

E3179/E3179LF GR-1244 and GR-253 Core Stratum 3 Minature Surface Mount TCXO

ISSUE 4 ; 19 MARCH 2009

Nominal Frequency, Fo

- 20.0MHz

Supply Voltage

- 3.3V $\pm 5\%$

Input Current

- $\leq 6\text{mA}$

Output

- Type : HCMOS
- Load : 15pF max
- Vol : $\leq 0.1 * V_s$
- Voh : $\geq 0.9 * V_s$
- Duty Cycle @ 50%: 45% to 55%
- Rise Time, 10% to 90%: $\leq 9\text{ns}$
- Fall Time, 90% to 10%: $\leq 9\text{ns}$

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

- Temperature, -5 to 80°C $\pm 0.28\text{ppm}$
- Temperature, -5 to 80°C, inclusive of Supply Voltage, 3.3V $\pm 5\%$ and Ageing 24 hours: $\leq \pm 0.32\text{ppm}$

Free-Run Accuracy, incl,

- Calibration @ 25°C, Temperature -5 to 80°C, Supply Voltage 3.3V $\pm 5\%$, Load 15pF $\pm 5\%$, Reflow Soldering and Ageing 20 years: $\leq \pm 4.6\text{ppm}$ ref. to Fo

Phase Noise

- 10Hz $\leq -85\text{dBc/Hz}$
- 100Hz $\leq -110\text{dBc/Hz}$
- 1kHz $\leq -125\text{dBc/Hz}$
- $\geq 10\text{kHz}$ $\leq -135\text{dBc/Hz}$

Tri-state

- Pad 8 open circuit or $\geq 0.6V_s$: Output Enabled
- Pad 8 $\leq 0.2V_s$: Output in Tri-state mode
- When Tri-stated, the output is disabled but the oscillator and compensation circuit are still active (Current consumption $\leq 1\text{mA}$).

Marking

- Manufacturers ID (R)
- Manufacturers identifier (X XX)
- Pad 1 / Static Sensitivity Identifier (Δ)
- Abbreviated Part Number (3179)
- Oscillator's Date of Manufacture (YW)

R X XX Δ 3179 YW

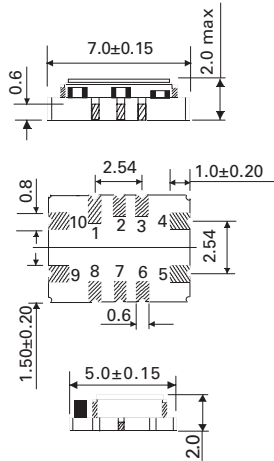
Note: Production parts will be marked in this format. Sample marking may vary.

Environmental Specification

- Storage Temperature Range: -55 to 125°C.
- Vibration: IEC 60068-2-6 Test Fc Procedure B4, 10-60Hz 1.5mm displacement, at 98.1 ms^{-2} , 30 minutes in each of three mutually perpendicular axes at 1 octave per minute.
- Shock: IEC 60068-2-27 Test Ea, 980 ms^{-2} acceleration for 6ms duration, 3 shocks in each direction along three mutually perpendicular axes.
- Soldering: SMD product suitable for Convection Reflow soldering. Peak temperature 260°C. Maximum time above 220°C, 60 secs.(compatible with lead-free soldering processes)
- Marking: Laser marked.
- RoHS/Soldering: Parts with the suffix 'LF' on the part number are fully compliant with the European Union directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
Note: The RoHS compliant parts are suitable for assembly using both Lead-free solders (see Lead-free Reflow soldering profile) and Tin / Lead solders (see Tin / Lead Reflow soldering profile).



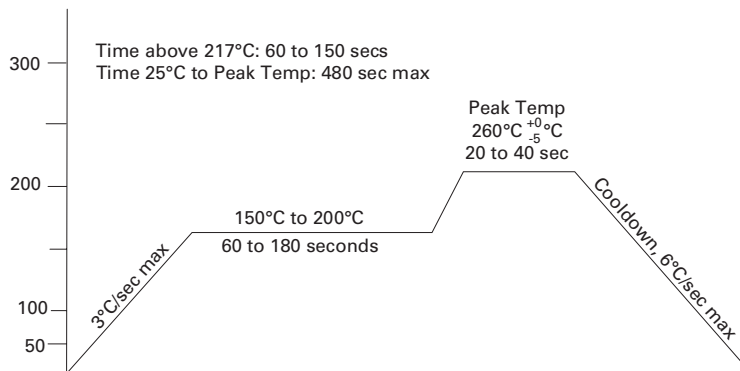
Outline in mm (scale 2 : 1)



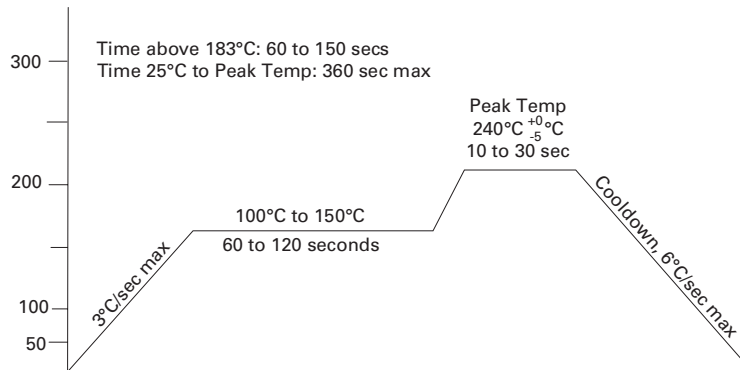
Pad Connections

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. Supply, +Vs
 10. Do not connect, or connect to GND
- *Decouple with capacitor
10nF connected to GND

Lead Free Reflow Soldering Profile *



Tin / Lead Reflow Soldering Profile *



***Note:**

These profiles were used during the qualification testing of the product and therefore represent worst case conditions. They are not recommended for use by the customer in the actual assembly of these parts