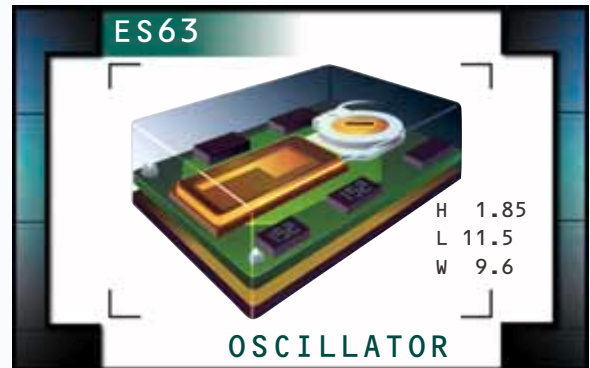


ES63 Series

- Temperature Compensated Crystal Oscillator (TCXO)
- Sinewave Output
- 5.0V or 3.0V Supply Voltage
- Six pad surface mount
- Stability to 1.5ppm
- Internal and/or external voltage control option available



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range	10.000MHz to 22.000MHz (Standard Frequencies: 12.800MHz, 13.000MHz, and 14.400MHz)	
Storage Temperature Range	-30°C to 85°C	
Operating Temperature Range	See Table 1	
Supply Voltage (V_{DD})	5.0V _{DC} ±5% or 3.0V _{DC} ±5%	
Load Drive Capability	10kOhms // 10pF	
Input Current	2.0mA Maximum	
Aging (at 25°C)	±1ppm / Year Maximum	
Frequency Deviation Options		
Internal Trim Only (Top of Can)	±3ppm Minimum	
External Trim Only (Voltage Control)	2.5V _{DC} ±2.0V _{DC} w/5.0V _{DC} Supply Voltage; 1.5V _{DC} ±1.0V _{DC} w/3.0V _{DC} Supply Voltage, Positive Transfer Characteristic	±8ppm Minimum
External Trim and Internal Trim	2.5V _{DC} ±2.0V _{DC} w/5.0V _{DC} Supply Voltage; 1.5V _{DC} ±1.0V _{DC} w/3.0V _{DC} Supply Voltage, Positive Transfer Characteristic	±5ppm Minimum (Control Voltage); ±3ppm Minimum (Internal Trim)
Output Voltage	w/ 5.0V _{DC} ±5% Supply Voltage w/ 3.0V _{DC} ±5% Supply Voltage	1.0Vp-p Clipped Sinewave Minimum 0.7Vp-p Clipped Sinewave Minimum
Frequency Stability	vs. Operating Temperature Range vs. Frequency Tolerance (25°C ±2°C)	See Table 1 ±0.5ppm Maximum w/ Internal Trim Only, ±0.5ppm Maximum w/ Internal and External Trim, ±2ppm Maximum w/ External Trim Only
	vs. Input Voltage (±5%) vs. Load (±1kΩ//±1pF)	±0.3ppm Maximum ±0.3ppm Maximum

PART NUMBERING GUIDE

ES63 25 E V 5 - 12.800M TR

FREQUENCY STABILITY
Two Digit Code Per Table 1

OPERATING TEMP. RANGE
One Letter Code Per Table 1

EXTERNAL/INTERNAL TRIM OPTIONS
Blank=Internal Trim Only
V=Internal and External Trim, W=External Trim Only

PACKAGING OPTIONS
Blank=Bulk
TR=Tape and Reel

FREQUENCY

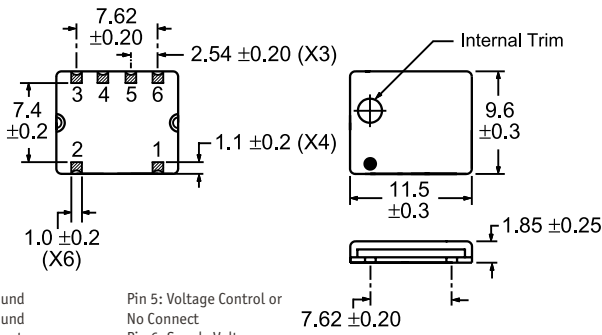
SUPPLY VOLTAGE
5=5.0V_{DC}±5%
3=3.0V_{DC}±5%

