

ISSUE 5; June 2019

### Description

- Semtech approved TCXO for Stratum 3 applications.



### Frequency Parameters

- Frequency 12.8MHz
- Frequency Stability  $\pm 0.28$ ppm

### Electrical Parameters

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

### Operating Temperature Ranges

- -40 to 85°C

### Output Details

- Output Compatibility HCMOS
- Drive Capability 15pF max

### Output Control

- Tri-State Operation:  
Logic '1' ( $\geq 60\%V_s$ ) to pad 8 enables output  
Logic '0' ( $\leq 20\%V_s$ ) to pad 8 disables output  
When at logic '0' the output stage is disabled for all output options, but the oscillator and compensation circuit are still active  
(Current consumption  $< 1$ mA)

### Output Levels

- VOL:  $\leq 10\% V_s$   
VOH:  $\geq 90\% V_s$

### Noise Parameters

- Phase Noise (max):  
-90dBc/Hz @ 10Hz  
-115dBc/Hz @ 100Hz  
-127dBc/Hz @ 1kHz  
-137dBc/Hz @ 10kHz  
-143dBc/Hz @ 100kHz

### Environmental Parameters

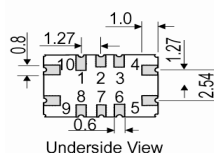
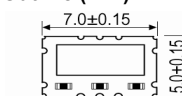
- Storage Temperature Range: -55 to 125°C
- Shock: IEC 60068-2-27, Test Ea: 980m/s<sup>2</sup> acceleration for 6ms, 3 shocks in each of 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6, Test Fc, Procedure B4: 10Hz-60Hz 1.5mm displacement, 60-2000Hz at 98.1m/s<sup>2</sup>, 30mins in 3 mutually perpendicular planes at 1oct/min
- Solderability: MIL-STD-202, Method 208, Category 3
- Resistance to Soldering Heat: 260°C/10sec exposure

### Manufacturing Details

- RoHS Terminations NiCoAu
- RoHS Reflow 260degC 30s



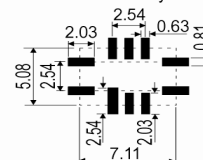
### Outline (mm)



### Pad Connections

1. Do not connect
  2. N/C
  3. Do not connect
  4. GND
  5. Output
  6. N/C
  7. N/C
  8. Tri-state Control \*
  9. +Vs
  10. Do not connect
- \* Leave unconnected if not required

### Solder Pad Layout



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#### Ordering Information

- Frequency\*  
Model\*  
(\*minimum required)
- Example:  
12.8MHz E3198LF

#### Compliance

- RoHS Status (2015/863/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):      Not Applicable

#### Packaging Details

- Pack Style: Bulk      Loose in bulk pack  
Pack Size: 10
- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000

#### Electrical Specification - maximum limiting values 3.30V $\pm$ 5%

Frequency	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
	°C	ppm	mA	ns	%
12.8MHz	-40 to 85	$\pm$ 0.28	4	9	45/55%

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