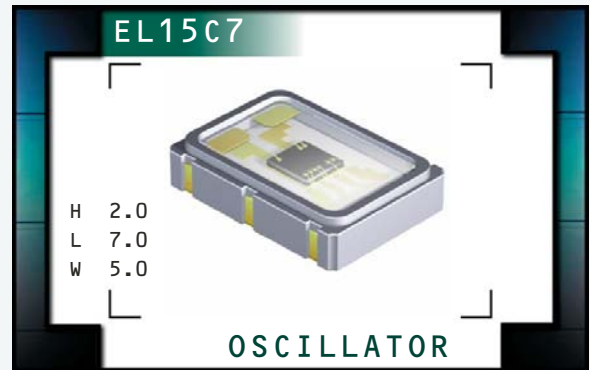


# EL15C7 Series



- Crystal Clock Oscillators
- LVDS Output
- +2.5V Supply Voltage
- Complementary Output
- Tri-State Output Function
- 6 Pad Ceramic SMD Package
- Low Stand-by Current
- RoHS Compliant (Pb-Free)



## ELECTRICAL SPECIFICATIONS

<b>Nominal Frequency (MHz)</b>	80, 80.157, 85, 87.125, 90, 100, 106.25, 110, 119, 120, 122.888, 124.4, 125, 127, 128, 131.072, 133, 133.33, 133.333, 135, 137.472, 150, 155.52, 156.25, 159.375, 161.1328, 162.5, 163.84, 164.355, 164.355469, 166, 166.67, 167.3316, 170, 173.3705, 175, 176.83816, 187.5, 187.509375, 187.5103, 200, 212.5, 240, 250, or 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 (V<sub>cc</sub>)</b>	2.5V <sub>DC</sub> ±5%	
<b>Input Current</b>	80MHz to 249.999999MHz	50mA Maximum
	250MHz to 312.5MHz	65mA 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, ±25ppm, or ±20ppm Maximum
<b>Output Voltage Logic High (V<sub>OH</sub>)</b>	1.43V <sub>DC</sub> Typical, 1.6V <sub>DC</sub> Maximum	
<b>Output Voltage Logic Low (V<sub>OL</sub>)</b>	1.1V <sub>DC</sub> Typical, 0.9V <sub>DC</sub> Minimum	
<b>Differential Output Voltage (V<sub>OD</sub>)</b>	247mV Minimum, 330mV Typical, 454mV Maximum	
<b>Offset Voltage (V<sub>OS</sub>)</b>	1.125V Minimum, 1.250V Typical, 1.375V Maximum	
<b>Rise Time / Fall Time</b>	20% to 80% of waveform	300pSec Typical, 700pSec Maximum
<b>Differential Output Error (V<sub>ODD</sub>)</b>	50mV Maximum	
<b>Duty Cycle</b>	at 50% of waveform or at the crossing point	
<b>Offset Error (V<sub>OS</sub>)</b>	150mV Maximum	
<b>Output Swing (V<sub>OPP</sub>)</b>	250mVdc Minimum	
<b>Load Drive Capability</b>	Between Output and Complementary Output	100 Ohms
<b>Logic Control / Additional Output</b>	Tri-State and Complementary Output	
<b>Tri-State Input Voltage</b>	V <sub>IH</sub> of 70% of V <sub>CC</sub> Minimum	Enables Outputs
	No Connection	Enables Outputs
	V <sub>IL</sub> of 30% of V <sub>CC</sub> Maximum	Disables Outputs: High Impedance
<b>Standby Current</b>	Without Load	30µA Maximum
<b>Start Up Time</b>	10 mSeconds Maximum	
<b>RMS Phase Jitter</b>	FJ = 12kHz to 20MHz	0.4pSec Typical, 1 pSec Maximum
<b>Typical Phase Noise</b>	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 EL15C7	PACKAGE CERAMIC	VOLTAGE 2.5V	CLASS 05SH	REV. DATE 01/10
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## PART NUMBERING GUIDE

**EL15C7 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 (\*)  
 F=±20ppm 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 (\*)

### AVAILABLE OPTIONS

Blank=Bulk  
 TR=Tape & Reel

### FREQUENCY

### LOGIC CONTROL/ADDITIONAL OUTPUT

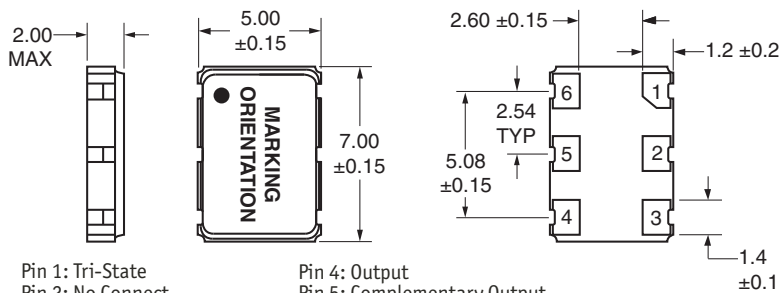
F=Tri-State and Complementary Output

### DUTY CYCLE

2=50 ±5(%)

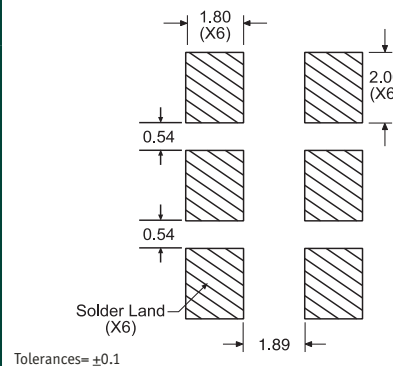
(\*) Not available over Nominal Frequency range of 212.500001MHz to 312.500MHz

### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



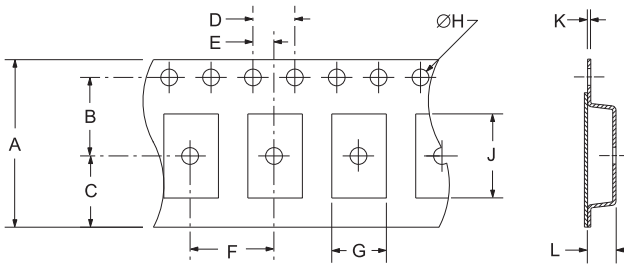
Pin 1: Tri-State  
 Pin 2: No Connect  
 Pin 3: Case Ground  
 Pin 4: Output  
 Pin 5: Complementary Output  
 Pin 6: Supply Voltage

### SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS

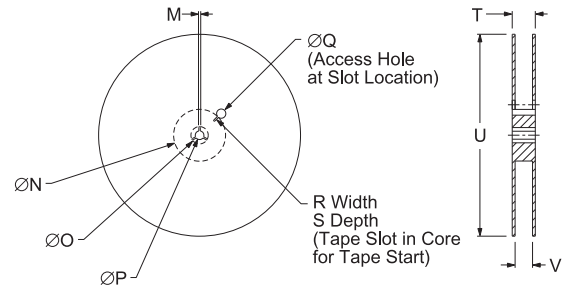


Tolerances=±0.1

### 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
ESD Susceptibility	MIL-STD-883, Method 3015, Class 1, HBM: 1500V
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Flammability	UL94-V0
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A

### 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	EL15C7	CERAMIC	3.3V	OS5H	01/10