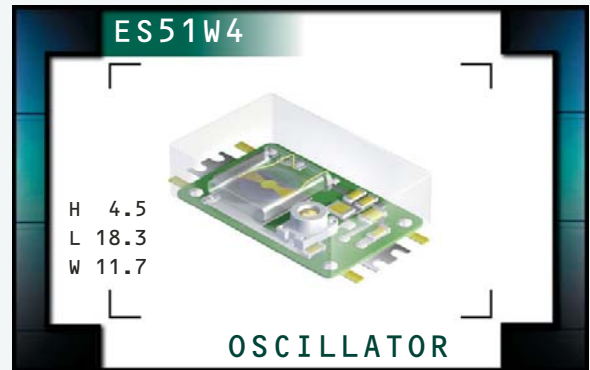


ES51W4 Series

- Temperature Compensated Crystal Oscillator (TCXO)
- Clipped Sinewave Output
- 5.0V Supply Voltage
- SMD package
- Stability to 1.5ppm
- External voltage control option available
- Internal Mechanical Trim (Top of Can)



NOTES

TABLE 1: PART NUMBERING CODES

Operating Temperature Range	Code	Frequency Stability			
		X = Available from 9.600MHz to 27.000MHz Y = Available at any Frequency			
		±1.5ppm	±2.0ppm	±3.0ppm	±5.0ppm
0°C to +50°C	A	Y	Y	Y	Y
0°C to +70°C	B	X	Y	Y	Y
-20°C to +70°C	C		X	Y	Y
-30°C to +70°C	D			Y	Y
-40°C to +85°C	E				Y

ELECTRICAL SPECIFICATIONS

Frequency Range	9.600MHz to 40.000MHz	
Operating Temperature Range	See Table 1	
Storage Temperature Range	-40°C to 85°C	
Supply Voltage (V_{DD})	5.0V _{DC} ±5%	
Load Drive Capability	10kOhms//10pF	
Internal Trim (Top of Can)	±3ppm Minimum	
Control Voltage (External)	2.5V _{DC} ±2.0V _{DC} , Positive Transfer Characteristic	
Frequency Deviation	at V _C = 2.5V _{DC} ±2.0V _{DC} , V _{DD} = 5.0V _{DC}	±7ppm Minimum, ±20ppm Maximum
Input Current	≤ 27.000MHz	2.0mA Maximum
	> 27.000MHz	3.0mA Maximum
Aging (at 25°C)	±1ppm / year Maximum	
Frequency Stability	vs. Operating Temperature Range	See Table 1
	vs. Input Voltage (±5%)	±0.3ppm Maximum
	vs. Load (±2pF)	±0.2ppm Maximum
Output Voltage	1.0V _{P-P} Minimum	
Typical Phase Noise	F ₀ = 19.200MHz, at 25°C, at Nominal V _{DC} and V _C	
	at 10Hz Offset	-70dBc/Hz
	at 100Hz Offset	-100dBc/Hz
	at 1kHz Offset	-130dBc/Hz
	at 10kHz Offset	-140dBc/Hz
	at 100kHz Offset	-145dBc/Hz
Modulation Bandwidth	at -3dB with V _C = 2.5V _{DC}	10kHz Minimum
Input Impedance	10kOhms Typical	

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	ES51W4	Metal SMD	5.0V	OS3R	01/05

PART NUMBERING GUIDE

ES51W4 E 25 V - 12.800M

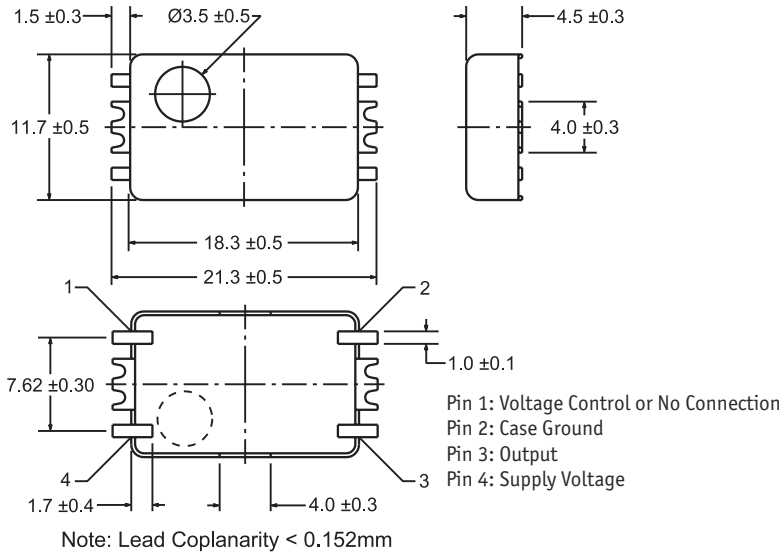
OPERATING TEMP. RANGE
One Letter Code Per Table 1

