

ISSUE 7; May 2021

## Description

- Zarlink approved TCXO for GR-1244 & GR-253 Stratum 3 applications.



## Frequency Parameters

- Frequency: 20.0MHz
- Frequency Stability:  $\pm 0.28$ ppm
- Ageing:  $\pm 4.6$ ppm max after 20 years
- Holdover Stability [ $\pm(F_{max}-F_{min})/2F_0$ ]:  
Temperature,  $-5$  to  $80^\circ\text{C}$ , inclusive of Supply Voltage: 3.3V  $\pm 5\%$  and Ageing, 24 hours:  $< \pm 0.32$ ppm
- Free-Run Accuracy, incl.  
Calibration @  $25^\circ\text{C}$ , Temperature  $-5$  to  $80^\circ\text{C}$ , Supply Voltage 3.3V  $\pm 5\%$ , Load 15pF  $\pm 5\%$ , Reflow Soldering and Ageing 20 years:  $< \pm 4.6$ ppm ref. to Follow

## Electrical Parameters

- Supply Voltage: 3.3V  $\pm 5\%$

## Operating Temperature Ranges

- $-5$  to  $80^\circ\text{C}$

## 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

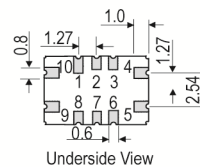
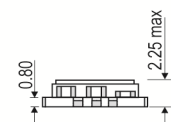
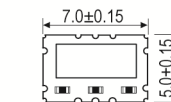
- Phase Noise (max):  
 $-85\text{dBc/Hz}$  @ 10Hz  
 $-110\text{dBc/Hz}$  @ 100Hz  
 $-120\text{dBc/Hz}$  @ 1kHz  
 $-135\text{dBc/Hz}$  @ 10kHz

## Environmental Parameters

- Storage Temperature:  $-55$  to  $125^\circ\text{C}$
- Shock: IEC 60068-2-27, Test Ea: 980m/s<sup>2</sup> 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<sup>2</sup>, 30mins in 3 mutually perpendicular planes at 1 oct/min
- Solderability: MIL-STD-202, Method 208, Category 3



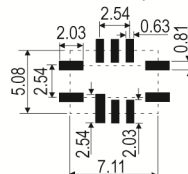
## Outline (mm)



## Pad Connections

- Do not connect
- N/C
- Do not connect
- GND
- Output
- & 7. N/C
- Tri-state Control \*
- +V<sub>S</sub>
- Do not connect
- Leave unconnected if not required

## Solder Pad Layout



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#### Manufacturing Details

- Resistance to Soldering Heat: 260°C, 60sec max above 220°C
- RoHS Terminations NiCoAu
- RoHS Reflow 260degC 30s

#### Ordering Information

- Frequency\*  
Model\*
- Example:  
12.8MHz E3179LF

#### 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
- 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                 | %          |
| 20.0MHz   | -5 to 80          | ±0.28           | 6            | 9                  | 45/55%     |

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