

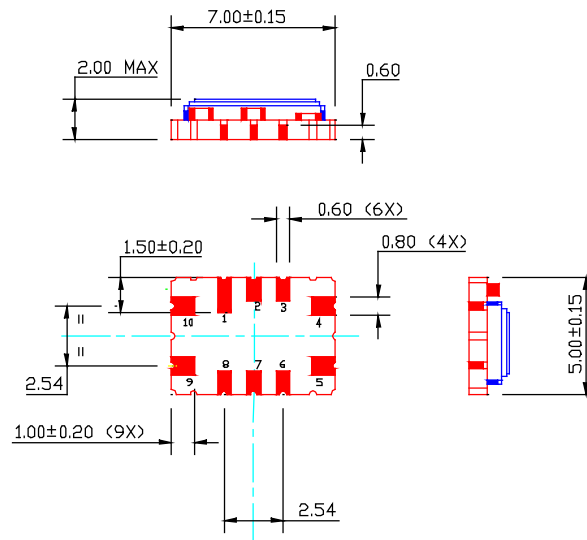
Oscillator Specification: E3199LF(T)

Issue 4, 6th July 2010

Outline:

Pin	Function
1	Do not connect
2	NC
3	Do not connect
4	GND
5	Output
6	NC
7	NC
8	Tri-State Control*
9	Supply, +Vs
10	Do not connect

* leave unconnected if not required

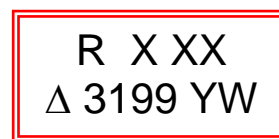


Marking:

To include:

- 1) Manufacturers ID (R)
- 2) Manufacturing identifier (X XX)
- 3) Pad 1 / Static Sensitivity Identifier (Δ)
- 4) Abbreviated Part Number (3199)
- 5) Oscillator's Date of Manufacture (YW)

Note sample marking may vary.



Electrical :

Nominal Frequency, Fo	20.0 MHz
Supply Voltage, Vs	3.3 V ± 5%
Input Current	≤ 6 mA
Output:	
Type	HCMOS
Load	15 pF
Vol	≤ 0.1 * Vs
Voh	≥ 0.9 * Vs
Duty cycle @ 50%	45% to 55%
Rise time, 10% to 90%	≤ 8 ns
Fall time, 90% to 10%	≤ 8 ns

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HOLDOVER STABILITY [$\pm(F_{\max}-F_{\min})/2.F_0$]

Temperature, -40 to 85°C $\leq \pm 0.28$ ppm

ditto, inclusive of

Supply Voltage, 3.3V $\pm 5\%$ and
Ageing, 24 hours $\leq \pm 0.32$ ppm

FREE-RUN ACCURACY, incl.

Calibration @ 25 °C,

Temperature, -40°C to 85°C,

Supply Voltage, 3.3V $\pm 5\%$,

Load, 15pF $\pm 5\%$

Reflow soldering and

Ageing, 20 years $\leq \pm 4.6$ ppm ref. to F_0

Phase Noise:

10 Hz ≤ -85 dBc/Hz

100 Hz ≤ -110 dBc/Hz

1 kHz ≤ -125 dBc/Hz

≥ 10 kHz ≤ -130 dBc/Hz

Tri-State

Pad 8 open circuit or ≥ 0.6 Vs

Output Enabled

Pad 8 ≤ 0.2 Vs

Output Tri-stated

When in tri-state mode, the output stage is disabled but the oscillator and compensation circuit are still active (Current consumption ≈ 1 mA).

Environmental:

Storage Temperature Range: -55 to +125°C

Vibration: IEC 60068-2-6 Test Fc, 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, 980ms⁻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.

Solderability: MIL-STD-202, Method 208, Category 3

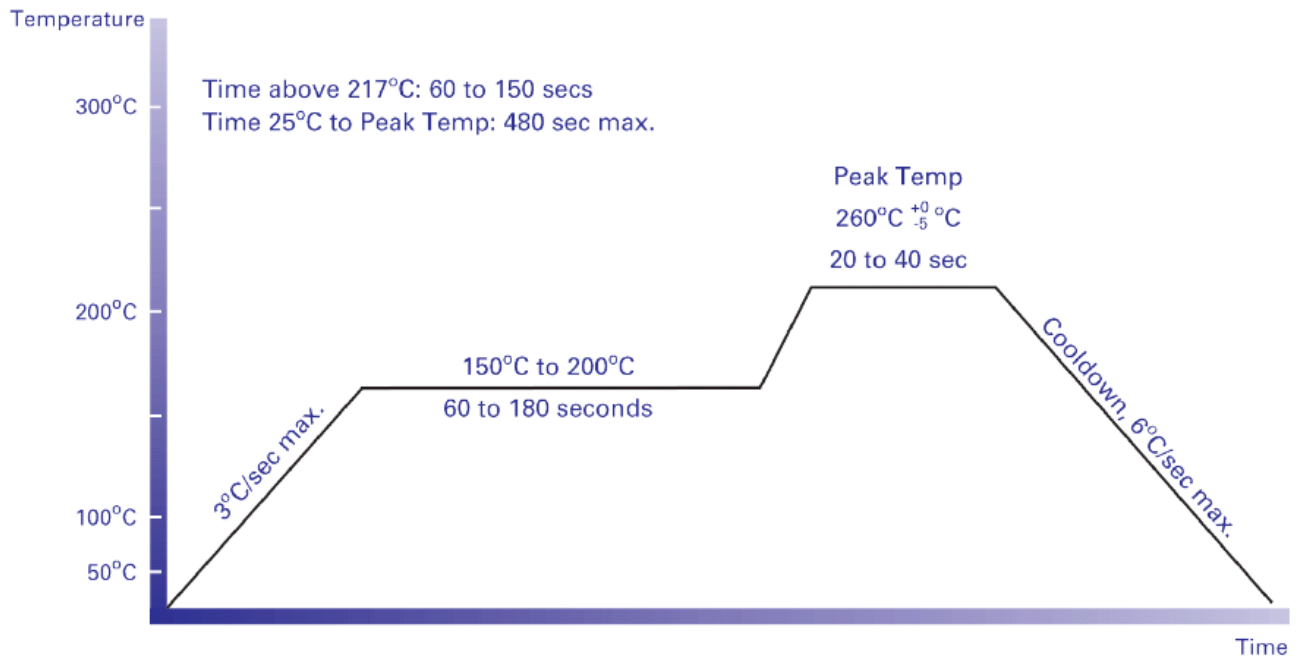
Marking: Laser Marked

RoHS Parts 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 these RoHS compliant parts are suitable for assembly using both Lead-free solders and Tin/Lead solders.

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Reflow Profile



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Packaging Method

Parts with suffix 'T' on the part number (E3199LFT) are supplied in Tape and Reel packaging (7" reel, max. 1000 pcs).

