ES52C5 Series

- RoHS Compliant (Pb-Free)
- Temperature Compensated Crystal Oscillator (TCXO)
- Low Voltage Clipped Sinewave Output
- 3.0V Supply Voltage
- Ceramic SMD package
- Stability to 1.0ppm
- External voltage control option available



NOTES

ELECTRICAL SPECIFICATIONS

Nominal Frequency	10MHz, 12MHz, 12.288MHz, 12.504MHz, 12.8MHz, 13MHz, 14.7456MHz, 16MHz, 16.367667MHz, 16.369MHz, 16.8MHz, 18.414MHz, 19.2MHz, 19.44MHz, 19.68MHz, 20MHz, 23.104MHz, 24MHz, 24.5535MHz, 25MHz, 26MHz, and 27.456MHz	
Frequency Stability	vs. Operating Temperature Range (V_{DD}=3.0V_{DC}, Vc=1.5V_{DC})	See Table 1
	vs. Frequency Tolerance (25°C ±2°C, V_{DD}=3.0V_{DC}, Vc=1.5V_{DC})	±1.0ppm Maximum
	vs. Input Voltage (±5%)	±0.3ppm Maximum
	vs. Load (±1kΩ//±1pF)	±0.2ppm Maximum
Aging (at 25°C)		±1ppm / Year Maximum
Operating Temperature Range		See Table 1
Supply Voltage (V_{DD})		3.0V_{DC} ±5%
Input Current		2.0mA Maximum
Output Voltage	External DC-Cut Capacitor Required, 1000pF Recommended	0.7Vp-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
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	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	ES52C5	CERAMIC	3.0V	OS1E	09/07

PART NUMBERING GUIDE

ES52C5 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

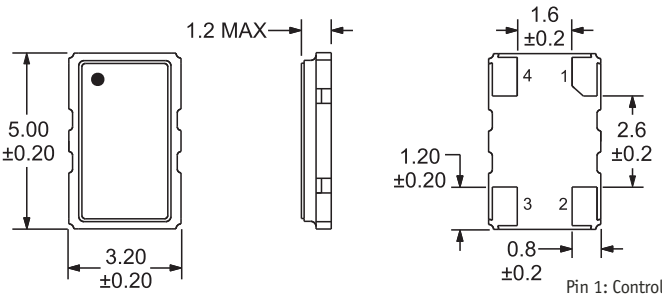
PACKAGING OPTIONS
Blank=Bulk
TR=Tape and Reel

TABLE 1: PART NUMBERING CODES

Operating Temperature Range	Code	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

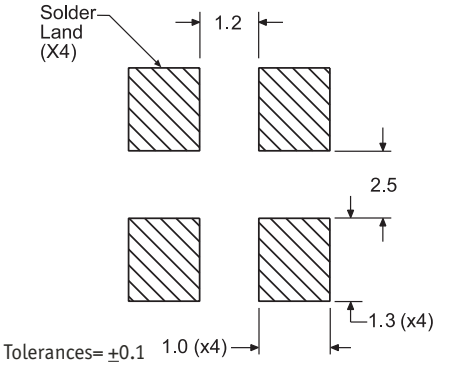
ALL DIMENSIONS IN MILLIMETERS



Pin 1: Control Voltage or No Connection
Pin 2: Case Ground
Pin 3: Output
Pin 4: Supply Voltage

SUGGESTED SOLDER PAD LAYOUT

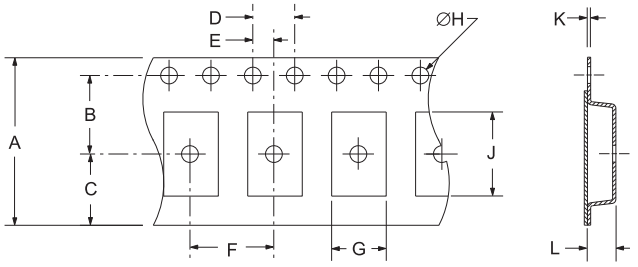
ALL DIMENSIONS IN MILLIMETERS

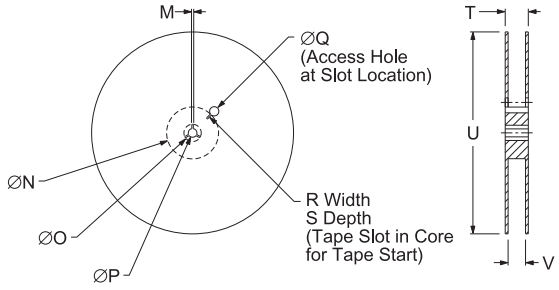


Tolerances= ±0.1

TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS





TAPE	A	B	C	D	E
	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	180 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

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	ES52C5	CERAMIC	3.0V	OS1E	09/07

Specifications subject to change without notice.