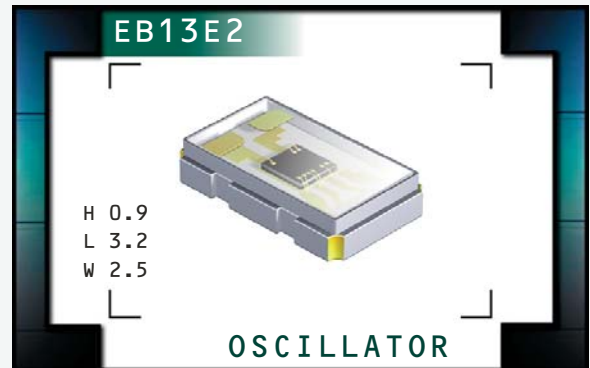


EB13E2 Series



- 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 7mA Maximum
20.001MHz to 40.000MHz 13mA Maximum
40.001MHz to 54.000MHz 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 Enables Output
V_{IH} : ≥80% of V_{DD} Enables Output
V_{IL} : ≤20% of V_{DD} 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
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EB13E2

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS5A

REV. DATE
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

PACKAGING OPTIONS

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

FREQUENCY

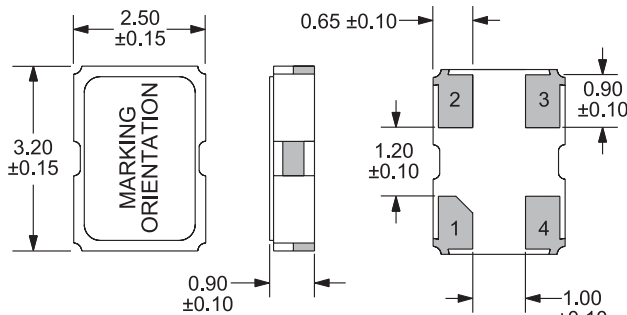
OUTPUT CONTROL FUNCTION

H=Tri-State

DUTY CYCLE

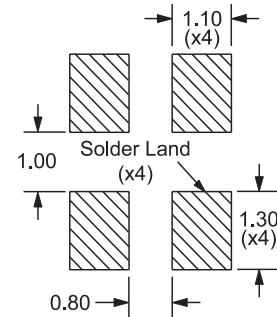
1=50 ±10(%)
 2=50 ±5(%)

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



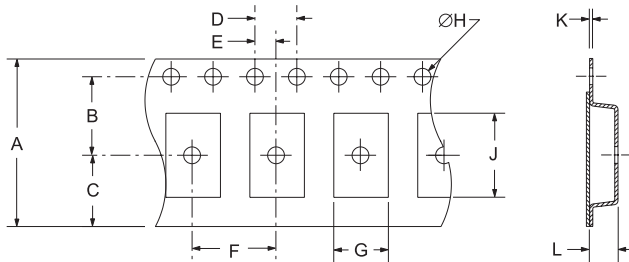
Pin 1: Tri-State
 Pin 2: Case Ground
 Pin 3: Output
 Pin 4: Supply Voltage

SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS

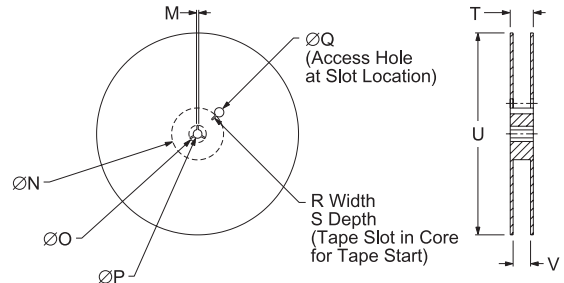


Tolerances = ±0.1

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: 2.1×10^{-9} Pa-m ³ /6 Maximum.
Gross Leak Test	JIS C 6701 10.6 Leak Rate: 1.27×10^{-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