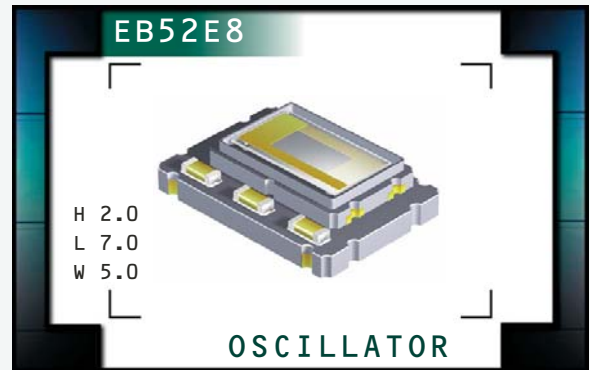


EB52E8 Series



ECLIPTEK[®]
CORPORATION

- RoHS Compliant (Pb-free)
- Temperature Compensated Crystal Oscillator (TCXO)
- HCMOS Output
- 3.3V Supply Voltage
- Ceramic 10-Pad SMD Package
- Stability to 0.5ppm
- External Voltage Control Option Available



ELECTRICAL SPECIFICATIONS

Nominal Frequency (MHz)	6.000, 6.144, 6.400, 6.500, 8.000, 8.192, 9.216, 9.600, 9.720, 10.000, 12.000, 12.288, 12.800, 13.000, 14.400	
Frequency Stability	vs. Operating Temperature Range ($V_{DD} = 3.3V_{DC}$, $V_C = 1.65V_{DC}$) vs. Frequency Tolerance ($25^{\circ}C \pm 2^{\circ}C$, $V_{DD} = 3.3V_{DC}$, $V_C = 1.65V_{DC}$) vs. Input Voltage ($\pm 5\%$) vs. Load ($\pm 10\%$) vs. Aging (at $25^{\circ}C$)	See Part Numbering Guide ± 1.0 ppm Maximum ± 0.3 ppm Maximum ± 0.3 ppm Maximum ± 1 ppm / Year Maximum
Operating Temperature Range	See Part Numbering Guide	
Supply Voltage (V_{DD})	$3.3V_{DC} \pm 5\%$	
Input Current	10mA Maximum	
Output Voltage Logic High (V_{OH})	$I_{OH} = -4mA$	90% of V_{DD} Minimum
Output Voltage Logic Low (V_{OL})	$I_{OL} = +4mA$	10% of V_{DD} Maximum
Rise/Fall Time	Measured at 20% to 80% of Waveform	5nSec Maximum
Duty Cycle	Measured at 50% of Waveform	$50 \pm 5(\%)$ Maximum
Load Drive Capability	15pF HCMOS Load	
External Trim (Control Voltage Option)	$1.65V_{DC} \pm 1.65V_{DC}$; Positive Transfer Characteristic	± 5 ppm Minimum
Control Voltage Range	$0.0V_{DC}$ to V_{DD}	
Linearity	5% Maximum	
Input Impedance	100kOhms Minimum	
Typical Phase Noise (at 12.800MHz)	At offset of 10Hz At offset of 100Hz At offset of 1kHz At offset of $\geq 10kHz$	-80dBc/Hz -115dBc/Hz -135dBc/Hz -145dBc/Hz
Tri-State Input Voltage (V_{IH} and V_{IL})	No Connect $+0.9V_{DD}$ Minimum $+0.1V_{DD}$ Maximum	Enables Output Enables Output Disables Output: High Impedance
RMS Phase Jitter	$F_J = 12kHz$ to 20MHz	1pSec Maximum
Start Up Time	5mSec Maximum	
Storage Temperature Range	$-40^{\circ}C$ to $125^{\circ}C$	

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EB52E8

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS5P

REV. DATE
09/07

PART NUMBERING GUIDE

EB52E8 C 2 V - 13.000M TR

OPERATING TEMPERATURE RANGE

C=-20°C to 70°C
E=-40°C to 85°C

PACKAGING OPTIONS

Blank=Bulk
TR=Tape and Reel

FREQUENCY STABILITY

2 = ±0.5ppm Maximum
3 = ±1.0ppm Maximum
4 = ±1.5ppm Maximum
5 = ±2.0ppm Maximum
6 = ±2.5ppm Maximum

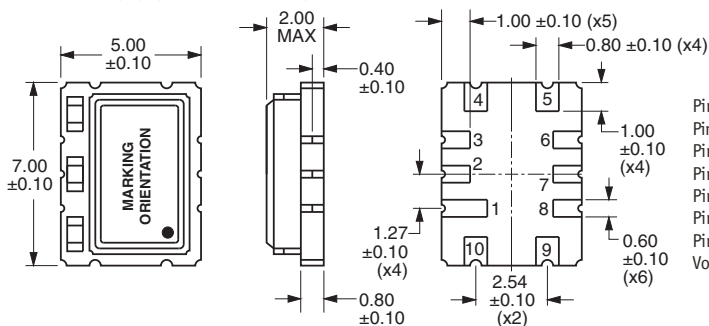
FREQUENCY

EXTERNAL TRIM

N=None (No Connection on Pad 10)
V=Voltage Control

MECHANICAL DIMENSIONS

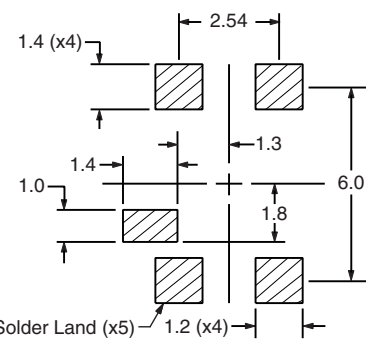
ALL DIMENSIONS IN MILLIMETERS



Pin 1-3: Do Not Connect
Pin 4: Ground
Pin 5: Output
Pin 6-7: Do Not Connect
Pin 8: Tri-State
Pin 9: Supply Voltage
Pin 10: No Connect or Voltage Control

SUGGESTED SOLDER PAD LAYOUT

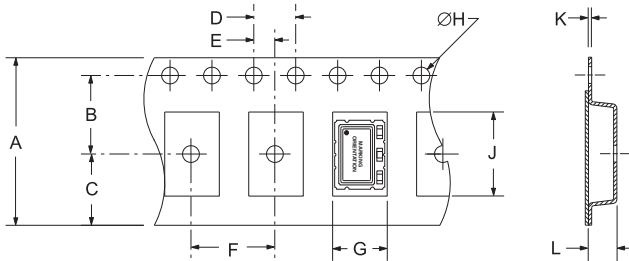
ALL DIMENSIONS IN MILLIMETERS



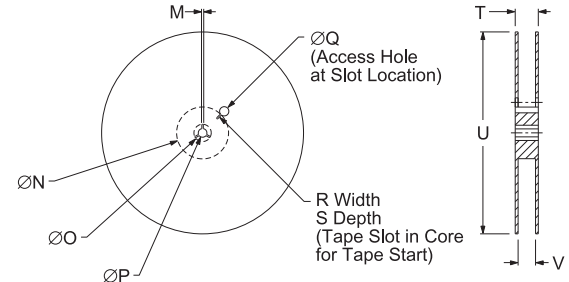
Tolerances = ±0.1

TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	16.0±0.2	7.5±0.1	6.75±0.1	4.0±0.1	2.0±0.1
F	G	H	J	K	L
8.0±0.1	B0*	1.5+0.1-0.0	A0*	0.32 ±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	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

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 2003
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 Y ZZ
Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB52E8	CERAMIC	3.3V	OS5P	09/07