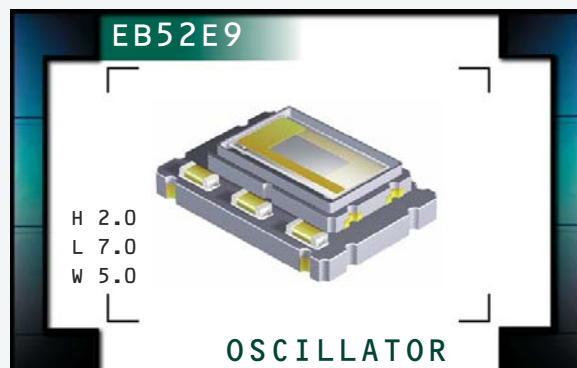


EB52E9 Series

- RoHS Compliant (Pb-free)
- Temperature Compensated Crystal Oscillator (TCXO)
- Stratum 3
- HCMOS Output
- 3.3V Supply Voltage
- Ceramic 10-Pad SMD Package
- External Voltage Control Option Available



ECLIPTEK®
CORPORATION



ELECTRICAL SPECIFICATIONS

Nominal Frequency (MHz)	6.400, 6.500, 9.720, 10.000, 12.800, 13.000	
Frequency Stability	vs. Operating Temperature Range ($V_{DD} = 3.3V_{DC}$, $V_C = 1.65V_{DC}$)	±0.28ppm Maximum
Total Holdover Stability	Inclusive of Frequency Stability and 24 Hours Aging	±0.37ppm Maximum
Total Frequency Tolerance	Inclusive of Frequency Tolerance, Frequency Stability, V_{DD} (±1%), Load (±5%), Solder Reflow, and 20 Years Aging	±4.6ppm Maximum
Operating Temperature Range	See Part Numbering Guide	
Supply Voltage (V_{DD})	3.3V _{DC} ±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 ±5(%) Maximum
Load Drive Capability	15pF HCMOS Load	
External Trim (Control Voltage Option)	1.65V _{DC} ±1.65V _{DC} ; Positive Transfer Characteristic	±5ppm 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	-80dBc/Hz
	At offset of 100Hz	-115dBc/Hz
	At offset of 1kHz	-135dBc/Hz
	At offset of ≥10kHz	-145dBc/Hz
Tri-State Input Voltage (V_{IH} and V_{IL})	No Connect	Enables Output
	+0.9V _{DD} Minimum	Enables Output
	+0.1V _{DD} Maximum	Disables Output: High Impedance
RMS Phase Jitter	$F_j = 12kHz$ to 20MHz	1pSec Maximum
Start Up Time	5mSec Maximum	
Storage Temperature Range	-40°C to 125°C	

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EB52E9

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS5Q

REV. DATE
07/07

PART NUMBERING GUIDE

EB52E9 C 1 V - 13.000M TR

OPERATING TEMPERATURE RANGE

B=-10°C to 60°C
C=-20°C to 70°C

FREQUENCY STABILITY

1 = ±0.28ppm Maximum

PACKAGING OPTIONS

Blank=Bulk
TR=Tape and Reel

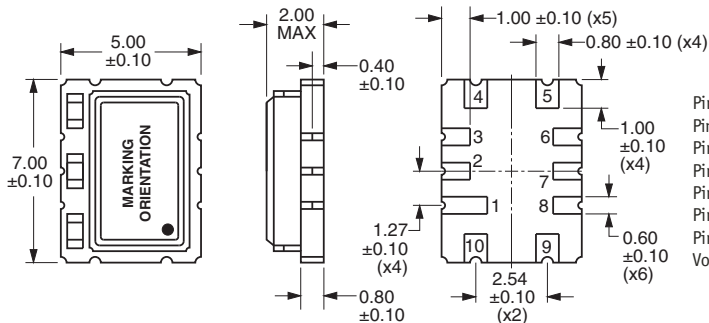
FREQUENCY

EXTERNAL TRIM

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

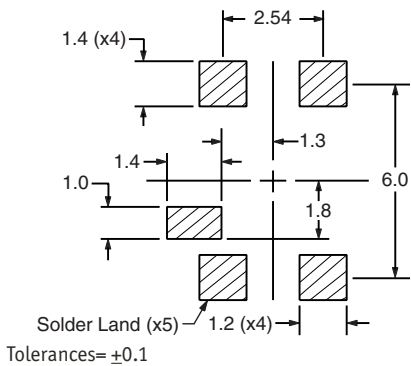
MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



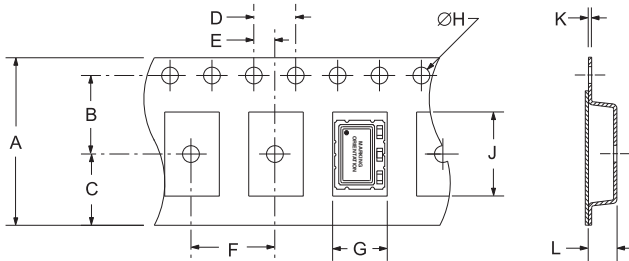
SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS

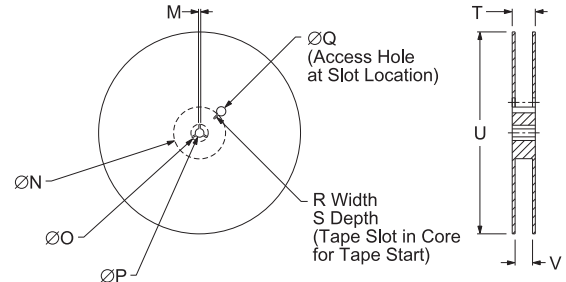


TAPE AND REEL DIMENSIONS

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



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

*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
Eclipse Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB52E9	CERAMIC	3.3V	OS5Q	07/07