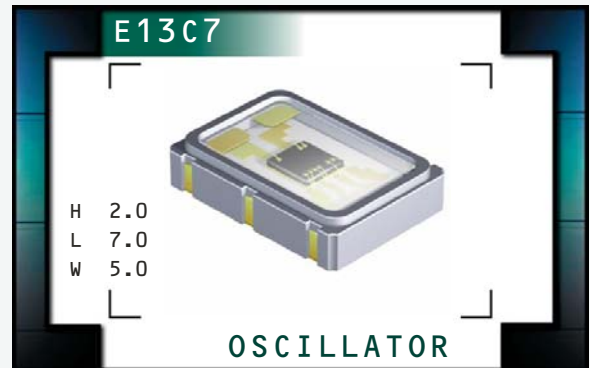


# E13C7 Series



- RoHS Compliant (Pb-Free)
- LVPECL Output Oscillators
- 3.3V Supply Voltage
- AT-Cut Fundamental Mode Inverted Mesa Crystal
- Ceramic 6-pad SMD Package
- Stability to 25ppm
- Tri-State Output
- Complementary Output
- Available on Tape and Reel
- Wide Range of Available Frequencies



## ELECTRICAL SPECIFICATIONS

<b>Nominal Frequency</b>	38.880MHz to 77.760MHz, and 78.125MHz, 80 MHz, 80.157MHz, 85MHz, 87.125MHz, 90MHz, 100MHz, 106.25MHz, 110MHz, 119MHz, 120MHz, 122.888MHz, 124.4MHz, 125MHz, 127MHz, 128MHz, 133MHz, 133.333MHz, 137.472MHz, 150MHz, 155.52M, 156.25MHz, 161.1328MHz, 162.5M, 166M, 170MHz, 175MHz, 187.5MHz, 200MHz, 208MHz	
<b>Operating Temperature Range</b>	0°C to 70°C, or -40°C to +85°C	
<b>Storage Temperature Range</b>	-55°C to 125°C	
<b>Supply Voltage (V<sub>CC</sub>)</b>	3.3V <sub>DC</sub> ±5%	
<b>Input Current</b>	75mA Maximum	
<b>Frequency Tolerance / Stability</b>	Inclusive of All Conditions: Calibration Tolerance at 25°C, Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, 1st Year Aging at 25°C, Shock, and Vibration	±100ppm, ±50ppm, or ±25ppm Maximum
<b>Output Voltage Logic High (V<sub>OH</sub>)</b>	V <sub>CC</sub> -1.025V <sub>DC</sub> Minimum	
<b>Output Voltage Logic Low (V<sub>OL</sub>)</b>	V <sub>CC</sub> -1.620V <sub>DC</sub> Maximum	
<b>Rise Time / Fall Time</b>	20% to 80% of waveform	1 nSeconds Maximum
<b>Duty Cycle</b>	at 50% of waveform	50 ±10(%) 50 ±5(%)
<b>Load Drive Capability</b>	50 Ohms into V <sub>CC</sub> -2.0V <sub>DC</sub>	
<b>Logic Control / Additional Output</b>	No Connect and Complementary Output or Tri-State and Complementary Output	
<b>Tri-State Input Voltage</b>	V <sub>IH</sub> of 70% of V <sub>CC</sub> Minimum No Connection V <sub>IL</sub> of 30% of V <sub>CC</sub> Maximum	Enables Output Enables Output Disables Output: High Impedance
<b>Standby Current</b>	Without Load	10µA Maximum
<b>Start Up Time</b>	10 mSeconds Maximum	
<b>RMS Phase Jitter</b>	< 77.760MHz FJ = 12kHz to 20MHz ≥ 77.760MHz FJ = 12kHz to 20MHz	2 pSec Maximum 1 pSec Maximum
<b>Typical Phase Noise</b>	Fo=155.520MHz	-60dBc/Hz at 10Hz Offset -95dBc/Hz at 100Hz Offset -124dBc/Hz at 1kHz Offset -143dBc/Hz at 10kHz Offset

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES E13C7	PACKAGE CERAMIC	VOLTAGE 3.3V	CLASS OS1M	REV. DATE 10/04
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## PART NUMBERING GUIDE

