

## Oscillator Specification: E5272LF(T)

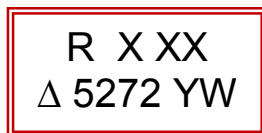
Issue 2, 14<sup>th</sup> October 2010, LN6065

### Outline:

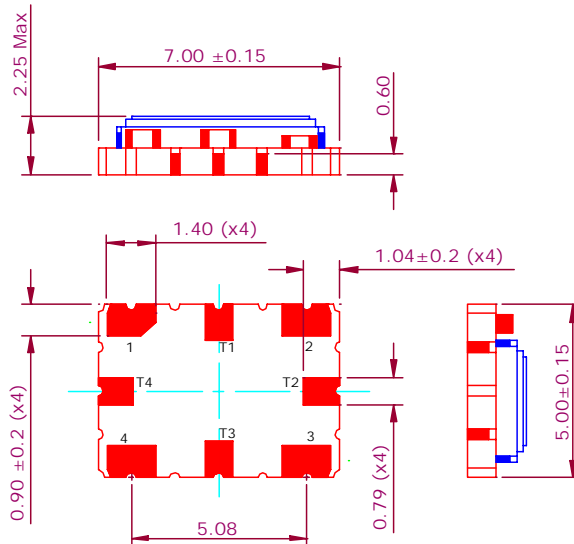
Pad	Function
1	Control Voltage, Vc
2	GND
3	Output
4	Supply Voltage, +Vs
T1	Reference Voltage, Vref
T2	Internal connection, do not connect
T3	No connection
T4	Tri-State Control

### Marking: to include:

Manufacturers ID (R)  
Manufacturing identifier (X XX)  
Pad 1 / Static Sensitivity Identifier ( $\Delta$ )  
Abbreviated Part Number (5272)  
Oscillator's Date of Manufacture (YW)



Note: Sample marking may vary.



### Electrical:

Nominal Frequency, F0	10.0 MHz
Supply Voltage, Vs	3.3V $\pm$ 5%
Current consumption	$\leq$ 4 mA (typ. 2.5mA)
Operating Temperature Range	-40 to 85°C
Output:	
Type	HCMOS
Load	15pF
V <sub>OL</sub>	$\leq$ 0.1 * Vs
V <sub>OH</sub>	$\geq$ 0.9 * Vs
Duty cycle @ 50%	45% to 55%
Rise time, 10%-90%	$\leq$ 8 ns
Fall time, 90%-10%	$\leq$ 8 ns
Frequency Stability	
Calibration Tolerance at 25°C	$\leq$ $\pm$ 1.0 ppm reference to F0
Reflow Drift ( $\geq$ 60 minutes after reflow)	$\leq$ $\pm$ 1.0 ppm
Temperature	$\leq$ $\pm$ 0.5 ppm reference to (F <sub>MAX</sub> +F <sub>MIN</sub> )/2
Slope (2°C step size)	$\leq$ 0.1 ppm/°C
Hysteresis, static at 25°C	$\leq$ $\pm$ 0.4 ppm
Supply voltage, $\pm$ 5%	$\leq$ $\pm$ 0.1 ppm reference to frequency at 3.3V
Load, $\pm$ 5pF	$\leq$ $\pm$ 0.2 ppm ref. to frequency at 15pF
Ageing, first year	$\leq$ $\pm$ 1.0 ppm
Ageing, 10 years	$\leq$ $\pm$ 3.0 ppm
Root Allan Variance (tau=1s)	$\leq$ $\pm$ 0.4 ppb
G-sensitivity (gamma vector 3 axis, 30-1500Hz)	typ. 0.6 ppb/G
G-shock recovery at 25°C, 2s after shock	$\leq$ $\pm$ 1.5 ppm (theoretical estimate)
Start-up time, 90% final amplitude	$\leq$ 5 ms
Settling time, to reach specified calibration tolerance	$\leq$ 10 ms

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Voltage Control:	
Nominal control voltage	1.1V
Control Voltage Range	0 to 2.2V
Slope	Positive
Input impedance	$\geq 100\text{ k}\Omega$
Pulling range	$\geq \pm 8.0\text{ ppm}, \leq \pm 14.0\text{ ppm}$
Modulation bandwidth	$\geq 2\text{ kHz}$
Reference Voltage, Vref	2.2V (max. load 10k $\Omega$ )
Phase Noise, typical	
1 Hz offset	-70 dBc/Hz
10 Hz offset	-100 dBc/Hz
100 Hz offset	-120 dBc/Hz
1 kHz offset	-132 dBc/Hz
10 kHz offset	-140 dBc/Hz
Tri-State	
Pad T4 open circuit or > 0.6Vs	Output Enabled
Pad T4 < 0.2Vs	Output in Tri-state mode
In Tri-state mode, the output stage is disabled but the oscillator and compensation circuit are still active (Current consumption < 1mA).	

### Environmental:

Storage Temperature Range:	-57 to +100°C
Vibration:	30g, 10 to 2000Hz
Shock	50g max. for 11ms
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 parts are suitable for assembly using both Lead-free solders and Tin / Lead solders.
Packaging	Part numbers with suffix 'T' are supplied on tape & reel.