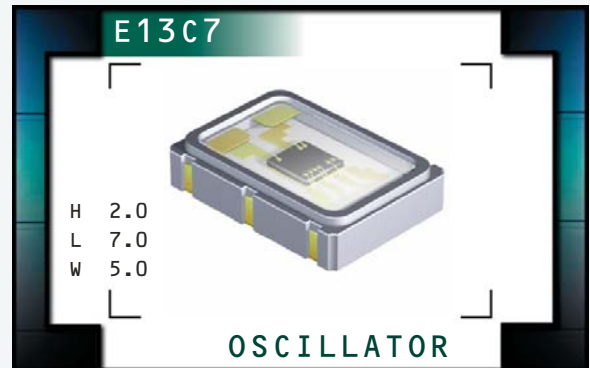


# E13C7 Series



**ECLIPTEK**<sup>®</sup>  
CORPORATION

- RoHS Compliant (Pb-Free)
- LVPECL Output Oscillators
- 3.3V Supply Voltage
- Ceramic 6-pad SMD Package
- Stability to  $\pm 25$ ppm
- Tri-State Output
- Complementary Output
- Available on Tape and Reel
- Wide Range of Available Frequencies



## ELECTRICAL SPECIFICATIONS

**Nominal Frequency (MHz)** 77.760M, 78.125M, 80M, 80.157M, 85M, 87.125M, 90M, 100M, 106.25M, 110M, 119M, 120M, 122.888M, 124.4M, 125M, 127M, 128M, 133M, 133.333M, 137.472M, 150M, 155.52M, 156.25M, 159.375M, 161.1328M, 162.5M, 166M, 170M, 175M, 176.83816M, 187.5M, 187.509375M, 200M, or 212.5MHz

**Operating Temperature Range** 0°C to 70°C, or -40°C to +85°C

**Storage Temperature Range** -55°C to 125°C

**Supply Voltage ( $V_{CC}$ )** 3.3V<sub>DC</sub>  $\pm 5\%$

**Input Current** 75mA Maximum

**Frequency Tolerance / Stability** Inclusive of All Conditions: Calibration Tolerance at 25°C,  $\pm 100$ ppm,  $\pm 50$ ppm, or  
Frequency Stability over the Operating Temperature Range,  $\pm 25$ ppm Maximum  
Supply Voltage Change, Output Load Change, 1st Year  
Aging at 25°C, Shock, and Vibration

**Output Voltage Logic High ( $V_{OH}$ )** 0°C to 85°C  $V_{CC} - 1.025V_{DC}$  Minimum  
-40°C to 0°C  $V_{CC} - 1.085V_{DC}$  Minimum

**Output Voltage Logic Low ( $V_{OL}$ )** 0°C to 85°C  $V_{CC} - 1.620V_{DC}$  Maximum  
-40°C to 0°C  $V_{CC} - 1.555V_{DC}$  Maximum

**Rise Time / Fall Time** 20% to 80% of waveform 300pSec Typical, 700pSec Maximum

**Duty Cycle** at 50% of waveform 50  $\pm 5$ (%)

**Load Drive Capability** 50 Ohms into  $V_{CC} - 2.0V_{DC}$

**Logic Control / Additional Output** Tri-State and Complementary Output

**Tri-State Input Voltage**  $V_{IH}$  of 70% of  $V_{CC}$  Minimum Enables Output  
No Connection Enables Output  
 $V_{IL}$  of 30% of  $V_{CC}$  Maximum Disables Output: High Impedance

**Standby Current** Without Load 30 $\mu$ A Maximum

**Start Up Time** 10 mSeconds Maximum

**RMS Phase Jitter** FJ = 12kHz to 20MHz 0.4pSec Typical, 1 pSec Maximum

**Typical Phase Noise** Fo=156.250MHz  
-60dBc/Hz at 10Hz Offset  
-95dBc/Hz at 100Hz Offset  
-125dBc/Hz at 1kHz Offset  
-143dBc/Hz at 10kHz Offset  
-145dBc/Hz at 100kHz Offset  
-145dBc/Hz at 1MHz Offset  
-146dBc/Hz at 10MHz Offset

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
E13C7

PACKAGE  
CERAMIC

VOLTAGE  
3.3V

CLASS  
OS1M

REV. DATE  
01/07

## 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

2=50±5(%)

(\*) Not available over Nominal Frequency range of 176.83816MHz to 212.500MHz

#### AVAILABLE OPTIONS

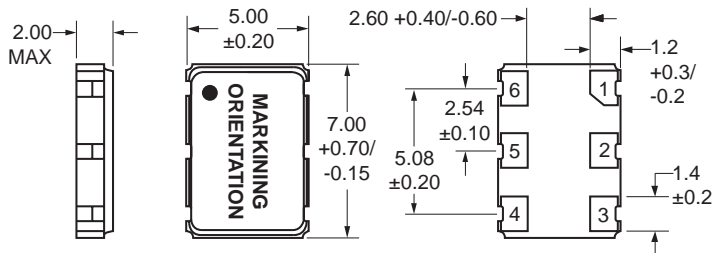
Blank=Tubes  
 TR=Tape and Reel (Standard)

#### FREQUENCY

#### LOGIC CONTROL/ADDITIONAL OUTPUT

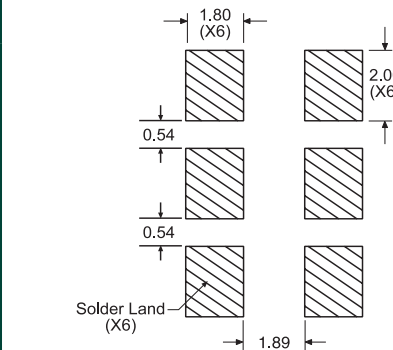
F=Tri-State and Complementary Output

#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



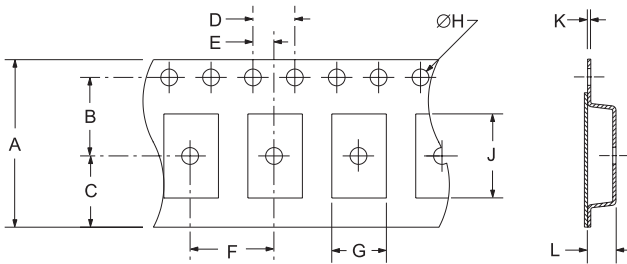
Pin 1: Tri-State  
 Pin 2: No Connect  
 Pin 3: Case Ground  
 Pin 4: Output  
 Pin 5: Complementary Output  
 Pin 6: Supply Voltage

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

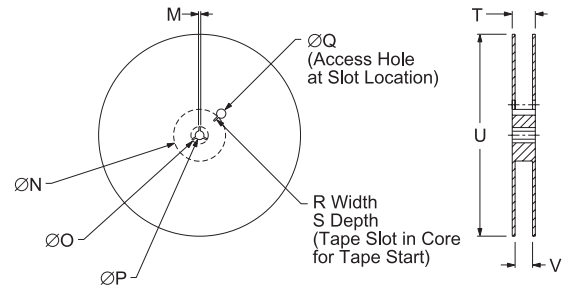


Tolerances=±0.1

#### 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	K0*



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	1,000

\*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	01/07