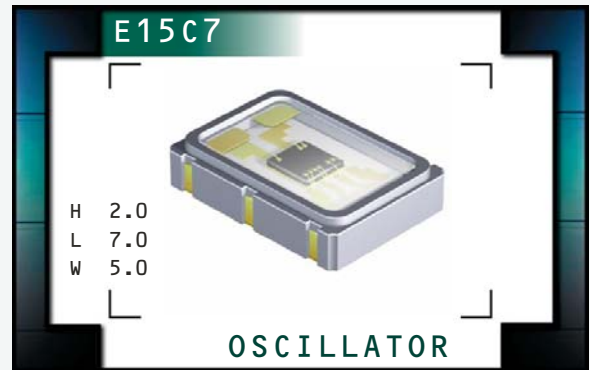


# E15C7 Series

- RoHS Compliant (Pb-Free)
- LVPECL output oscillators
- 2.5V supply voltage
- AT-Cut fundamental mode inverted mesa crystal
- Ceramic 6-pad SMD package
- Stability to 25ppm
- Tri-State output
- Complementary output
- Available on tape and reel
- Wide range of available frequencies



## ELECTRICAL SPECIFICATIONS

<b>Nominal Frequency</b>	38.880MHz to 77.760MHz, and 78.125MHz, 80 MHz, 80.157MHz, 85MHz, 87.125MHz, 90MHz, 100MHz, 106.25MHz, 110MHz, 119MHz, 120MHz, 122.888MHz, 124.4MHz, 125MHz, 127MHz, 128MHz, 133MHz, 133.333MHz, 137.472MHz, 150MHz, 155.52M, 156.25MHz	
<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>	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	±100ppm, ±50ppm, or ±25ppm Maximum
<b>Output Voltage Logic High (V<sub>OH</sub>)</b>	V <sub>CC</sub> -1.025V <sub>DC</sub> Minimum	
<b>Output Voltage Logic Low (V<sub>OL</sub>)</b>	V <sub>CC</sub> -1.620V <sub>DC</sub> Maximum	
<b>Rise Time / Fall Time</b>	20% to 80% of waveform	1 nSeconds Maximum
<b>Duty Cycle</b>	at 50% of waveform	50 ±10(%) 50 ±5(%)
<b>Load Drive Capability</b>	50 Ohms into V <sub>CC</sub> -2.0V <sub>DC</sub>	
<b>Logic Control / Additional Output</b>	Complementary Output and Tri-State	
<b>Tri-State Input Voltage</b>	V <sub>IH</sub> of 70% of V <sub>CC</sub> Minimum No Connection V <sub>IL</sub> of 30% of V <sub>CC</sub> Maximum	Enables Output Enables Output Disables Output: High Impedance
<b>Standby Current</b>	Without Load	10µA Maximum
<b>Start Up Time</b>	10 mSeconds Maximum	
<b>RMS Phase Jitter</b>	< 77.760MHz FJ = 12kHz to 20MHz ≥ 77.760MHz FJ = 12kHz to 20MHz	2 pSec Maximum 1 pSec Maximum
<b>RMS Period Jitter</b>	3 pSec Typical, 5 pSec Maximum	
<b>Typical Phase Noise</b>	Fo=155.520MHz	-60dBc/Hz at 10Hz Offset -95dBc/Hz at 100Hz Offset -124dBc/Hz at 1kHz Offset -143dBc/Hz at 10kHz Offset

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES E15C7	PACKAGE CERAMIC	VOLTAGE 2.5V	CLASS 0S1C	REV. DATE 10/04
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## PART NUMBERING GUIDE

### E15C7 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  
 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= Tubes  
 TR= Tape and Reel (Standard)

#### FREQUENCY

#### LOGIC CONTROL/ADDITIONAL OUTPUT

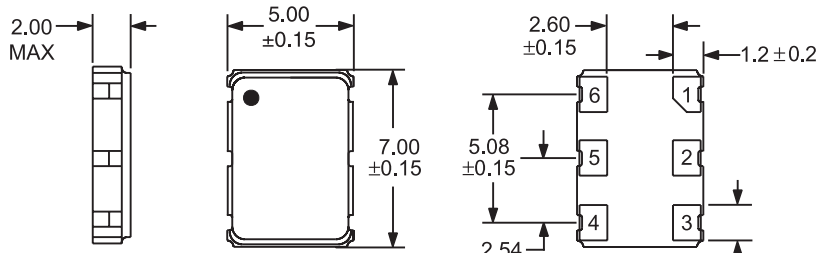
F= Complementary Output and Tri-State

#### DUTY CYCLE

1=50%±10%, 2=50%±5%

#### MECHANICAL DIMENSIONS

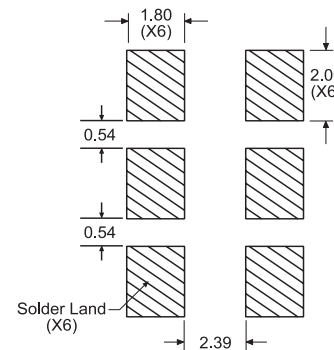
ALL DIMENSIONS IN MILLIMETERS



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

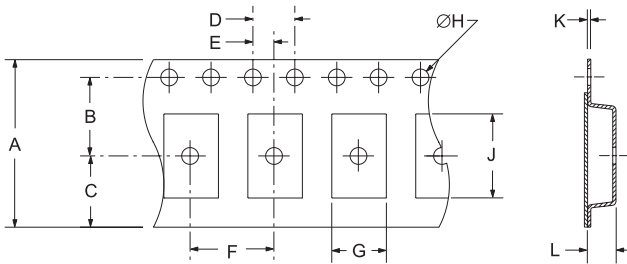
ALL DIMENSIONS IN MILLIMETERS



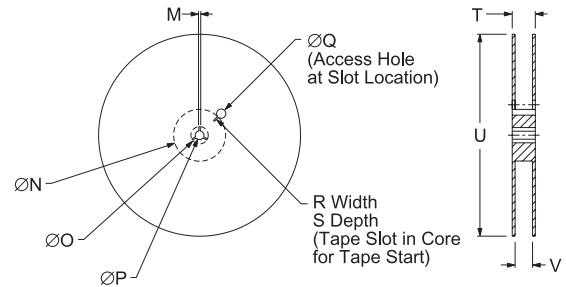
Tolerances=±0.1

#### 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
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, Ecliptek Manufacturing Identifier

#### PAD TERMINATION INFORMATION

Pad Material Description	Material	Thickness
Sub-Metal	NiCo	
Sub-Metal Plating	Ni	1.27 - 8.89µm
Outer-Metal Plating	Au	0.30 - 1.00µm

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	E15C7	CERAMIC	2.5V	OS1C	10/04