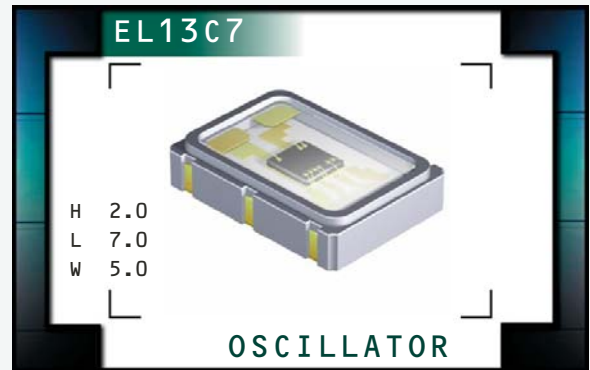


EL13C7 Series



ECLIPTEK[®]
CORPORATION

- Crystal Clock Oscillators
- LVDS Output
- +3.3V Supply Voltage
- Complementary Output
- Tri-State Output Function
- 6 Pad Ceramic SMD Package
- Low Stand-by Current
- RoHS Compliant (Pb-Free)



ELECTRICAL SPECIFICATIONS

Nominal Frequency (MHz)	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	
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 _{DC} ±5%	
Input Current	80MHz to 249.999999MHz 250MHz to 312.5MHz	50mA Maximum 65mA Maximum
Frequency Tolerance / Stability	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
Output Voltage Logic High (V _{OH})		1.43V _{DC} Typical, 1.6V _{DC} Maximum
Output Voltage Logic Low (V _{OL})		1.1V _{DC} Typical, 0.9V _{DC} Minimum
Differential Output Voltage (V _{OD})		247mV Minimum, 330mV Typical, 454mV Maximum
Offset Voltage (V _{OS})		1.125V Minimum, 1.250V Typical, 1.375V Maximum
Rise Time / Fall Time	20% to 80% of waveform	300pSec Typical, 700pSec Maximum
Differential Output Error (V _{OD})		50mV Maximum
Duty Cycle	at 50% of waveform or at the crossing point	50 ±5(%)
Offset Error (V _{OS})		150mV Maximum
Output Swing (V _{OPP})		350mVdc Minimum
Load Drive Capability	Between Output and Complementary Output	100 Ohms
Logic Control / Additional Output		Tri-State and Complementary Output
Tri-State Input Voltage	V _{IH} of 70% of V _{CC} Minimum No Connection V _{IL} of 30% of V _{CC} Maximum	Enables Outputs Enables Outputs Disables Outputs: High Impedance
Standby Current	Without Load	30µA 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
EL13C7

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS5G

REV. DATE
01/10

PART NUMBERING GUIDE

EL13C7 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

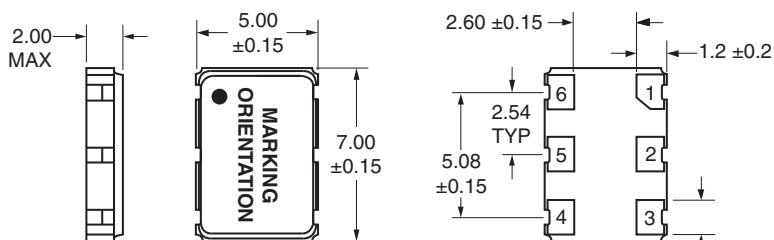
DUTY CYCLE

2=50 ±5(%)

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

MECHANICAL DIMENSIONS

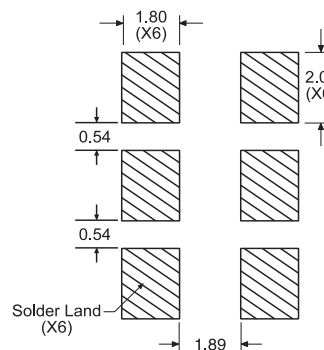
ALL DIMENSIONS IN MILLIMETERS



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

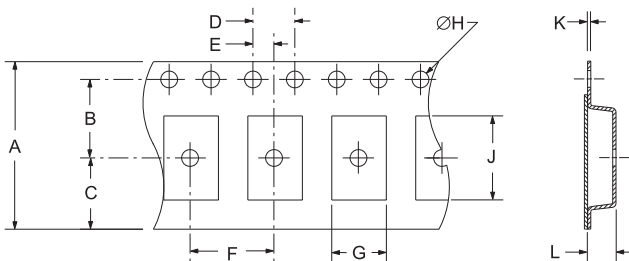
ALL DIMENSIONS IN MILLIMETERS



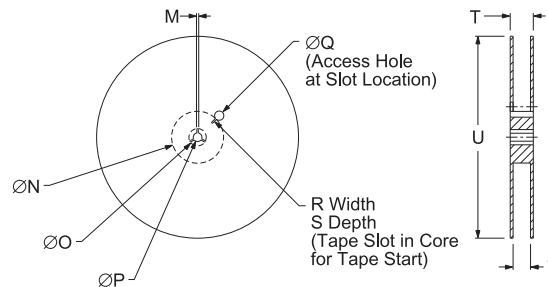
Tolerances=±0.1

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	EL13C7	CERAMIC	3.3V	OS5G	01/10