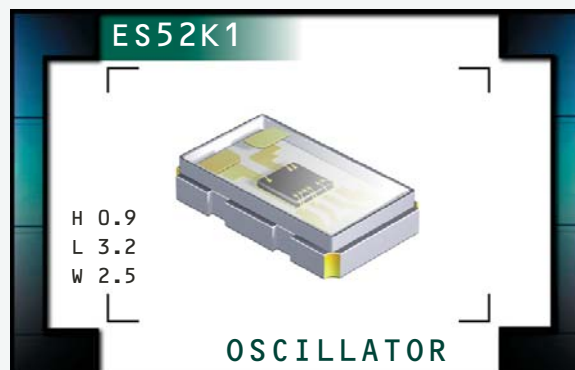


ES52K1 Series

- RoHS Compliant (Pb-Free)
- Temperature Compensated Voltage Controlled Crystal Oscillator (TCVCXO)
- Clipped Sinewave Output
- 3.0V Supply Voltage
- Ceramic SMD package
- Stability to ± 0.5 ppm
- External voltage control option available



ECLIPTEK
CORPORATION



NOTES

ELECTRICAL SPECIFICATIONS

Nominal Frequency	16.367667MHz, 16.368MHz, 16.369MHz, 20.000MHz, 24.5535MHz, 26.000MHz, 40.000MHz	
Frequency Stability	vs. Frequency Tolerance ($25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, $V_{DD}=3.0V_{DC}$)	± 0.5 ppm Maximum
	vs. Operating Temperature Range ($V_{DD}=3.0V_{DC}$)	See Table 1
	vs. Input Voltage ($\pm 5\%$)	± 0.2 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})	$3.0V_{DC} \pm 5\%$	
Input Current	16.367667MHz to 26.000MHz	2.0mA Maximum
	26.000001MHz to 40.000MHz	2.5mA Maximum
Output Voltage	External DC-Cut Capacitor Required, 1000pF Recommended	0.8Vp-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	-55°C to 125°C	
Start Up Time	5mSec Maximum	
Phase Noise (at 16.368MHz)	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
ES52K1

PACKAGE
CERAMIC

VOLTAGE
3.0V

CLASS
OS5U

REV. DATE
08/07

ES52K1 C 25 V - 20.000M 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

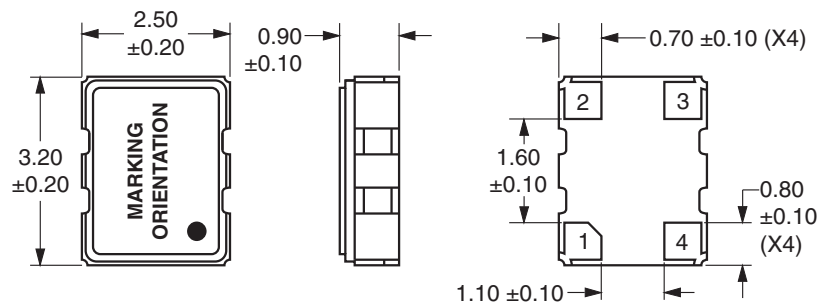
FREQUENCY
PACKAGING OPTIONS
Blank=Bulk
TR=Tape and Reel

TABLE 1: PART NUMBERING CODES

Operating Temperature Range			Frequency Stability X Denotes Availability					
			±0.5ppm	±1.0ppm	±1.5ppm	±2.0ppm	±2.5ppm	±3.0ppm
	Code	05	10	15	20	25	30	
	0°C to +50°C	A	X	X	X	X	X	X
	-10°C to 60°C	B	X	X	X	X	X	X
	-20°C to +70°C	C	X	X	X	X	X	X
	-30°C to +60°C	D	X	X	X	X	X	X
	-30°C to +75°C	E	X	X	X	X	X	X
	-30°C to +85°C	F	X	X	X	X	X	X
	-40°C to +85°C	G			X	X	X	X

MECHANICAL DIMENSIONS

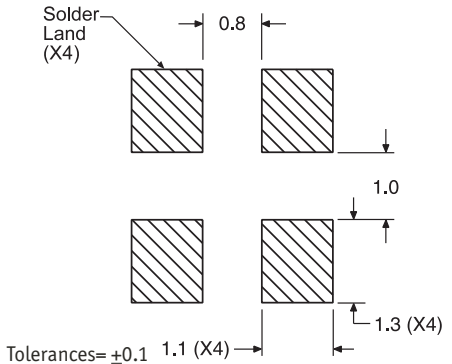
ALL DIMENSIONS IN MILLIMETERS



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

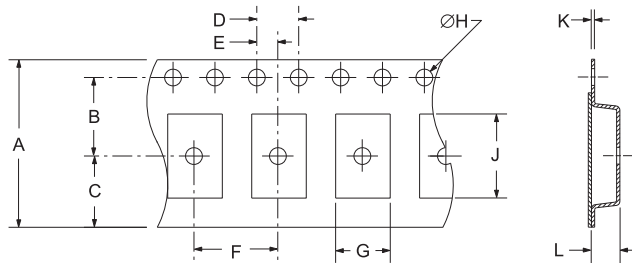
SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS

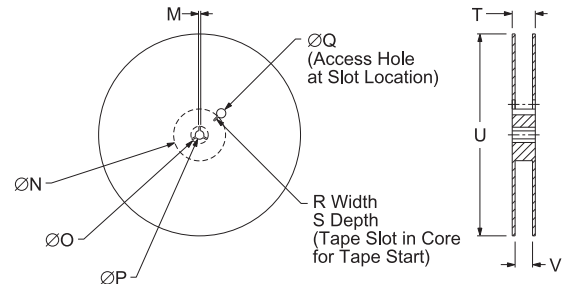


TAPE AND REEL DIMENSIONS

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
4.0±0.1	A0*	1.55 ±0.05	B0*	0.25 ±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	ES52K1	CERAMIC	3.0V	OS5U	08/07