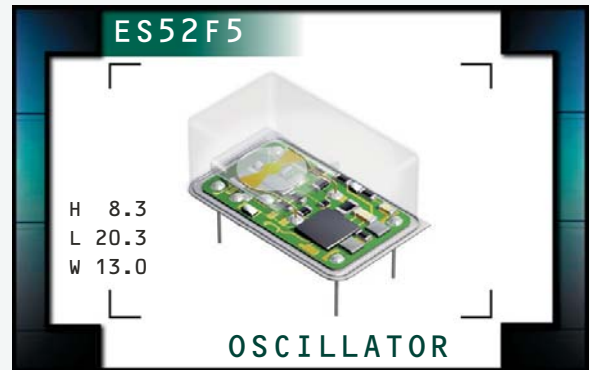


ES52F5 Series

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



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range		9.600MHz to 44.736MHz
Operating Temperature Range		See Table 1
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		3.3V _{DC} ±5%
Input Current	Measured at Steady State at 25°C, at Nominal V _{DD} , at Nominal V _C	10mA Maximum
Frequency Stability	vs. Initial Frequency Tolerance	±1.0ppm (at Nominal V _{DD} and V _C , at 25°C)
	vs. Operating Temperature Range	See Table 1 (at Nominal V _{DD} and V _C)
	vs. Input Voltage (V _{DD} ±5%)	±0.3ppm Maximum
	vs. Load (±10%)	±0.2ppm Maximum
Aging (at 25°C)		±1ppm / year Maximum
Output Voltage		0.7V _{p-p} Minimum Clipped Sinewave
Load Drive Capability		10kOhms//10pF
Control Voltage Range		0.0V _{DC} to V _{DD}
Control Voltage (External)	Positive Transfer Characteristic	1.65V _{DC} ±1.35V _{DC}
Frequency Deviation	Referenced to F ₀ at V _C = 1.65V _{DC} , V _{DD} = 3.3V _{DC}	±7ppm Minimum, ±20ppm Maximum
Linearity		±10% Maximum
Internal Trim	Measured at 25°C, V _{DD} = 3.3V _{DC} , V _C = 1.65V _{DC}	±3ppm Minimum (Top Access)
Input Impedance		10kOhms Typical
Phase Noise (at 19.440MHz)	Measured at 25°C, at Nominal V _{DD} , at Nominal V _C	
	at 10Hz Offset	-70dBc/Hz Typical
	at 100Hz Offset	-100dBc/Hz Typical
	at 1kHz Offset	-130dBc/Hz Typical
	at 10kHz Offset	-140dBc/Hz Typical
	at 100kHz Offset	-145dBc/Hz Typical

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES ES52F5	PACKAGE 14-PIN DIP	VOLTAGE 3.3V	CLASS OS3D	REV. DATE 06/04
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PART NUMBERING GUIDE

ES52F5 G 15 A V - 12.800M - G

INITIAL TOLERANCE
G=±1.0ppm Maximum

FREQUENCY STABILITY
Two Digit Code Per Table 1

OPERATING TEMP. RANGE
One Letter Code Per Table 1

AVAILABLE OPTIONS

- Blank=None (Standard)
- CB=Cut Leads to 2.540 ±0.500 (0.100" ±0.020")
- CC=Cut Leads to 3.175 ±0.500 (0.125" ±0.020")
- CD=Cut Leads to 3.810 ±0.500 (0.150" ±0.020")
- CE=Cut Leads to 4.445 ±0.500 (0.175" ±0.020")
- G=Full Size Gull Wing

FREQUENCY

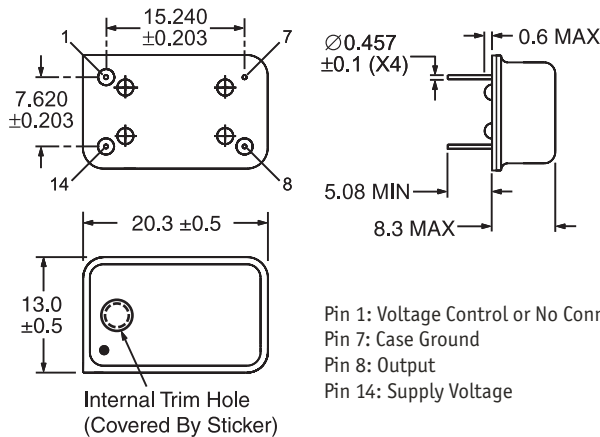
EXTERNAL TRIM

- N=None (No Connection on Pin 1)
- V=Voltage Control on Pin 1

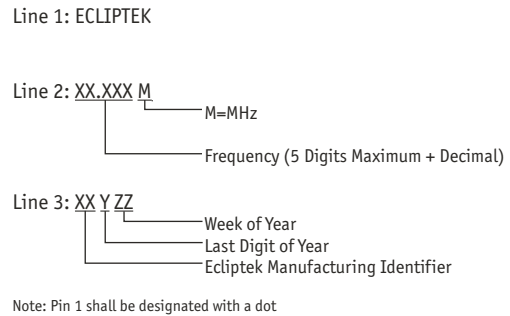
TABLE 1: PART NUMBERING CODES

Operating Temperature Range	Code	Frequency Stability			
		X = Available from 9.600MHz to 32.768MHz 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 +75°C	D			Y	Y
-40°C to +85°C	E			X	Y

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS



ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
Fine Leak Test	MIL-STD-883, Method 1014, Condition A (Internal Crystal Only)
Gross Leak Test	MIL-STD-883, Method 1014, Condition C (Internal Crystal Only)
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

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES ES52F5	PACKAGE 14 pin DIP	VOLTAGE 3.3V	CLASS OS3D	REV. DATE 06/04
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