

ISSUE 7; April 2016

### Description

- Semtech approved TCXO for Stratum 3 applications.



### Frequency Parameters

- Frequency: 12.8MHz
- Frequency Stability:  $\pm 0.28$ ppm
- Holdover Stability  $[\pm(F_{max}-F_{min})/2F_0]$ :
  - Temperature, -20 to 70°C:  $< \pm 0.28$ ppm
  - Temperature, -20 to 70°C, inclusive of Supply Voltage, 3.3V  $\pm 5\%$  and Ageing, 24 hours:  $< \pm 0.32$ ppm
- Free-Run Accuracy, incl. Calibration @25°C, Temperature -20 to 70°C, Supply Voltage 3.3V  $\pm 5\%$ , Load 15pF  $\pm 5\%$ , Reflow Soldering and Ageing 20 years:  $< \pm 4.6$ ppm ref to  $F_0$

### Electrical Parameters

- Supply Voltage: 3.3V  $\pm 5\%$

### Operating Temperature Ranges

- 20 to 70°C

### Output Details

- Output Compatibility: HCMOS
- Drive Capability: 15pF
- VoL:  $\leq 10\%$  Vs
- VoH:  $\geq 90\%$  Vs

### Output Control

- Tri-State Operation:
  - Logic '1' ( $\geq 60\%$ VS) to pad 8 enables output
  - Logic '0' ( $\leq 20\%$ VS) to pad 8 disables output
  - In Tri-state mode, the output stage is disabled but the oscillator and compensation circuit are still active (current consumption  $\approx 1$ mA)

### Noise Parameters

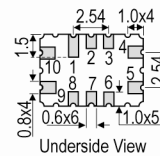
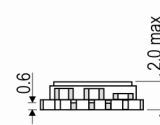
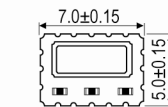
- Allan Deviation ( $\tau=100$ ms):  $< 1.10$ -10
- Phase Noise (max):
  - 90dBc/Hz @ 10Hz
  - 115dBc/Hz @ 100Hz
  - 127dBc/Hz @ 1kHz
  - 137dBc/Hz @ 10kHz
  - 143dBc/Hz @  $\geq 100$ kHz

### Environmental Parameters

- Storage Temperature: -55 to 125°C
- Vibration: IEC 60068-2-6, Test Fc, 10Hz-60Hz 1.5mm displacement at 10G, 30mins in each of 3 mutually perpendicular axes at 1 oct/min.
- Shock: IEC 60068-2-27, Test Ea: 100G acceleration for 6ms duration, 3 shocks in each direction along 3 mutually perpendicular axes.
- Solderability: MIL-STD-202, Method 208, Category 3
- Resistance to Soldering Heat: 260°C/10sec exposure



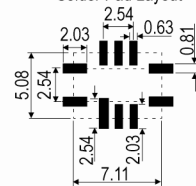
### Outline (mm)



### Pad Connections

- Do not connect
- N/C
- Do not connect
- GND
- Output
- N/C
- N/C
- Tri-state Control (Enable)
- +Vs
- Do not connect

### Solder Pad Layout



### Sales Office Contact Details:

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#### Ordering Information

- Frequency\*  
Model\*
- Example:  
12.8MHz E2747LF

#### Compliance

- RoHS Status (2011/65/EU)      Compliant
- REACh Status                      Compliant
- MSL Rating (JEDEC-STD-033):    Not Applicable

#### 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: 10

#### Electrical Specification - maximum limiting values 3.30V ±5%

Frequency	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
	°C	ppm	mA	ns	%
12.8MHz	-20 to 70	±0.28	4	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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