

**Customer Part:**

**Description**

- Semtech approved TCXO for Stratum 3 applications.
- Model E2747
- Model Issue number 7

**Frequency Parameters**

- Frequency 12.80MHz
- Frequency Stability  $\pm 0.28$ ppm
- Operating Temperature Range -20.00 to 70.00°C
- 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, Reflow Soldering and Ageing 20  
 years:  $< \pm 4.6$ ppm ref to  $F_0$

**Electrical Parameters**

- Supply Voltage 3.3V  $\pm 5\%$
- Current Draw 4.000mA

**Output Details**

- Output Compatibility HCMOS
- Drive Capability 15pF
- Rise and Fall Time 8.0ns max
- Duty Cycle 45/55%
- VoL:  $\leq 10\%$  Vs
- VoH:  $\geq 90\%$  Vs

**Output Control**

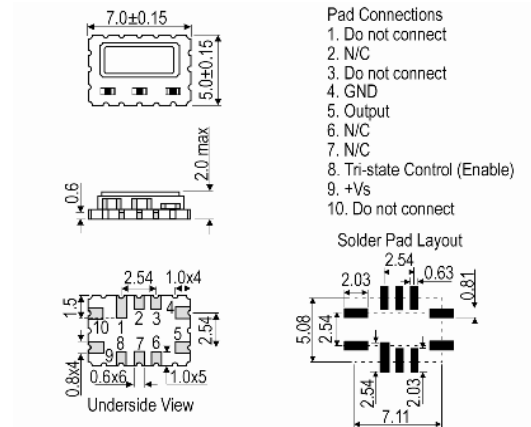
- Tri-State Operation:  
 Logic '1' ( $\geq 60\%$ VS) to pad 8 enables output  
 Logic '0' ( $\leq 20\%$ VS) to pad 8 disables output  
 In Tri-state mode, the output stage is disabled but the oscillator  
 and compensation circuit are still active (current consumption  $\approx$   
 1mA)

**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
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 (Enable)
  9. +Vs
  10. Do not connect

**Solder Pad Layout**
**Sales Office Contact Details:**

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**Customer Part:****Manufacturing Details**

- RoHS Terminations NiCoAu
- RoHS Reflow Temp 260degC 30s

**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
- *Alternative packing option available*

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