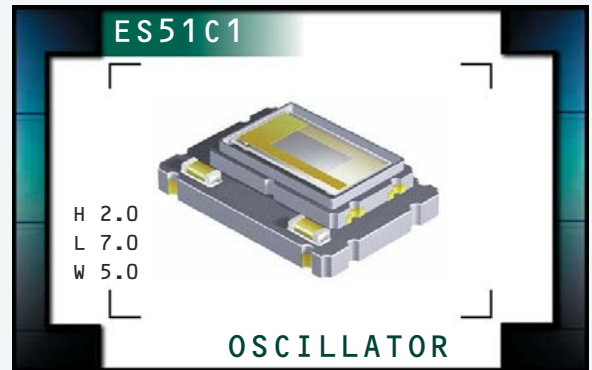


ES51C1 Series



ECLIPTEK[®]
CORPORATION

- RoHS Compliant (Pb-free)
- Temperature Compensated Crystal Oscillator (TCXO)
- Clipped Sinewave Output
- 5.0V Supply Voltage
- Ceramic 10-pad SMD package
- Stability to 1.0ppm
- External voltage control option available



ELECTRICAL SPECIFICATIONS

Nominal Frequency (MHz)	10.000, 10.240, 10.245, 11.0592, 12.000, 12.288, 12.800, 13.000, 13.560, 14.000, 14.400, 14.7456, 15.360, 16.000, 16.03495, 16.3676, 16.367667, 16.3677, 16.368, 16.384, 16.800, 17.500, 18.432, 19.200, 19.440, 19.680, 19.800, 20.000, 20.480, 24.000, 24.5535, 25.000, and 26.000MHz	
Frequency Stability	vs. Operating Temperature Range	See Part Numbering Guide
	vs. Frequency Tolerance (25°C ±2°C, V _{DD} = 5.0V _{DC} , V _C = 1.5V _{DC})	±1.0ppm Maximum
	vs. Input Voltage (±5%)	±0.2ppm Maximum
	vs. Load (±1kΩ//±1pF)	±0.2ppm Maximum
Aging (at 25°C)		±1ppm / Year Maximum
Operating Temperature Range		See Part Numbering Guide
Supply Voltage (V_{DD})		5.0V _{DC} ±5%
Input Current	10.000MHz to 14.999999MHz	1.5mA Maximum
	15.000MHz to 25.999999MHz	2.0mA Maximum
	26.000MHz to 26.000MHz	2.5mA Maximum
Output Voltage		0.8Vp-p Clipped Sinewave Minimum
Load Drive Capability		10kOhms // 10pF
External Trim (Voltage Control Option)	1.5V _{DC} ±1.0V _{DC} ; Positive Transfer Characteristic	±8ppm Minimum
Linearity		10% Maximum
Modulation Bandwidth	Measured at -3dB, V _C = 1.5V _{DC}	3kHz Minimum
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
	At offset of 100kHz	-145dBc/Hz
Start Up Time		5mSec Maximum
Storage Temperature Range		-55°C to 125°C

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
ES51C1

PACKAGE
CERAMIC

VOLTAGE
5.0V

CLASS
OS4J

REV. DATE
09/07

PART NUMBERING GUIDE

ES51C1 C 25 V - 13.000M TR

OPERATING TEMPERATURE RANGE

A=0°C to 50°C
 B=0°C to 70°C
 C=-20°C to 70°C
 D=-30°C to 85°C
 E=-40°C to 85°C

FREQUENCY STABILITY

10 = ±1.0ppm Maximum
 15 = ±1.5ppm Maximum
 20 = ±2.0ppm Maximum
 25 = ±2.5ppm Maximum

PACKAGING OPTIONS

Blank=Bulk
 TR=Tape and Reel

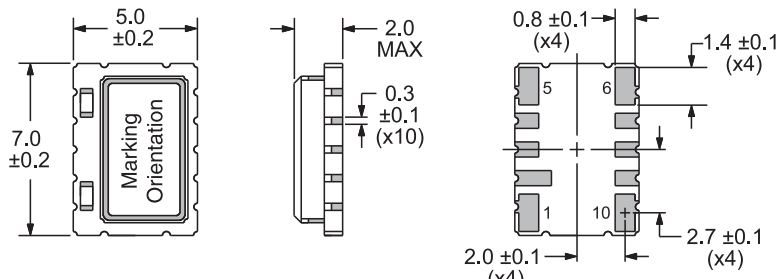
FREQUENCY

EXTERNAL TRIM

N=None (No Connection on Pin 1)
 V=Voltage Control

MECHANICAL DIMENSIONS

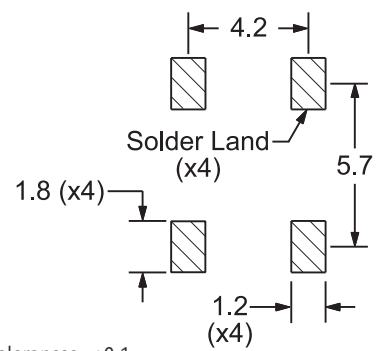
ALL DIMENSIONS IN MILLIMETERS



Pin 1: Control Voltage or No Connect
 Pin 5: Case Ground
 Pin 6: Output
 Pin 10: Supply Voltage
 Pin 2-4, 7-9: Do Not Connect

SUGGESTED SOLDER PAD LAYOUT

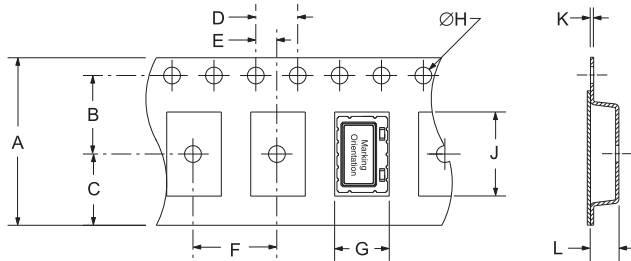
ALL DIMENSIONS IN MILLIMETERS



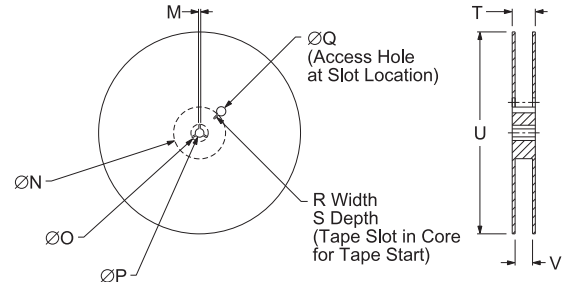
Tolerances = ±0.1

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*	0.30±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	Specification
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Vibration	MIL-STD-883, Method 2007, Condition A
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-202, Method 210
Resistance to Solvents	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	ES51C1	CERAMIC	5.0V	OS4J	09/07