

E2889/E2889LF GR1244 and GR-253 Core Stratum 3 Minature Surface Mount TCXO

ISSUE 3 ; 13 JUNE 2005

Nominal Frequency, Fo

- 20.0MHz

Supply Voltage

- 3.3V ±5%

Input Current

- ≤ 6mA

Output

- Type : HCMOS
- Load : 15pF max
- Vol : ≤ 10% Vs
- Voh : ≥ 90% Vs
- Duty Cycle @ 50%:45% to 55%
- Rise Time, 10% to 90%: ≤ 9ns
- Fall Time, 90% to 10%: ≤ 9ns

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

- Temperature, -5 to 80°C: ±0.28ppm
- Temperature, -5 to 80°C, inclusive of Supply Voltage, 3.3V ±5% and Ageing 24 hours: ≤ ±0.32ppm

Free-Run Accuracy, incl,

- Calibration @ 25°C, Temperature -5 to 80°C, Supply Voltage 3.3V ±5%, Load 15pF±5%, Reflow Soldering and Ageing 20 years: ≤ ±4.6ppm ref. to Fo
- 24 hours drift (GR-1244-CORE) ≤ ±0.04ppm

Phase Noise

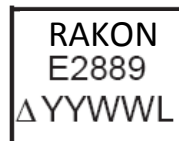
- 10Hz ≤ -85dBc/Hz
- 100Hz ≤ -110dBc/Hz
- 1kHz ≤ 0125dBc/Hz
- ≥10kHz ≤ -135 dBc/Hz

Tri-state

- Pad 2 >60% Vs (logic 1) or open: Output Enabled
- Pad 2 <20% Vs (logic 0): Output Disabled (tri-state mode)
- When Tri-stated mode, the output stage is disabled but the oscillator and compensation circuit are still active (Current consumption ≤ 1.0mA).

Marking

- Manufacturers ID (RAKON)
- Device Number (E2889)
- Date Code (YYWWL)
- Antistatic symbol (Δ , denotes pad 1)



Environmental Specification

- Storage Temperature Range: -55 to 125°C
- Vibration: IEC 60068-2-6 Test Fc Procedure B4, 10-60Hz 1.5mm displacement, 60 - 500Hz 98.1 m/s²(10gn) acceleration. 30 minutes in each of three mutually perpendicular axes at 1 octave per minute.
- Shock: IEC 60068-2-27 Test Ea, 980m/s² (100gn) acceleration for 6ms duration, 3 shocks in each direction along three mutually perpendicular axes.
- Solderability: MIL-STD-202, Method 208, Category 3.
- 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)

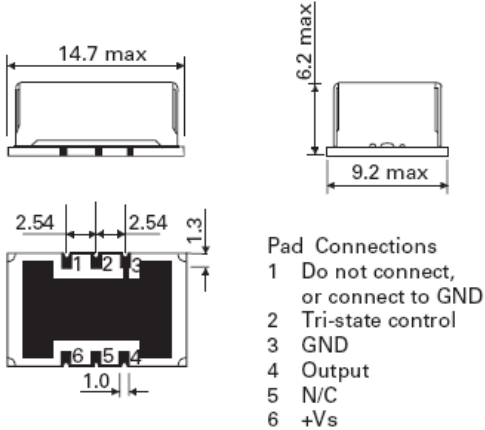
Marking: Laser marked.

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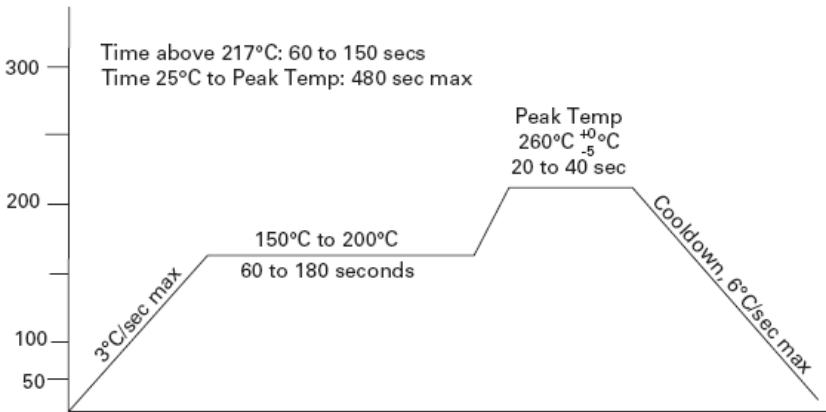
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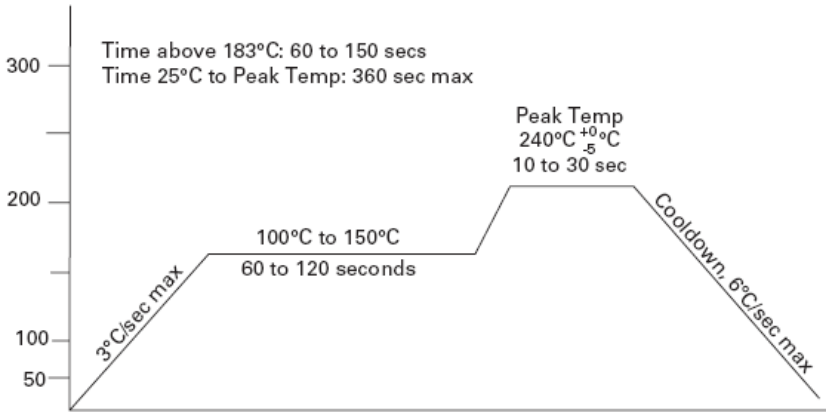
Outline in mm



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

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