TABLE 1: PART NUMBERING CODES

Operating Temperature Range	Frequency Stability				
	X Denotes Availability for all frequencies 0 Denotes Standard Frequencies Availability Only				
		±1.5ppm	±2.0ppm	±2.5ppm	±3.0ppm
	Code	15	20	25	30
0°C to +50°C	A	0	X	X	X
-10°C to +60°C	B	0	X	X	X
-20°C to +70°C	C	0	X	X	X
-30°C to +60°C	D		X	X	X
-30°C to +75°C	E		X	X	X

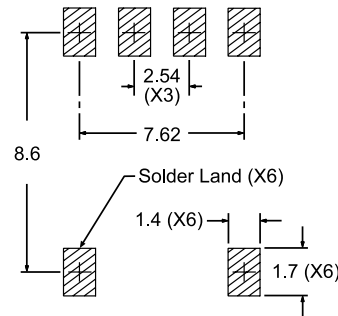
MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



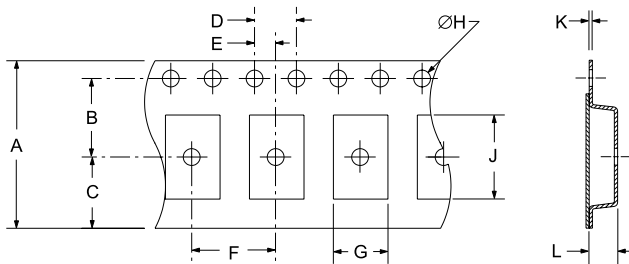
SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS

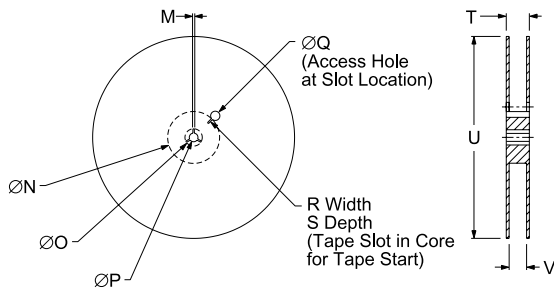


TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E	
	24±.3	10.75±.1	11.5±.1	4±.2	2±.1	
	F	G	H	J	K	L
	12±.2	10.2±.1	1.55±.05	12±.1	.3±.05	2.3±.1



REEL	M	N	O	P	Q	
	1.5 MIN	50 MIN	20.2 MIN	13±.2	40 MIN	
	R	S	T	U	V	QTY/REEL
	2.5 MIN	10 MIN	30.4 MAX	360 MAX	24.4+2-0	2000

*Compliant to EIA 481A

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Parameter	Specification
Shock	Random drop on hard wooden plate 3 times from a height of 30cm.
Vibration	Frequency with an amplitude of 1.5mm sweeping between 10Hz to 55Hz within 1 minute (approximately) for 2 hours minimum on each axis (X, Y and Z) for a total of 6 hours.

MARKING SPECIFICATIONS

Line 1: ECLIPTEK
Line 2: ES63 15 A V 5
Line 3: XX.XXX M
Line 4: XX Y ZZ

Supply Voltage 5=5V_{DC}, 3=3V_{DC}
Pin 5 connection
Blank=No connection
V=Internal Trim and External Trim
W=External Trim Only

Operating Temperature Code (°C)
A= 0 to 50, B= -10 to 60, C= -20 to 70,
D= -30 to 60, E= -30 to 75, F= -35 to 80,
G= -40 to 85

Frequency Stability Code (±ppm)
15=1.5, 20=2.0, 25=2.5, 30=3.0, 35=3.5, 50=5.0

Series Designator

Frequency in MHz (5 Digits Maximum + Decimal)

Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	ES63	METAL	3.0V or 5.0V	OS36	06/00