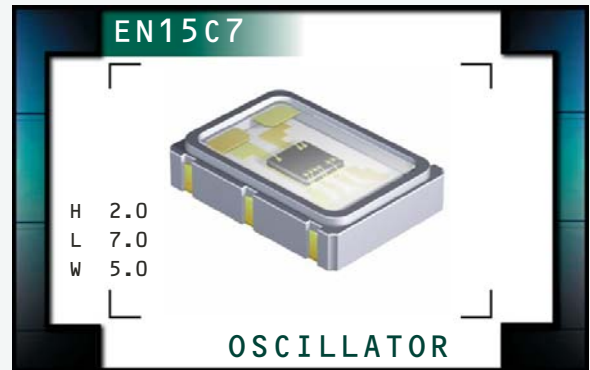


# EN15C7 Series



ECLIPTEK<sup>®</sup>  
CORPORATION

- Crystal Clock Oscillators
- HCSL 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>		100.000MHz, 125.000MHz
<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>	Without Load	35mA Typical, 60mA 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 Maximum ±50ppm Maximum ±25ppm Maximum ±20ppm Maximum
<b>Output Voltage Logic High (V<sub>OH</sub>)</b>		650mV <sub>DC</sub> Typical, 600mV <sub>DC</sub> Minimum
<b>Output Voltage Logic Low (V<sub>OL</sub>)</b>		20mV <sub>DC</sub> Typical, 50mV <sub>DC</sub> Maximum
<b>Rise Time / Fall Time</b>	at 0.175V <sub>DC</sub> to 0.525V <sub>DC</sub> of waveform	300pSec Typical, 700pSec Maximum
<b>Duty Cycle</b>	at the crossing point	50 ±5(%)
<b>Load Drive Capability</b>	Output and Complementary Output	50 Ohms to Ground
<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>DD</sub> Minimum No Connection V <sub>IL</sub> of 30% of V <sub>DD</sub> Maximum	Enables Output Enables Output Disables Output: High Impedance
<b>Standby Current</b>	Without Load	10µA Maximum
<b>Start Up Time</b>		5mSeconds Maximum
<b>RMS Phase Jitter</b>	at 100.000MHz (F <sub>j</sub> = 12kHz to 20MHz) at 125.000MHz (F <sub>j</sub> = 12kHz to 20MHz)	0.5pSec Typical, 0.6pSec Maximum 0.4pSec Typical, 0.5pSec Maximum
<b>Period Jitter</b>	Deterministic Random One Sigma Cycle to Cycle pk-pk	0.2pSec Typical 1.0pSec Typical 1.5pSec Typical 10pSec Typical 12pSec Typical
<b>Typical Phase Noise</b>	F <sub>o</sub> =100.000MHz	-78dBc/Hz at 10Hz Offset -113dBc/Hz at 100Hz Offset -126dBc/Hz at 1kHz Offset -134dBc/Hz at 10kHz Offset -140dBc/Hz at 100kHz Offset -146dBc/Hz at 1MHz Offset -148dBc/Hz at 10MHz Offset -152dBc/Hz at 20MHz Offset

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
EN15C7

PACKAGE  
CERAMIC

VOLTAGE  
2.5V

CLASS  
OS8A

REV. DATE  
11/10

## PART NUMBERING GUIDE

### EN15C7 C 2 F - 100.000M 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

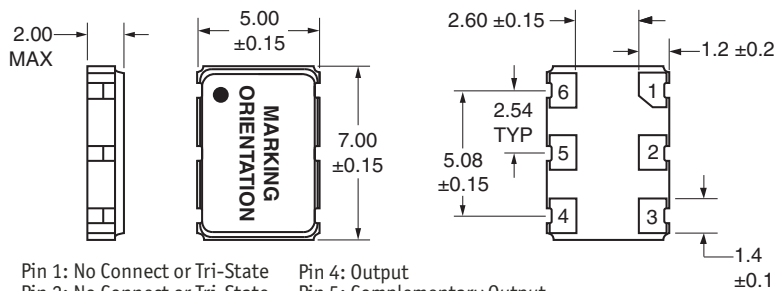
#### LOGIC CONTROL/ADDITIONAL OUTPUT

F = Tri-State (Pad 1) and Complementary Output  
 H = Tri-State (Pad 2) and Complementary Output

#### DUTY CYCLE

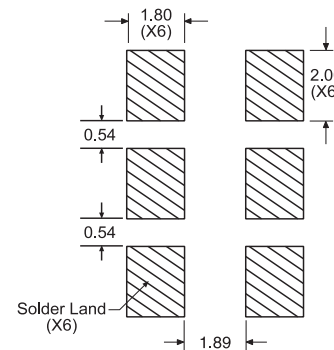
2 = 50 ± 5%

#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



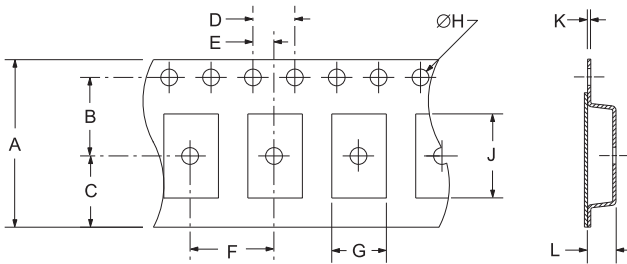
Pin 1: No Connect or Tri-State  
 Pin 2: No Connect or Tri-State  
 Pin 3: Case Ground  
 Pin 4: Output  
 Pin 5: Complementary Output  
 Pin 6: Supply Voltage

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

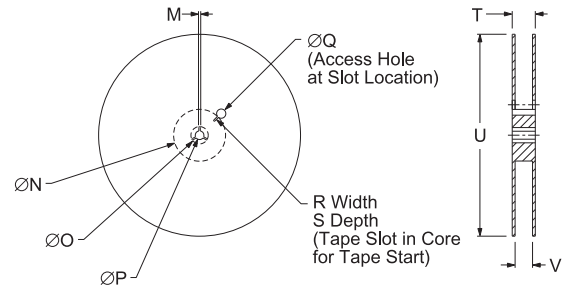


Tolerances = ±0.1

#### 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 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	EN15C7	CERAMIC	2.5V	OS8A	11/10