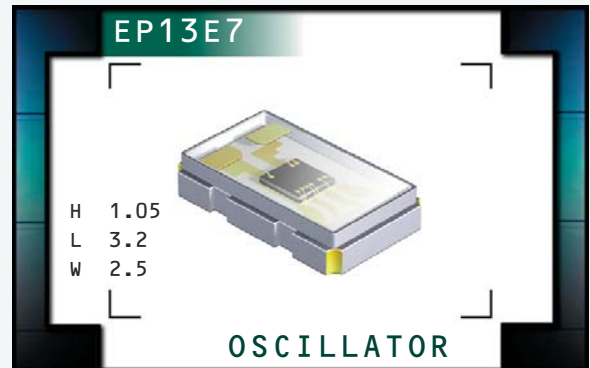


# EP13E7 Series



www.DataSheet4U.com®  
ECLIPTEK  
CORPORATION

- RoHS Compliant (Pb-Free)
- EPO™ Programmable Oscillators
- Ceramic Surface Mount Package
- LVHCMOS Output
- 3.3V Supply Voltage
- Stability to  $\pm 25$ ppm
- Available on Tape & Reel
- Tri-State and Power Down Functions Available



## ELECTRICAL SPECIFICATIONS

<b>Nominal Frequency</b>	3.300MHz, 3.6864MHz, 5.000MHz, 6.000MHz, 6.144MHz, 7.000MHz, 8.000MHz, 9.000MHz, 10.000MHz, 12.000MHz, 14.7456MHz, 16.000MHz, 20.000MHz, 24.000MHz, 25.000MHz, 26.000MHz, 27.000MHz, 30.000MHz, 32.000MHz, 33.000MHz, 33.330MHz, 33.333MHz, 37.500MHz, 40.000MHz, 48.000MHz, 50.000MHz, 52.000MHz, 54.000MHz, 55.000MHz, 66.000MHz, 70.000MHz, 75.000MHz, 80.000MHz, 83.000MHz, 88.000MHz, 96.000MHz, and 100.000MHz	
<b>Operating Temperature Range</b>	-20°C to 70°C or -40°C to 85°C	
<b>Storage Temperature Range</b>	-55°C to 125°C	
<b>Supply Voltage (<math>V_{DD}</math>)</b>	3.3V <sub>DC</sub> $\pm 5\%$	
<b>Input Current</b>	3.300MHz to 25.000MHz	12mA Maximum
	25.001MHz to 75.000MHz	17mA Maximum
	75.001MHz to 90.000MHz	22mA Maximum
	90.001MHz to 100.000MHz	25mA 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, 260°C Reflow, Shock, and Vibration	
	$\pm 25$ ppm, 50ppm or $\pm 100$ ppm Maximum	
<b>Output Voltage Logic High (<math>V_{OH}</math>)</b>	$I_{OH} = -8$ mA	90% of $V_{DD}$ Minimum
<b>Output Voltage Logic Low (<math>V_{OL}</math>)</b>	$I_{OL} = +8$ mA	10% of $V_{DD}$ Maximum
<b>Rise Time / Fall Time</b>	3.300MHz to 50.000MHz, 20% to 80% of waveform	6nSeconds Maximum
	50.001MHz to 75.000MHz, 20% to 80% of waveform	4nSeconds Maximum
	75.001MHz to 100.000MHz, 20% to 80% of waveform	2nSeconds Maximum
<b>Duty Cycle</b>	at 50% of waveform	50 $\pm 5$ (%)
<b>Load Drive Capability</b>	3.300MHz to 50.000MHz	30pF HCMOS Load Maximum
	50.001MHz to 100.000MHz	15pF HCMOS Load Maximum
<b>Pad 1 Connection</b>	Tri-State or Power Down	
<b>Pad 1 Input Voltage</b>	$V_{IH}$ of 90% of $V_{DD}$ Minimum	Enables Output
	No Connection	Enables Output
	$V_{IL}$ of 10% of $V_{DD}$ Maximum	Disables Output
<b>Standby Current</b>	Disabled Output (Logic Low)	30 $\mu$ A Maximum
<b>Disable Current</b>	Disabled Output (High Impedance)	8mA Maximum
<b>Absolute Clock Jitter</b>	3.300MHz to 24.999999MHz	350pSec Maximum
	25.000MHz to 100.000MHz	200pSec Maximum
<b>Aging at 25°</b>	$\pm 5$ ppm/Year Maximum	
<b>Start Up Time</b>	10mSec Maximum	

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EP13E7	PACKAGE CERAMIC	VOLTAGE 3.3V	CLASS 055N	REV. DATE 06/08
--------------------------------	------------------------	------------------	--------------------	-----------------	---------------	--------------------

