

E3198 SMD TCXO STRATUM 3

ISSUE 5; 1 NOVEMBER 2010 - RoHS 2002/95/EC

Description

- Semtech approved TCXO for Stratum 3 applications, manufactured for us by Rakon utilising their Pluto™ ASIC technology

Nominal Frequency, Fo

- 12.8MHz

Output Compatibility & Load

- HCMOS
- 15pF max
- V_{OL} : $\leq 10\% V_S$
- V_{OH} : $\geq 90\% V_S$
- Duty Cycle @ 50%: 45/55%
- Rise Time, 10% to 90%: $\leq 9ns$
- Fall Time, 90% to 10%: $\leq 9ns$

Supply Voltage

- $3.3V \pm 5\%$

Input Current

- $\leq 4mA$

Holdover Stability [$\pm(F_{max}-F_{min})/2F_0$]

- Temperature, -40 to $85^\circ C$: $\leq \pm 0.28ppm$
- Temperature, -40 to $85^\circ C$, inclusive of Supply Voltage, $3.3V \pm 5\%$ and Ageing, 24 hours: $\leq \pm 0.32ppm$

Free-Run Accuracy, incl.

- Calibration @ $25^\circ C$, Temperature -40 to $85^\circ C$, Supply Voltage $3.3V \pm 5\%$ Load $15pF \pm 5\%$, Reflow Soldering and Ageing 20 years: $\leq \pm 4.6ppm$ ref. to F_0

Phase Noise (max)

- $-90dBc/Hz$ @ 10Hz
- $-115dBc/Hz$ @ 100Hz
- $-127dBc/Hz$ @ 1kHz
- $-137dBc/Hz$ @ 10kHz
- $-143dBc/Hz$ @ 100kHz

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 $\leq 1mA$)

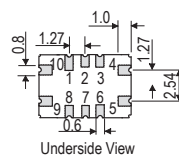
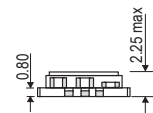
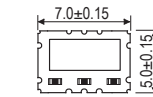
Storage Temperature Range

- -55 to $125^\circ C$

Environmental

- 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: 10Hz-60Hz 1.5mm displacement, 60-2000Hz 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: $260^\circ C/10sec$ exposure

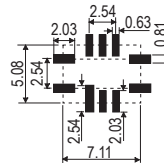
Outline (mm)



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 *
 9. $+V_S$
 10. Do not connect
- * Leave unconnected if not required

Solder Pad Layout



Packaging

- Loose in bulk pack, 10pcs per pack
- Tape and reel in accordance with EIA-481-D, 1Kpcs per reel (please see pages 372 & 373)

Ordering Information (*minimum required)

- Frequency*
- Model*

Example

- 12.8MHz E3198LF