

EB13C5 Series

- RoHS Compliant (Pb-Free)
- Ceramic SMD package
- 3.3V supply voltage
- Low input current
- LVHCMOS output
- Stability to $\pm 20\text{ppm}$
- Standby Function
- Available in tube or tape and reel



ECLIPTEK
CORPORATION



ELECTRICAL SPECIFICATIONS

Frequency Range		6.144MHz to 44.736MHz	
Operating Temperature Range		0°C to 70°C -40°C to 85°C	
Storage Temperature Range		-55°C to 125°C	
Supply Voltage (V_{DD})		3.3V _{DC} $\pm 10\%$	
Input Current	6.144MHz to 10.000MHz	2mA Maximum	
	10.001MHz to 25.000MHz	3mA Maximum	
	25.001MHz to 40.000MHz	5mA Maximum	
	40.001MHz to 44.736MHz	12mA 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, First Year Aging at 25°C, Shock, and Vibration	
		$\pm 100\text{ppm}$, $\pm 50\text{ppm}$, $\pm 25\text{ppm}$ or $\pm 20\text{ppm}$ Max.	
Output Voltage Logic High (V_{OH})	$\leq 40.000\text{MHz}$	90% of V_{DD} Min.	(-1.6mA)
	$> 40.000\text{MHz}$		(-8mA)
Output Voltage Logic Low (V_{OL})	$\leq 40.000\text{MHz}$	10% of V_{DD} Max.	(+1.6mA)
	$> 40.000\text{MHz}$		(+8mA)
Rise / Fall Time	$\leq 25.000\text{MHz}$ 20% to 80% of Waveform	6 nSeconds Maximum	
	$> 25.000\text{MHz}$ 20% to 80% of Waveform	4 nSeconds Maximum	
Duty Cycle	at 50% of Waveform	50 $\pm 10\%$ (Standard)	
	at 50% of Waveform	50 $\pm 5\%$ (Optional)	
Load Drive Capability		15pF HCMOS Load Maximum	
Tri-State Input Voltage	No Connection	Enables Output	
	$V_{IH} \geq 90\%$ of V_{DD}	Enables Output	
	$V_{IL} \leq 10\%$ of V_{DD}	Disables Output: High Impedance	
Standby Current	Disabled Output: High Impedance	10 μ A Maximum	
Start Up Time		10 mSeconds Maximum	
Period Jitter: One Sigma		25pSeconds Maximum	

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EB13C5

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS1K

REV. DATE
03/03

PART NUMBERING GUIDE

EB13C5 F 2 H - 40.000M TR

FREQUENCY TOLERANCE / STABILITY

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
 K=±20ppm Maximum over -40°C to +85°C

PACKAGING OPTIONS

Blank=Bulk, TR=Tape and Reel (Standard)

FREQUENCY

OUTPUT CONTROL FUNCTION

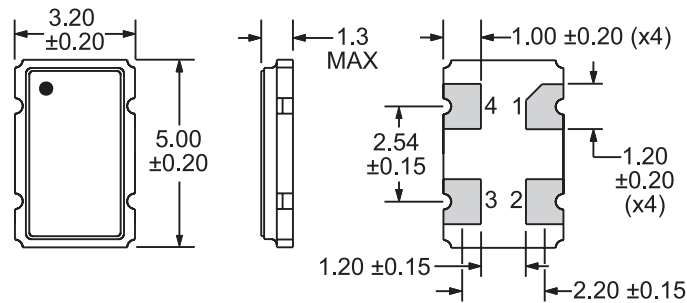
H=Tri-State

DUTY CYCLE

1=50 ±10(%)
 2=50 ±5(%)

MECHANICAL DIMENSIONS

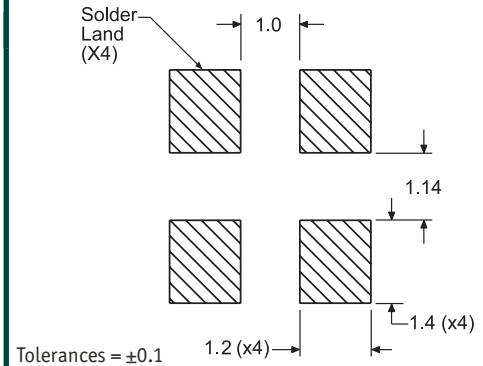
ALL DIMENSIONS IN MILLIMETERS



Pin 1: Tri-State
 Pin 2: Case Ground
 Pin 3: Output
 Pin 4: Supply Voltage

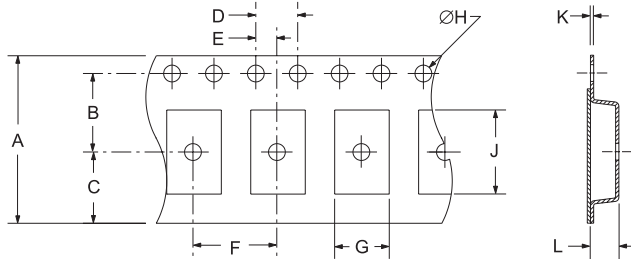
SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS

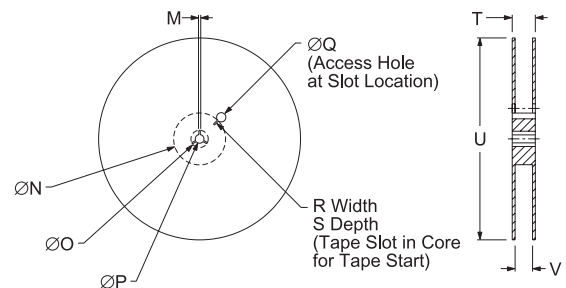


TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	12.0±0.2	5.5±0.1	6.5±0.1	4.0±0.1	2.0±0.1
F	G	H	I	J	K
8.0±0.1	B0*	1.5±0.1-0.0	A0*	0.30±0.05	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	W
2.5 MIN	10 MIN	18.4 MAX	180 MAX	12.4±2-0	1,000

*Compliant to EIA 481A

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic

Fine Leak Test
 Gross Leak Test
 Mechanical Shock
 Vibration
 Solderability
 Temperature Cycling
 Resistance to Soldering Heat
 Resistance to Solvents

Specification

MIL-STD-883, Method 1014, Condition A
 MIL-STD-883, Method 1014, Condition C
 MIL-STD-202, Method 213, Condition C
 MIL-STD-883, Method 2007, Condition A
 MIL-STD-883, Method 2002
 MIL-STD-883, Method 1010
 MIL-STD-202, Method 210
 MIL-STD-202, Method 215

MARKING SPECIFICATIONS

Line 1: E XX.XXX

Frequency in MHz (5 Digits Maximum + Decimal)

Line 2: XX YY ZZ

Week of Year
 Last Digit of Year
 Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB13C5	CERAMIC	3.3V	OS1K	03/03