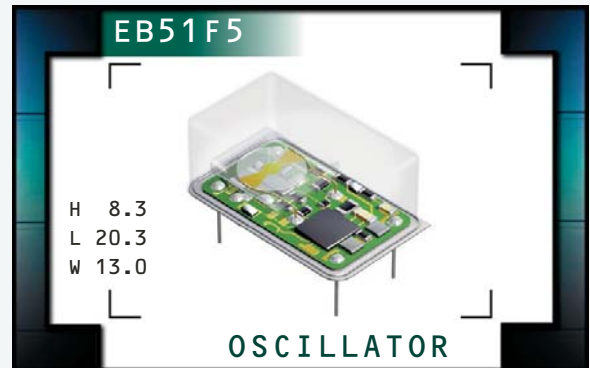


EB51F5 Series

- Temperature Compensated Crystal Oscillator (TCXO)
- HCMOS Output
- 5.0V Supply Voltage
- Stability to 1.5ppm
- Internal mechanical trim
- External voltage control option available



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range		1.544MHz to 44.736MHz
Operating Temperature Range		See Table 1
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		5.0V _{DC} ±5%
Input Current	Measured at Steady State at 25°C, at Nominal V _{DD} , at Nominal V _C	15mA Maximum ≤ 20.000MHz, 30mA Maximum > 20.000MHz
Frequency Stability	vs. Initial Frequency Tolerance vs. Operating Temperature Range vs. Input Voltage (V _{DD} ±5%) vs. Load (±10%)	±1.0ppm (at Nominal V _{DD} and V _C , at 25°C) See Table 1 (at Nominal V _{DD} and V _C) ±0.3ppm Maximum ±0.2ppm Maximum
Aging (at 25°C)		±1ppm / year Maximum
Output Voltage Logic High (V_{OH})		V _{DD} - 0.5V _{DC} Minimum
Output Voltage Logic Low (V_{OL})		0.5V _{DC} Maximum
Rise Time / Fall Time	20% to 80% of Waveform	6 nSeconds Maximum
Duty Cycle	at 50% of Waveform	50 ±5(%)
Load Drive Capability		30pF HCMOS Load Maximum
Control Voltage Range		0.0V _{DC} to V _{DD}
Control Voltage (External)	Positive Transfer Characteristic	2.5V _{DC} ±2.0V _{DC}
Frequency Deviation	Referenced to F ₀ at V _C = 2.5V _{DC} , V _{DD} = 5.0V _{DC}	±7ppm Minimum, ±20ppm Maximum
Linearity		±10% Maximum
Internal Trim	Measured at 25°C, V _{DD} = 5.0V _{DC} , V _C = 2.5V _{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 at 100Hz Offset at 1kHz Offset at 10kHz Offset at 100kHz Offset	-70dBc/Hz Typical -100dBc/Hz Typical -130dBc/Hz Typical -140dBc/Hz Typical -145dBc/Hz Typical

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EB51F5	PACKAGE 14-PIN DIP	VOLTAGE 5.0V	CLASS OS3A	REV. DATE 06/04
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PART NUMBERING GUIDE

EB51F5 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

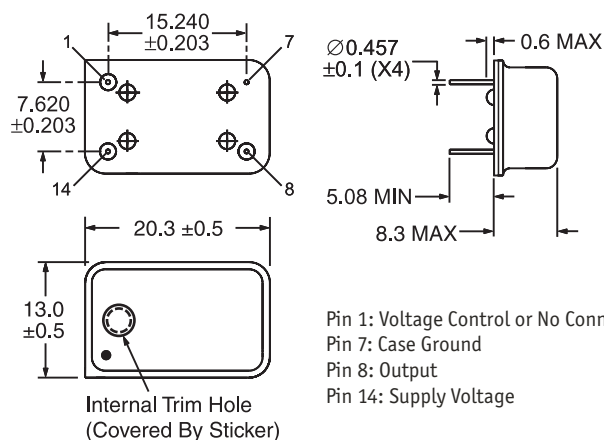
EXTERNAL TRIM

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

TABLE 1: PART NUMBERING CODES

Operating Temperature Range	Frequency Stability				
	Code	X = Available from 1.544MHz 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	X	Y	Y
-30°C to +75°C	D		X	Y	Y
-40°C to +85°C	E			X	Y

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



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

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	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB51F5	14 pin DIP	5.0V	OS3A	06/04