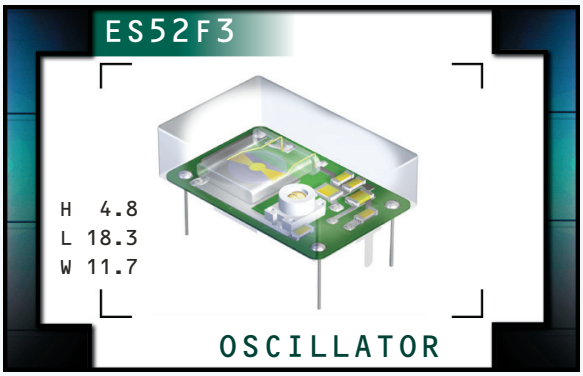
ECLIPTEK CORPORATION

ES52F3 Series

- Temperature Compensated Crystal Oscillator (TCXO)
- Clipped Sinewave Output
- 3.3V Supply Voltage
- Stability to 1.5ppm
- External voltage control option available



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range		9.600MHz to 44.736MHz
Operating Temperature Range		See Table 1
Storage Temperature Range		-40°C to 85°C
Supply Voltage (V_{DD})		3.3V_{DC} ±5%
Input Current	9.600MHz to 20.000MHz	1.5mA Maximum
	20.001MHz to 29.999MHz	2.0mA Maximum
	30.000MHz to 44.736MHz	3.0mA Maximum
Frequency Stability	vs. Operating Temperature Range	See Table 1
	vs. Input Voltage (V_{DD} ±5%)	±0.3ppm Maximum
	vs. Load (±2kΩ // ±2pF)	±0.2ppm Maximum
Aging (at 25°C)		±1ppm / year Maximum
Output Voltage		0.7V_{p-p} Minimum
Load Drive Capability		10kOhms//10pF
Internal Trim (Top of Can)		±3ppm Minimum
Control Voltage (External)		1.65V_{DC} ±1.35V_{DC}, Positive Transfer Characteristic
Frequency Deviation	Referenced to F_O at V_C = 1.65V_{DC}; V_{DD} = 3.3V_{DC}	±7ppm Minimum, ±20ppm Maximum
Input Impedance		10kOhms Typical
Modulation Bandwidth	Measured at -3dB, V_C = 3.3V_{DC}	10kHz Minimum
Typical Phase Noise	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

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	ES52F3	14-PIN DIP	3.3V	OS1Y	01/04

PART NUMBERING GUIDE

ES52F3 A 15 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=Voltage Control on Pin 1

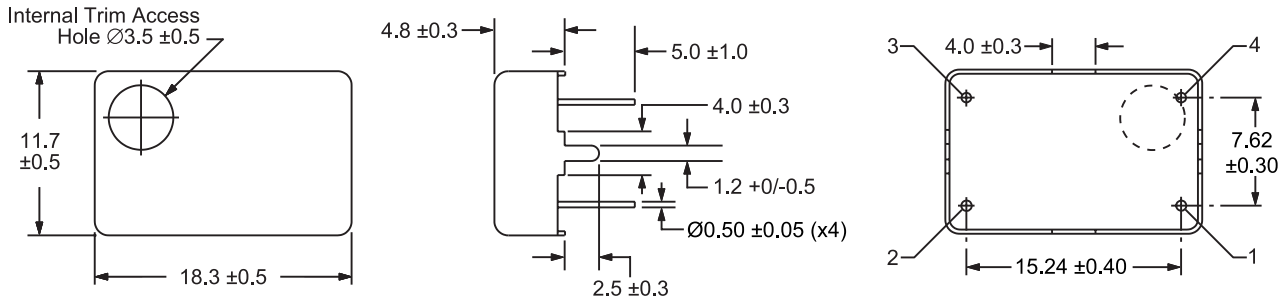
TABLE 1: PART NUMBERING CODES

Operating Temperature Range		Frequency Stability X = Available from 9.6MHz to 32.768MHz Y = Available at any Frequency			
		±1.5ppm	±2.0ppm	±3.0ppm	±5.0ppm
	Code	15	20	30	50
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	Y
-30°C to +75°C	D		X	Y	Y
-40°C to +85°C	E			X	Y

NOTES

MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



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

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
Lead Integrity	MIL-STD-883, Method 2004
Solderability	MIL-STD-883, Method 2002
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-883, Method 210
Resistance to Solvents	MIL-STD-883, Method 215

MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: XX.XXX M
- M=MHz
- Frequency (5 Digits Maximum + Decimal)

Line 3: XX Y ZZ
- Week of Year
- Last Digit of Year
- Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	ES52F3	14 pin DIP	3.3V	OS1Y	01/04