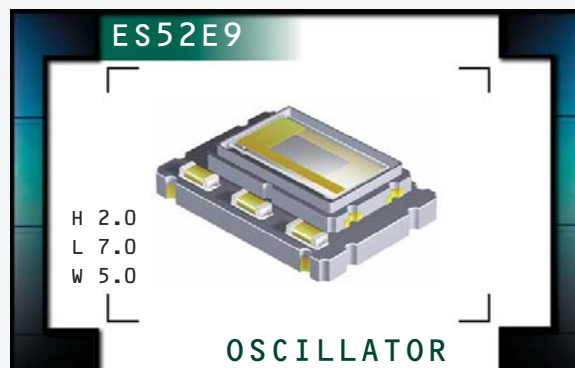


ES52E9 Series

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



ECLIPTEK[®]
CORPORATION



NOTES

ELECTRICAL SPECIFICATIONS

Nominal Frequency (MHz)	10.000, 12.288, 12.800, 13.000, 16.000, 19.440	
Frequency Stability	vs. Operating Temperature Range ($V_{DD} = 3.3V_{DC}$, $V_C = 1.5V_{DC}$)	$\pm 0.28\text{ppm}$ Maximum
Total Holdover Stability	Inclusive of Frequency Stability and 24 Hours Aging	$\pm 0.37\text{ppm}$ Maximum
Total Frequency Tolerance	Inclusive of Frequency Tolerance, Frequency Stability, V_{DD} ($\pm 1\%$), Load ($\pm 5\%$), Solder Reflow, and 20 Years Aging	$\pm 4.6\text{ppm}$ Maximum
Operating Temperature Range	See Part Numbering Guide	
Supply Voltage (V_{DD})	$3.3V_{DC} \pm 5\%$	
Input Current	10.000MHz to 14.999MHz	1.5mA Maximum
	15.000MHz to 19.440MHz	2.0mA Maximum
Output Voltage	External DC-Cut Capacitor Required, 150pF Recommended	$0.8V_{P-P}$ Clipped Sinewave Minimum
Load Drive Capability	10kOhms // 10pF	
External Trim (Control Voltage Option)	$1.5V_{DC} \pm 1.0V_{DC}$; Positive Transfer Characteristic	$\pm 5\text{ppm}$ 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	-80dBc/Hz
	At offset of 100Hz	-115dBc/Hz
	At offset of 1kHz	-135dBc/Hz
	At offset of $\geq 10\text{kHz}$	-145dBc/Hz
RMS Phase Jitter	$F_J = 12\text{kHz}$ to 20MHz	1pSec Maximum
Start Up Time	5mSec Maximum	
Storage Temperature Range	-40°C to 125°C	

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
ES52E9

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS5R

REV. DATE
09/07

PART NUMBERING GUIDE

www.DataSheet4U.com

ES52E9 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

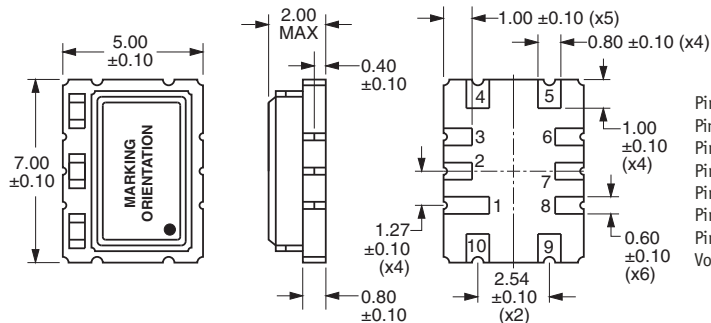
FREQUENCY

EXTERNAL TRIM

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

MECHANICAL DIMENSIONS

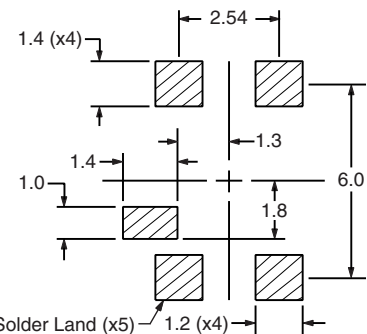
ALL DIMENSIONS IN MILLIMETERS



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

SUGGESTED SOLDER PAD LAYOUT

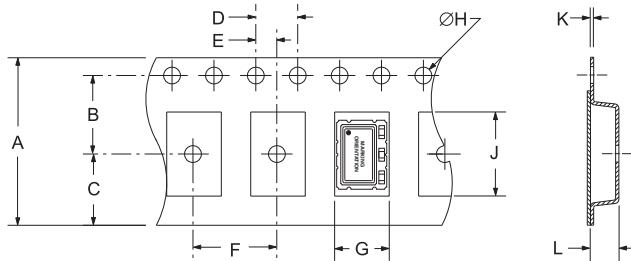
ALL DIMENSIONS IN MILLIMETERS



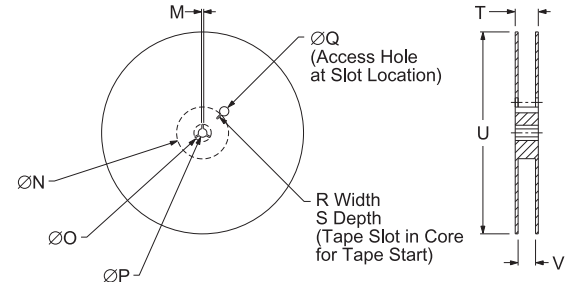
Tolerances= ±0.1

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



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
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	ES52E9	CERAMIC	3.3V	OS5R	09/07