## PART NUMBERING GUIDE

### EP13E7 H 2 H - 50.000M TR

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

C=±100ppm Maximum over -20°C to +70°C  
 D=±50ppm Maximum over -20°C to +70°C  
 E=±25ppm Maximum over -20°C to +70°C  
 G=±100ppm Maximum over -40°C to +85°C  
 H=±50ppm Maximum over -40°C to +85°C

#### DUTY CYCLE

2=50% ±5%

#### AVAILABLE OPTIONS

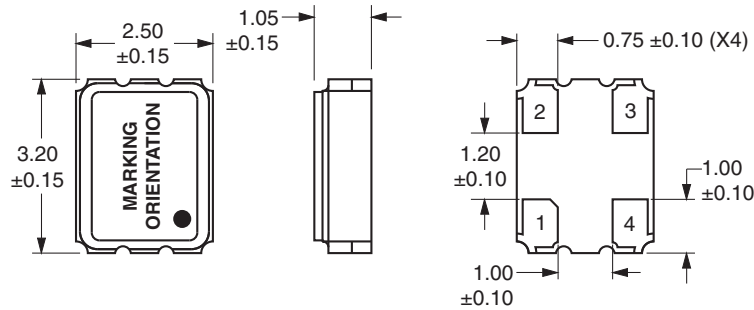
Blank=Bulk  
 TR=Tape and Reel (Standard)

#### FREQUENCY

#### LOGIC CONTROL/ADDITIONAL OUTPUT

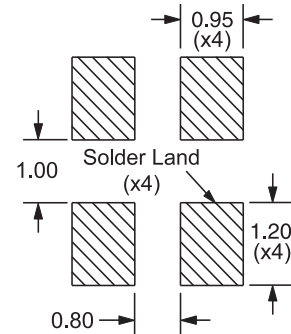
H=Tri-State  
 J=Power Down

#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



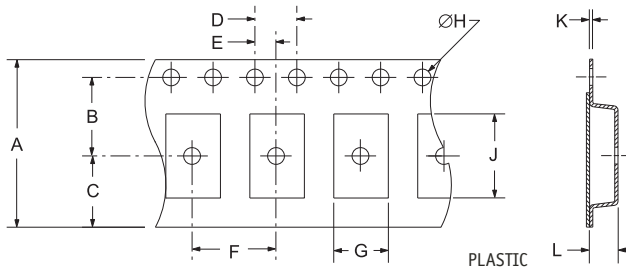
Pin 1: Tri-State or Power Down Pin 2: Case Ground  
 Pin 3: Output Pin 4: Supply Voltage

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

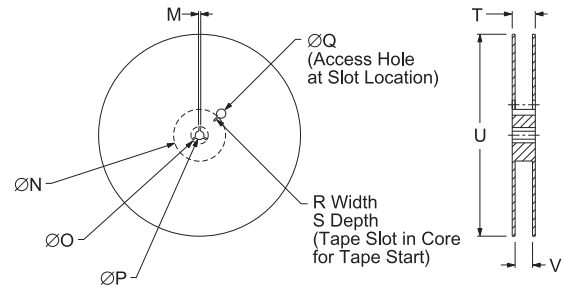


Tolerances=±0.1

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



	A	B	C	D	E
	12.0 ±0.3	5.5 ±0.05	4.75 ±0.1	4.0 ±0.1	2.00 ±0.05
F	G	H	J	K	L
4.0 ±0.1	A0*	1.5 +1/-0	B0*	0.6 MAX	K0*



REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13+5/-2	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	18.4 MAX	332 MAX	12.4+2/-0	1,000

\*Compliant to EIA 481C

#### ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

##### Characteristic

ESD Susceptibility  
 Fine Leak Test  
 Gross Leak Test  
 Mechanical Shock  
 Moisture Resistance  
 Moisture Sensitivity  
 Resistance to Soldering Heat  
 Resistance to Solvents  
 Solderability  
 Temperature Cycling  
 Thermal Shock  
 Vibration

##### Specification

MIL-STD-883, Method 3015, Class 1, HBM: 1500Vdc  
 MIL-STD-883, Method 1014, Condition A  
 MIL-STD-883, Method 1014, Condition C  
 MIL-STD-883, Method 2002, Condition B  
 MIL-STD-883, Method 1004  
 J-STD-020, MSL 1  
 MIL-STD-202, Method 210, Condition K  
 MIL-STD-202, Method 215  
 MIL-STD-883, Method 2003  
 MIL-STD-883, Method 1010, Condition B  
 MIL-STD-883, Method 1011, Condition B  
 MIL-STD-883, Method 2007, Condition A

MEMS First™ is a registered trademark of SiTime Corporation.

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EP13E7	PACKAGE CERAMIC	VOLTAGE 3.3V	CLASS OS5N	REV. DATE 06/08
--------------------------------	------------------------	------------------	--------------------	-----------------	---------------	--------------------