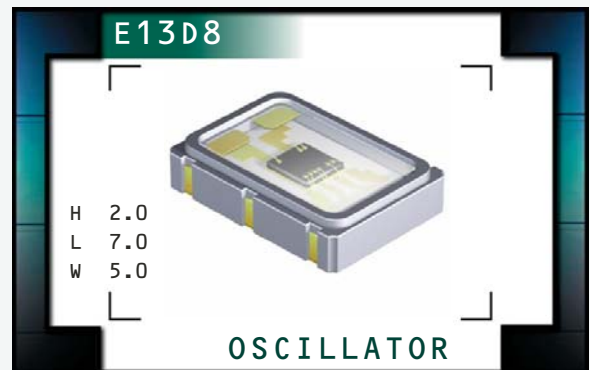


# E13D8 Series



**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

<b>Nominal Frequency</b>	75MHz, 77.76MHz, 80MHz, 100MHz, 106.25MHz, 125MHz, 150MHz, 155.52MHz, 156.25MHz, 159.375MHz, 187.5MHz, 212.5MHz, 250MHz, 311.04MHz, 312.5MHz	
<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 (<math>V_{CC}</math>)</b>	3.3V <sub>DC</sub> $\pm 5\%$	
<b>Input Current</b>	With Load	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	$\pm 50$ ppm Maximum, or $\pm 25$ ppm Maximum
<b>Output Voltage Logic High (<math>V_{OH}</math>)</b>	$V_{CC} - 1.4V_{DC}$ Minimum, $V_{CC} - 1.2V_{DC}$ Typical, $V_{CC} - 0.9V_{DC}$ Maximum	
<b>Output Voltage Logic Low (<math>V_{OL}</math>)</b>	$V_{CC} - 1.7V_{DC}$ Minimum, $V_{CC} - 1.85V_{DC}$ Typical, $V_{CC} - 2.0V_{DC}$ Maximum	
<b>Peak to Peak Output Voltage Swing</b>	600mVdc Minimum, 800mVdc Typical, 1000mVdc Maximum	
<b>Rise Time / Fall Time</b>	20% to 80% of waveform	300pSec Typical, 600pSec Maximum
<b>Duty Cycle</b>	at 50% of waveform	50 $\pm 5$ (%)
<b>Load Drive Capability</b>	50 Ohms into $V_{CC} - 2.0V_{DC}$	
<b>Logic Control / Additional Output</b>	Tri-State and Complementary Output	
<b>Tri-State Input Voltage</b>	$V_{IH}$ of 70% of $V_{CC}$ Minimum No Connection $V_{IL}$ of 30% of $V_{CC}$ Maximum	Enables Output Enables Output Disables Output: High Impedance
<b>Standby Current</b>	Disabled Output, High Impedance, Without Load	600 $\mu$ A Maximum
<b>Start Up Time</b>	10 mSeconds Maximum	
<b>RMS Phase Jitter</b>	FJ = 12kHz to 20MHz	0.7pSec Typical, 1 pSec Maximum
<b>Typical Phase Noise</b>	Fo=156.250MHz	-60dBc/Hz at 10Hz Offset -90dBc/Hz at 100Hz Offset -115dBc/Hz at 1kHz Offset -129dBc/Hz at 10kHz Offset -130dBc/Hz at 100kHz Offset -131dBc/Hz at 1MHz Offset -148dBc/Hz at 10MHz Offset

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
E13D8

PACKAGE  
CERAMIC

VOLTAGE  
3.3V

CLASS  
OS4N

REV. DATE  
10/07

# PART NUMBERING GUIDE

## E13D8 D 2 F - 155.520M TR

### FREQUENCY TOLERANCE & STABILITY/ OPERATING TEMPERATURE RANGE

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

### AVAILABLE OPTIONS

Blank= Tubes  
 TR= Tape and Reel (Standard)

### FREQUENCY

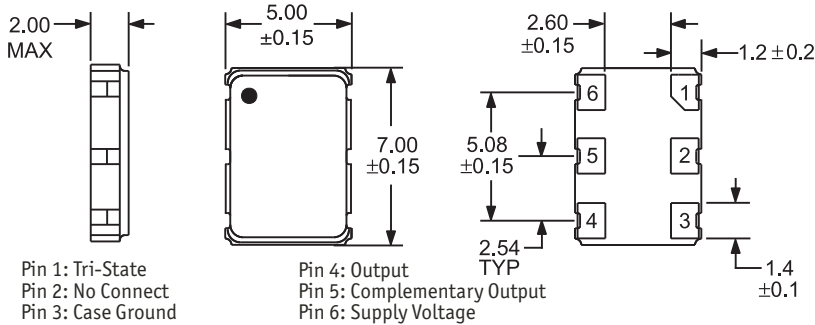
### LOGIC CONTROL/ADDITIONAL OUTPUT

F= Tri-State and Complementary Output

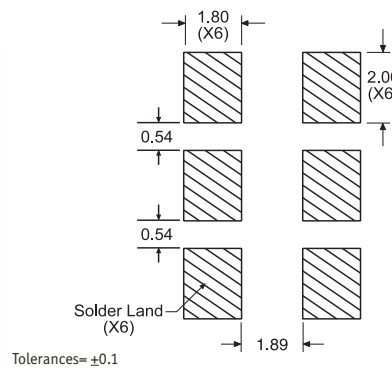
### DUTY CYCLE

2= 50 ±5(%)

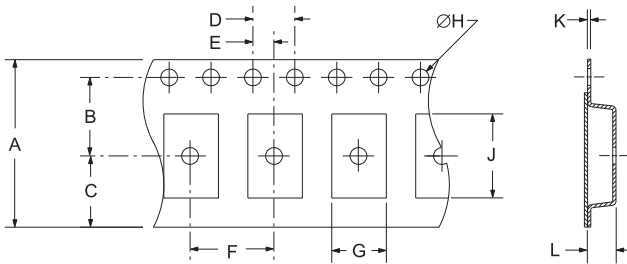
### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



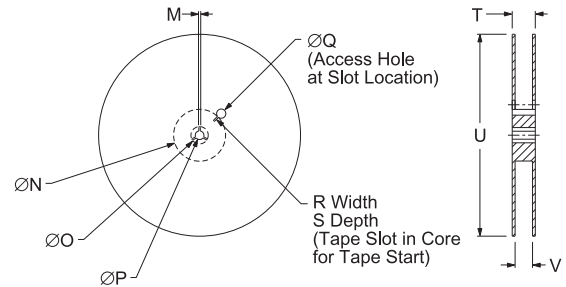
### SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



### 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	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  
 Eclipsetek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	E13D8	CERAMIC	3.3V	OS4N	10/07