

ISSUE 7; April 2016

Description

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



Frequency Parameters

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

Electrical Parameters

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

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 $< 1\text{mA}$)

Output Levels

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

Noise Parameters

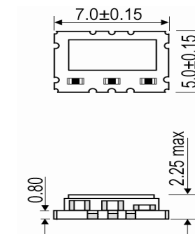
- Phase Noise (max):
 $-90\text{dBc/Hz @ } 10\text{Hz}$
 $-115\text{dBc/Hz @ } 100\text{Hz}$
 $-127\text{dBc/Hz @ } 1\text{kHz}$
 $-137\text{dBc/Hz @ } 10\text{kHz}$
 $-143\text{dBc/Hz @ } 100\text{kHz}$

Environmental Parameters

- Storage Temperature: -55 to 125°C
- Shock: IEC 60068-2-27, Test Ea: 980m/s^2 acceleration for 6ms , 3 shocks in each of 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6, Test Fc, Procedure B4: $10\text{Hz}-60\text{Hz}$ 1.5mm displacement, $60-2000\text{Hz}$ at 98.1m/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

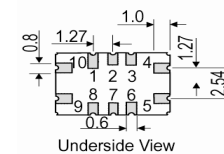


Outline (mm)

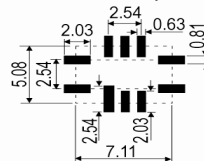


Pad Connections

- 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%

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