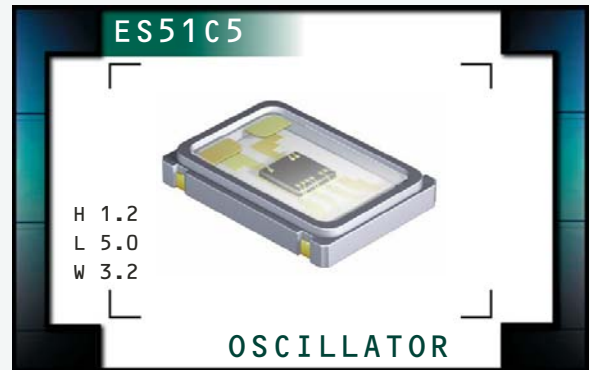


ES51C5 Series



ECLIPTEK[®]
CORPORATION

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



NOTES

ELECTRICAL SPECIFICATIONS

Nominal Frequency	12.504MHz, 12.8MHz, 13MHz, 14.7456MHz, 16MHz, 16.367667MHz, 16.8MHz, 18.414MHz, 19.2MHz, 19.44MHz, 19.68MHz, 20MHz, 24MHz, 24.5535MHz, 25MHz, and 26.000MHz	
Frequency Stability	vs. Operating Temperature Range ($V_{DD}=5.0V_{DC}$, $V_C=1.5V_{DC}$)	See Table 1
	vs. Frequency Tolerance ($25^{\circ}C \pm 2^{\circ}C$, $V_{DD}=5.0V_{DC}$, $V_C=1.5V_{DC}$)	± 1.0 ppm Maximum
	vs. Input Voltage ($\pm 5\%$)	± 0.3 ppm Maximum
	vs. Load ($\pm 1k\Omega // \pm 1pF$)	± 0.2 ppm Maximum
Aging (at 25°C)		± 1 ppm / Year Maximum
Operating Temperature Range		See Table 1
Supply Voltage (V_{DD})		5.0V _{DC} $\pm 5\%$
Input Current		2.0mA Maximum
Output Voltage	External DC-Cut Capacitor Required, 1000pF Recommended	1.0Vp-p Clipped Sinewave Minimum
Load Drive Capability		10kOhms // 10pF
External Trim (Voltage Control Option)	1.5V _{DC} $\pm 1.0V_{DC}$; Positive Transfer Characteristic	± 8 ppm Minimum
Storage Temperature Range		-30°C to 85°C
Start Up Time		5mSec Maximum
Phase Noise (at 12.800MHz)	At offset of 10Hz	-80dBc/Hz Typical
	At offset of 100Hz	-115dBc/Hz Typical
	At offset of 1kHz	-135dBc/Hz Typical
	At offset of 10kHz	-148dBc/Hz Typical

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
ES51C5

PACKAGE
CERAMIC

VOLTAGE
5.0V

CLASS
OS1D

REV. DATE
09/07

PART NUMBERING GUIDE

ES51C5 C 25 V - 13.000M TR

OPERATING TEMP. RANGE
One Letter Code Per Table 1

FREQUENCY STABILITY
Two Digit Code Per Table 1

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

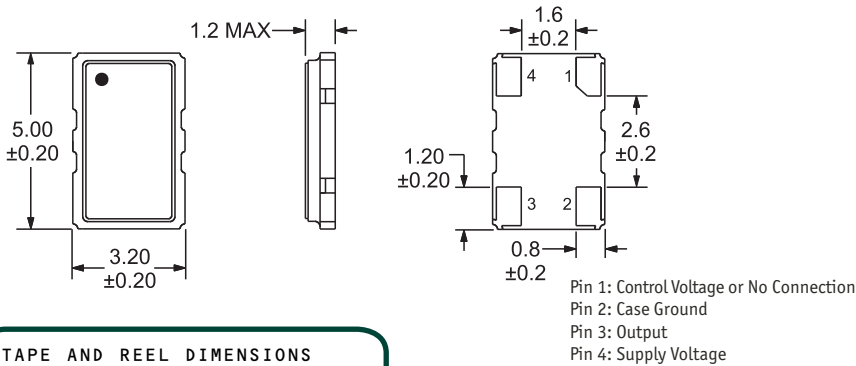
FREQUENCY

PACKAGING OPTIONS
Blank=Bulk
TR=Tape and Reel

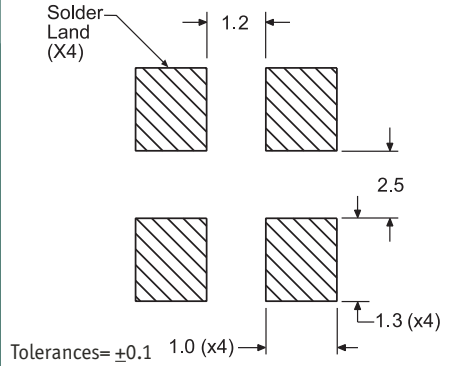
TABLE 1: PART NUMBERING CODES

Operating Temperature Range	Frequency Stability X Denotes Availability					
		±1.0ppm	±1.5ppm	±2.0ppm	±2.5ppm	±3.0ppm
	Code	10	15	20	25	30
0°C to +50°C	A	X	X	X	X	X
-10°C to +60°C	B	X	X	X	X	X
-20°C to +70°C	C	X	X	X	X	X
-30°C to +60°C	D	X	X	X	X	X
-30°C to +75°C	E	X	X	X	X	X
-30°C to +85°C	F	X	X	X	X	X
-40°C to +85°C	G		X	X	X	X

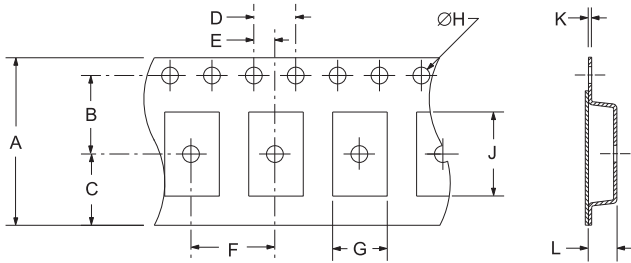
MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



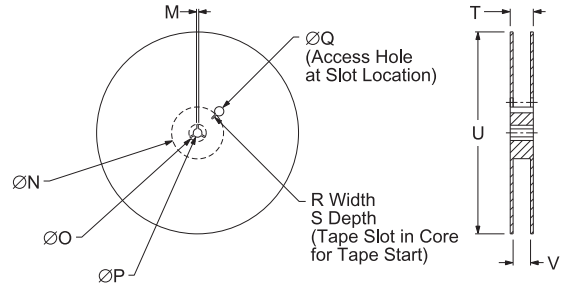
SUGGESTED SOLDER PAD LAYOUT
ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E	
	12.0±0.2	5.5±0.1	6.5±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*



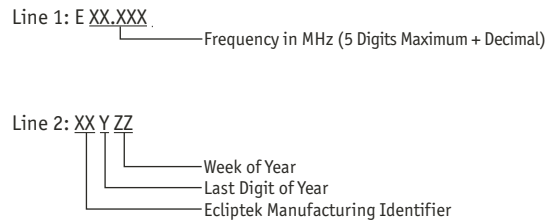
REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN
R	S	T	U	V	QTY/REEL
	2.5 MIN	10 MIN	18.4 MAX	12.4±2-0	1,000

*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



MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	ES51C5	CERAMIC	5.0V	OS1D	09/07