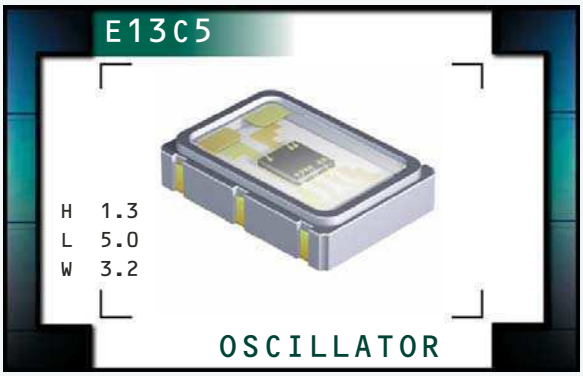
E13C5 Series

- RoHS Compliant (Pb-Free)
- LVPECL Output Oscillators
- 3.3V Supply Voltage
- Ceramic 6-pad SMD Package
- Stability to ±20ppm
- Tri-State Output
- Complementary Output
- Available on Tape and Reel
- Wide Range of Available Frequencies



ELECTRICAL SPECIFICATIONS

Nominal Frequency (MHz)	77.76MHz, 78.125MHz, 80MHz, 80.157MHz, 85MHz, 87.125MHz, 90MHz, 100MHz, 106.25MHz, 110MHz, 119MHz, 120MHz, 122.888MHz, 124.4MHz, 125MHz, 127MHz, 128MHz, 131.072MHz, 133MHz, 133.33MHz, 133.333MHz, 135MHz, 137.472MHz, 150MHz, 155.52MHz, 156.25MHz, 159.375MHz, or 161.1328MHz	
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		75mA 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})	0°C to 85°C -40°C to 0°C	V_{CC}-1.025V_{DC} Minimum V_{CC}-1.085V_{DC} Minimum
Output Voltage Logic Low (V_{OL})	0°C to 85°C -40°C to 0°C	V_{CC}-1.620V_{DC} Maximum V_{CC}-1.555V_{DC} Maximum
Rise Time / Fall Time	20% to 80% of waveform	300pSec Typical, 700pSec Maximum
Duty Cycle	at 50% of waveform	50 ±5(%)
Load Drive Capability		50 Ohms into V_{CC}-2.0V_{DC}
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 Output Enables Output Disables Output: 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	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	E13C5	CERAMIC	3.3V	OS6V	02/09

PART NUMBERING GUIDE

E13C5 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

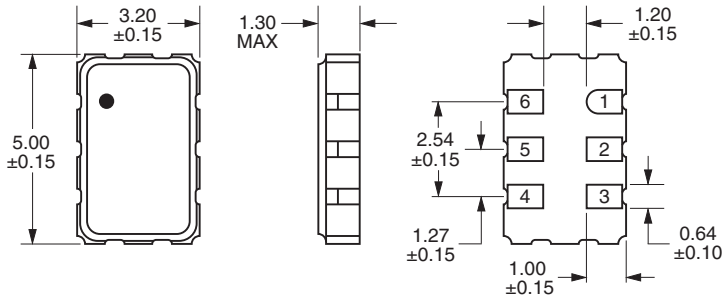
AVAILABLE OPTIONS
Blank=Tubes
TR=Tape and Reel (Standard)

FREQUENCY

LOGIC CONTROL/ADDITIONAL OUTPUT
F=Tri-State and Complementary Output

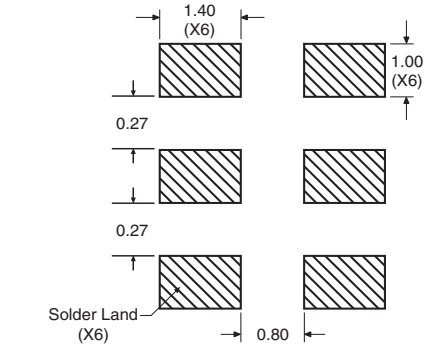
DUTY CYCLE
2=50 ±5(%)

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



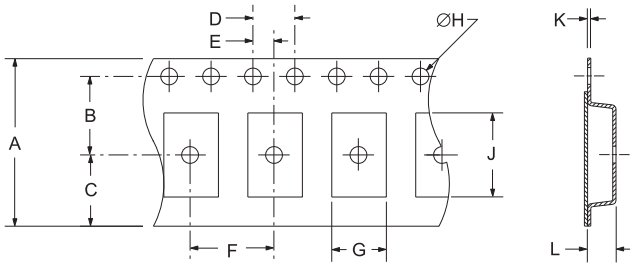
Pin 1: Tri-State
Pin 2: No Connect
Pin 3: Case Ground
Pin 4: Output
Pin 5: Complementary Output
Pin 6: Supply Voltage

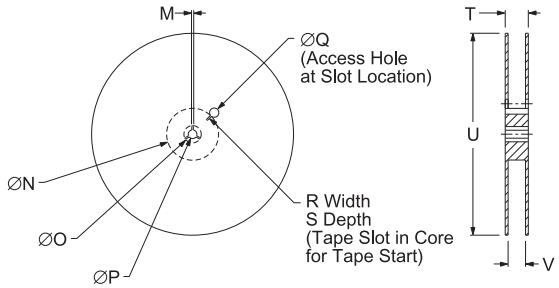
SUGGESTED SOLDER PAD LAYOUT
ALL DIMENSIONS IN MILLIMETERS



Tolerances= ±0.1

TAPE AND REEL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS





TAPE	A	B	C	D	E
	16±0.3	7.5±0.1	6.75±0.1	4 ±0.1	2.0±.01
F	G	H	J	K	L
8.0±0.1	B0*	1.5 +0.1-0.0	A0*	0.3 ±0.1	K0*

REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	18.4 MAX	180 MAX	12.4+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: EXX.XXX
Frequency in MHz (5 Digits Maximum + Decimal)

Line 2: XX Y ZZ
Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	E13C5	CERAMIC	3.3V	OS6V	02/09