### E13C7 E 2 F - 155.520M TR

#### FREQUENCY TOLERANCE & STABILITY/ OPERATING TEMPERATURE RANGE

C=±100ppm Maximum over 0°C to +70°C  
 D=±50ppm Maximum over 0°C to +70°C  
 E=±25ppm Maximum over 0°C to +70°C  
 G=±100ppm Maximum over -40°C to +85°C  
 H=±50ppm Maximum over -40°C to +85°C  
 J=±25ppm Maximum over -40°C to +85°C

#### DUTY CYCLE

1=50% ±10%, 2=50% ±5%

#### AVAILABLE OPTIONS

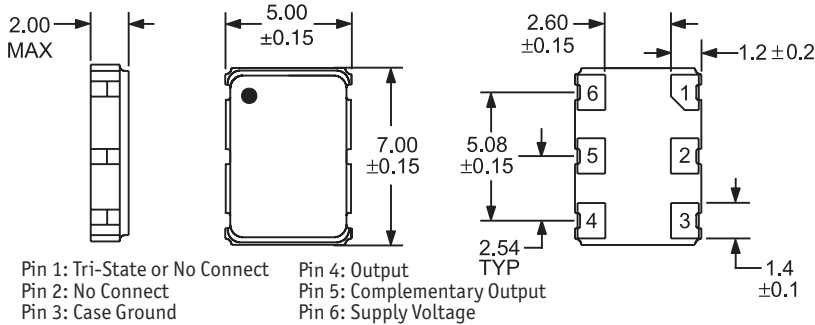
Blank= Tubes  
 TR= Tape and Reel (Standard)

#### FREQUENCY

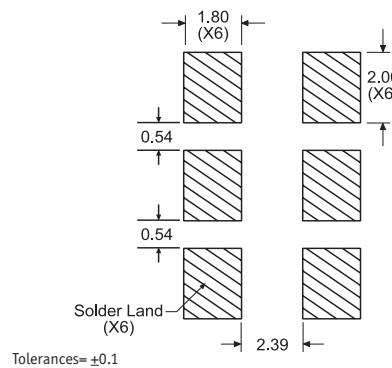
#### LOGIC CONTROL/ADDITIONAL OUTPUT

E= No Connect and Complementary Output  
 F= Tri-State and Complementary Output

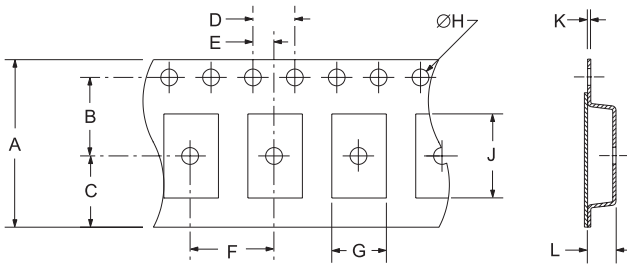
#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



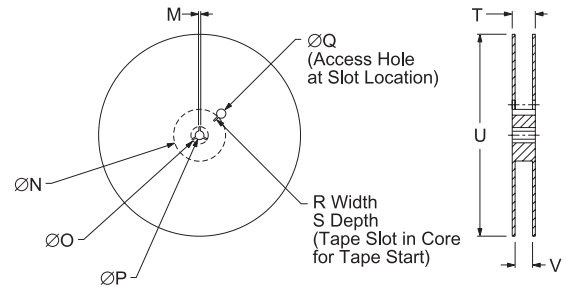
#### SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



#### TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	16±.3-1	7.5±.1	6.75±.1	4 ±.1	2±.1
F	G	H	J	K	L
	8±.1	B0*	1.5 +.1-0	A0*	.3±.05



REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13±.2	40 MIN
R	S	T	U	V	QTY/REEL
	2.5 MIN	10 MIN	22.4 MAX	360 MAX	16.4+2-0

\*Compliant to EIA 481A

#### ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Vibration	MIL-STD-883, Method 2007, Condition A
Solderability	MIL-STD-883, Method 2002
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-202, Method 210
Resistance to Solvents	MIL-STD-202, Method 215

#### MARKING SPECIFICATIONS

Line 1: ECLIPTEK  
 Line 2: XX.XXX M  
 Frequency in MHz (5 Digits Maximum + Decimal)  
 Line 3: XX Y ZZ  
 Week of Year  
 Last Digit of Year  
 Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	E13C7	CERAMIC	3.3V	OS1M	10/04