

ISSUE 7; April 2016

**Description**

- SEMTECH approved surface mount TCXO designed for use in SONET applications.



**Frequency Parameters**

- Frequency 12.8MHz
- Frequency Stability  $\pm 20.00\text{ppm}$
- Holdover Stability  $[\pm(F_{\text{max}}-F_{\text{min}})/2F_0]$ :  
Temperature,  $-40$  to  $85^\circ\text{C}$ , inclusive of Supply Voltage:  $3.3\text{V} \pm 5\%$  and Ageing, 24 hours:  $<\pm 4.6\text{ppm}$
- Free-Run Accuracy, incl. Calibration @  $25^\circ\text{C}$ , Temperature  $-40$  to  $85^\circ\text{C}$ , Supply Voltage  $3.3\text{V} \pm 5\%$ , Load  $15\text{pF} \pm 5\%$ , Reflow Soldering and Ageing 20 years:  $<\pm 20\text{ppm}$  ref. to nominal frequency.

**Electrical Parameters**

- Supply Voltage  $3.3\text{V} \pm 5\%$

**Operating Temperature Ranges**

- $-40$  to  $85^\circ\text{C}$

**Output Details**

- Output Compatibility HCMOS
- Drive Capability  $15\text{pF}$  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  $<1\text{mA}$ )

**Output Levels**

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

**Noise Parameters**

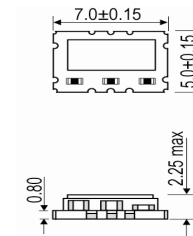
- Phase Noise (max):  
 $-90\text{dBc/Hz}$  @  $10\text{Hz}$   
 $-115\text{dBc/Hz}$  @  $100\text{Hz}$   
 $-127\text{dBc/Hz}$  @  $1\text{kHz}$   
 $-137\text{dBc/Hz}$  @  $10\text{kHz}$   
 $-143\text{dBc/Hz}$  @  $100\text{kHz}$

**Environmental Parameters**

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

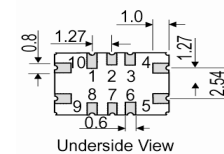


**Outline (mm)**

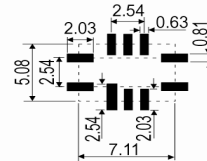


**Pad Connections**

- Do not connect
- N/C
- Do not connect
- GND
- Output
- N/C
- N/C
- Tri-state Control \*
- +Vs
- Do not connect
- \* Leave unconnected if not required



**Solder Pad Layout**



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#### Ordering Information

- Frequency\*  
Model\*
- Example:  
12.8MHz E2799

#### Compliance

- RoHS Status (2011/65/EU)      Compliant
- REACh Status                      Compliant
- MSL Rating (JDEC-STD-033):    1

#### 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 ±5%

Frequency	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
	°C	ppm	mA	ns	%
12.8MHz	-40 to 85	±20.00	4	9	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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