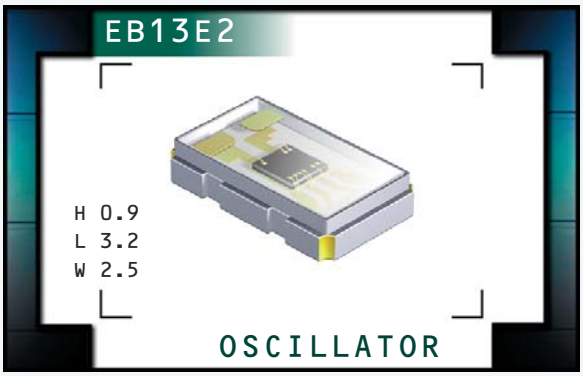
EB13E2 Series

- RoHS Compliant (Pb-Free)
- Ceramic SMD package
- 3.3V supply voltage
- LVHCMOS
- Stability to 25ppm
- Standby Function
- Available in tape and reel



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range	16.000MHz, 20.000MHz, 24.000MHz, 24.576MHz, 25.000MHz, 27.000MHz, 30.000MHz, 32.000MHz, 40.000MHz, 48.000MHz, 54.000MHz	
Operating Temperature Range		-20°C to 70°C -40°C to 85°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		3.3V_{DC} ±5%
Input Current	16.000MHz to 20.000MHz 20.001MHz to 40.000MHz 40.001MHz to 54.000MHz	7mA Maximum 13mA Maximum 19mA 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	±100ppm, ±50ppm, or ±25ppm Maximum
Output Voltage Logic High (V_{OH})		90% of V_{DD} Min. I_{OH}= -5mA
Output Voltage Logic Low (V_{OL})		10% of V_{DD} Max. I_{OL}= +5mA
Rise / Fall Time	20% to 80% of Waveform	10 nSec Maximum
Duty Cycle	at 50% of Waveform	50 ±10(%) 50 ±5(%)
Load Drive Capability		15pF HCMOS Load Maximum
Tri-State Input Voltage	No Connection V_{IH} :≥80% of V_{DD} V_{IL} :≤20% of V_{DD}	Enables Output Enables Output Disables Output: High Impedance
Standby Current	Disabled Output: High Impedance	10µA Maximum
Start Up Time		10 mSec Maximum
RMS Phase Jitter	F_J = 12kHz to 20MHz	1 pSec Maximum

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB13E2	CERAMIC	3.3V	OS5A	05/05

PART NUMBERING GUIDE

EB13E2 E 2 H - 40.000M TR

FREQUENCY TOLERANCE / STABILITY
C=±100ppm Maximum over -20°C to +70°C
D=±50ppm Maximum over -20°C to +70°C
E=±25ppm Maximum over -20°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

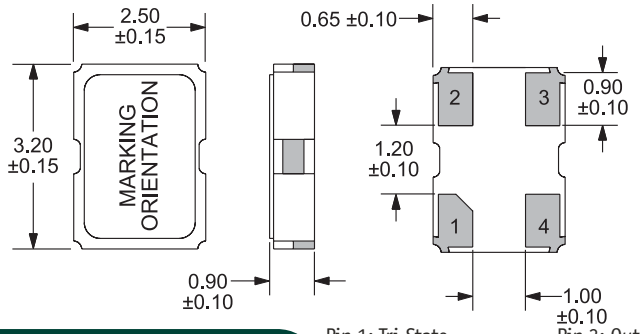
DUTY CYCLE
1=50 ±10(%)
2=50 ±5(%)

OUTPUT CONTROL FUNCTION
H=Tri-State

FREQUENCY

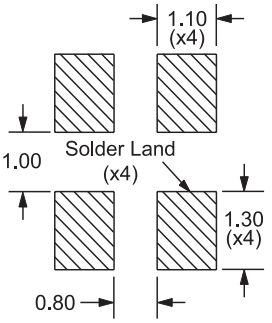
PACKAGING OPTIONS
Blank=Bulk, TR=Tape and Reel (Standard)

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



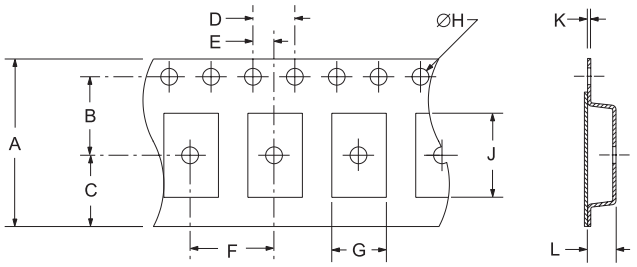
Pin 1: Tri-State
Pin 2: Case Ground
Pin 3: Output
Pin 4: Supply Voltage

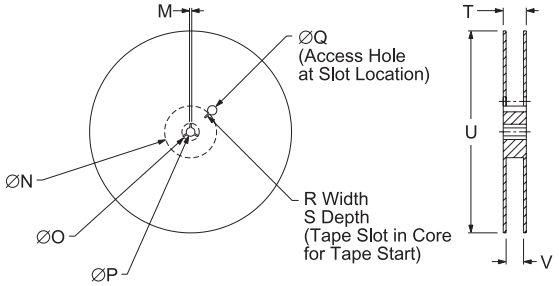
SUGGESTED SOLDER PAD LAYOUT
ALL DIMENSIONS IN MILLIMETERS



Tolerances = ±0.1

TAPE AND REEL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS





TAPE	A	B	C	D	E
	8±.2	3.5±.1	2.75±.1	4±.1	2±.1
F	G	H	J	K	L
4±.1	2.7±.1	1.55 ±.05	3.4±.1	.25 ±.05	1.4±.1

REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13±.5	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	14.4 MAX	180 MAX	8.4+1.5-0	1,000

*Compliant to EIA 481A

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATION
Fine Leak Test	JIS C 6701 10.6 Leak Rate: 2.1x 10^{-9} Pa-m^3/6 Maximum.
Gross Leak Test	JIS C 6701 10.6 Leak Rate: 1.27 x 10^{-5} Pa-m^3/8 Maximum.
Mechanical Shock	Random drop on rigid hard wood surface 3 times at height of 75cm.
High Temperature Storage	JIS C 7021 B-10: at 85°C for 1000 hours.
Low Temperature Storage	JIS C 7021 B-12: at -40°C for 1000 hours.
Moisture Resistance	JIS C 7021 B-11: at 85°C and 90% humidity for 1000 hours.
Solder Thermal Stability	Recommended Solder Reflow profile 1 time.
Thermal Shock	100 cycles over -40°C to +85°C for 30 minutes.
Vibration	JIS C 6701 10.26: at 10Hz to 55Hz, 1.5mm amplitude for 1 minute. Test Time: X, Y, Z each direction for 2 hours.

MARKING SPECIFICATIONS

Line 1: E XX.X
- Frequency in MHz (3 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	EB13E2	CERAMIC	3.3V	OS5A	05/05