

ISSUE 7; May 2021

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

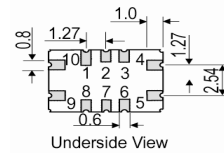
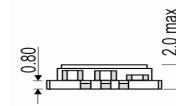
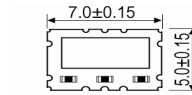
- Phase Noise (max):
 - -90dBc/Hz @ 10Hz
 - -115dBc/Hz @ 100Hz
 - -127dBc/Hz @ 1kHz
 - -137dBc/Hz @ 10kHz
 - -143dBc/Hz @ 100kHz

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



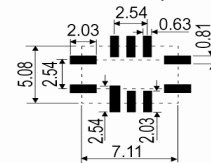
Outline (mm)



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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Manufacturing Details

- RoHS Terminations NiCoAu
- RoHS Reflow 260degC 40s

Ordering Information

- Frequency*
Model*
- Example:
12.8MHz E2799

Compliance

- RoHS Status (2015/863/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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