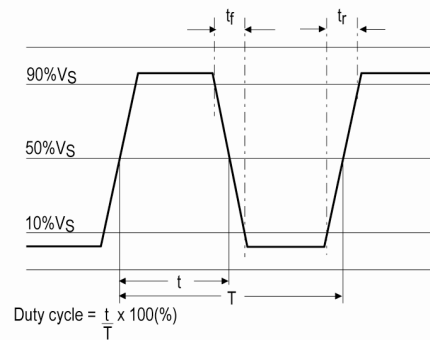
### Packaging Details

- Pack Style: Cutt            In tape, cut from a reel  
Pack Size: 100
- 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



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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	-20 to 70	$\pm$ 0.9	3	8	45/55%
12.8MHz	12.8MHz	-20 to 70	$\pm$ 0.9	3	8	45/55%
13.0MHz	13.0MHz	-20 to 70	$\pm$ 0.9	3	8	45/55%
14.4MHz	14.4MHz	-20 to 70	$\pm$ 0.9	3	8	45/55%
16.32MHz	16.32MHz	-20 to 70	$\pm$ 0.9	3	8	45/55%
16.384MHz	16.384MHz	-20 to 70	$\pm$ 0.9	3	8	45/55%
19.44MHz	19.44MHz	-20 to 70	$\pm$ 0.9	3	8	45/55%
20.0MHz	20.0MHz	-20 to 70	$\pm$ 0.9	3	8	45/55%
26.0MHz	26.0MHz	-20 to 70	$\pm$ 0.9	3	8	45/55%
32.768MHz	32.768MHz	-20 to 70	$\pm$ 0.9	3	8	45/55%
40.0MHz	40.0MHz	-20 to 70	$\pm$ 0.9	3	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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