FREQUENCY STABILITY
Two Digit Code Per Table 1

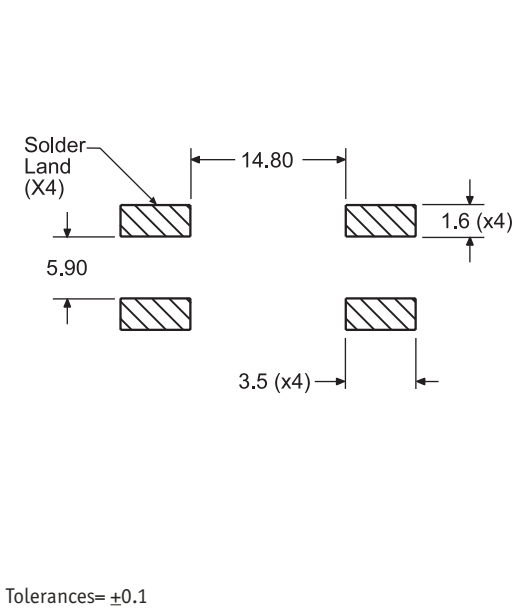
FREQUENCY

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

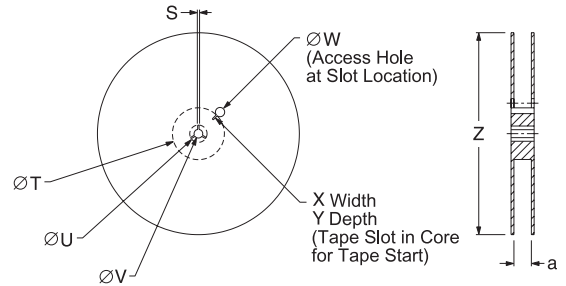
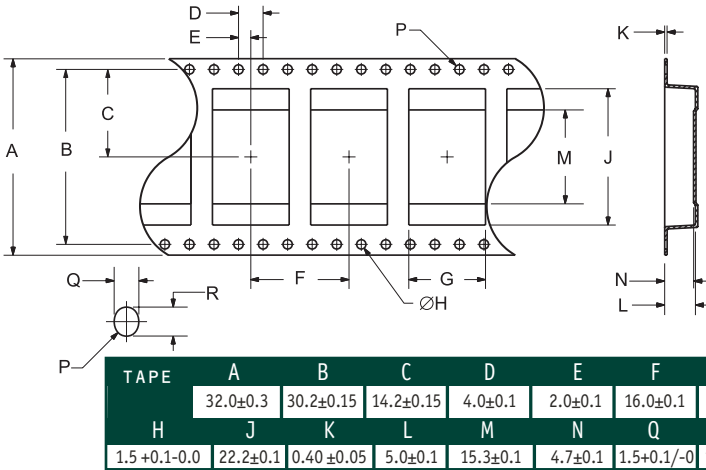
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E	F	G
	32.0±0.3	30.2±0.15	14.2±0.15	4.0±0.1	2.0±0.1	16.0±0.1	12.5±0.1
H	J	K	L	M	N	Q	R
1.5+0.1/-0.0	22.2±0.1	0.40±0.05	5.0±0.1	15.3±0.1	4.7±0.1	1.5+0.1/-0	1.7+0.1/-0

REEL	S	T	U	V	W
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN
X	Y	Z	a	QTY/REEL	
2.5 MIN	10 MIN	360 MAX	32.4±2-0	1,000	

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 2002
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: ECLIPTEK

Line 3: XX.XXX M
Frequency in MHz (5 Digits Maximum + Decimal)

Line 4: XX Y ZZ
Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	ES51W4	Metal SMD	5.0V	OS3R	01/05