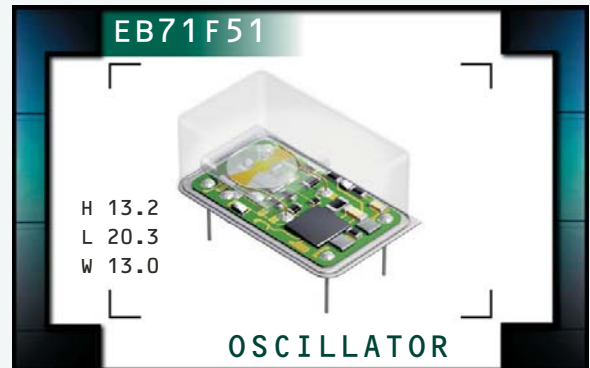


EB71F51 Series

- Oven Controlled Crystal Oscillator (OCXO)
- AT-Cut output
- HCMOS output
- 5.0V supply voltage
- 14 pin DIP package
- External control voltage option available
- Stability to ± 100 ppb
- Custom lead length, gull wing options available



ELECTRICAL SPECIFICATIONS

Frequency Range	10.000MHz, 12.288MHz, 12.800MHz, 16.000MHz, 19.440MHz, or 20.000MHz	
Operating Temperature Range (OTR)	0°C to 50°C, 0°C to 70°C, or -20°C to 70°C	
Storage Temperature Range	-55°C to 125°C	
Supply Voltage (V_{DD})	5.0V _{DC} $\pm 5\%$	
Frequency Tolerance / Stability		
vs. Initial Tolerance	at Nominal V _{DD} and V _C , at 25°C	± 1.0 ppm or ± 500 ppb Maximum
vs. Temperature Stability	at Nominal V _{DD} and V _C	± 100 ppb, ± 200 ppb, ± 280 ppb, or ± 500 ppb Maximum
vs. V _{DD}	V _{DD} $\pm 5\%$	± 50 ppb Maximum
vs. Load	V _{load} $\pm 5\%$	± 50 ppb Maximum
vs. Aging (1 Day)	after 72 Hours of Operation	± 30 ppb Maximum
vs. Aging (1 Year)	after 72 Hours of Operation	± 500 ppb Maximum
vs. Aging (10 Years)	after 72 Hours of Operation	± 3.0 ppm Maximum
Crystal Cut	AT-Cut	
Warm Up Time	to ± 500 ppb of Final Frequency at 1 Hour at 25°C	3 Minutes Maximum
Power Consumption	at Steady State, at 25°C	1.6 Watts Maximum
	During Warm Up, at 25°C	2.5 Watts Maximum
Output Voltage Logic High (V_{OH})	I _{OH} = -8mA	V _{DD} - 0.5V _{DC} Minimum
Output Voltage Logic Low (V_{OL})	I _{OL} = +8mA	0.5V _{DC} Maximum
Rise Time / Fall Time	Measured at 20% to 80% of Waveform	6nSec Maximum
Duty Cycle	Measured at 50% of Waveform	50 ± 5 (%)
Load Drive Capability	15pF HCMOS Load	
Frequency Deviation	Referenced to F ₀ at V _C = 2.5V _{DC} ; V _{DD} = 5.0V _{DC} over OTR	± 5 ppm Minimum
Control Voltage Range	0.0V _{DC} to V _{DD}	
Control Voltage (V_C)	2.5V _{DC} ± 2.5 V _{DC}	
Transfer Function	Positive Transfer Characteristic	
Linearity	$\pm 10\%$ Maximum	
Input Impedance	10kOhms Typical	
Typical Phase Noise (at 12.800MHz)	at 10Hz Offset	-95dBc/Hz
	at 100Hz Offset	-120dBc/Hz
	at 1kHz Offset	-135dBc/Hz
	at 10kHz Offset	-140dBc/Hz

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EB71F51	PACKAGE 14 pin DIP	VOLTAGE 5.0V	CLASS 0S1Z	REV. DATE 05/07
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PART NUMBERING GUIDE

EB71F51 C 10 B V 2 - 20.000M - CL125

INITIAL TOLERANCE

C=±1.0ppm
D=±500ppb

FREQUENCY STABILITY

2 Digit Code Per Table 1

OPERATING TEMPERATURE RANGE (OTR)

1 Letter Code Per Table 1

AVAILABLE OPTIONS

Blank=None (Standard)
CLXXX=Custom Lead Length
G=Full Size Gull Wing

FREQUENCY

DUTY CYCLE

2=50%±5%

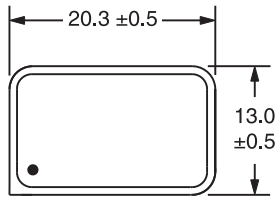
VOLTAGE CONTROL OPTION

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

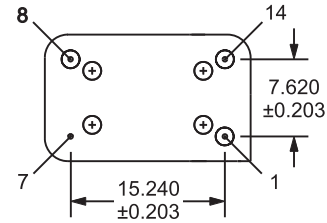
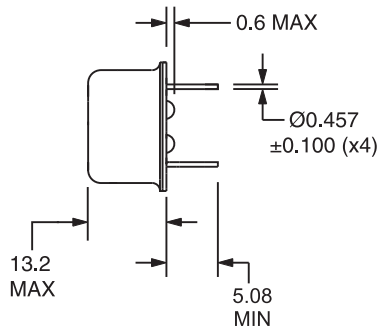
TABLE 1: PART NUMBERING CODES

Operating Temperature Range	Code	Frequency Stability X Denotes Availability			
		±100ppb	±200ppb	±280ppb	±500ppb
		10	20	28	50
0°C to +50°C	A	X	X	X	X
0°C to +70°C	B		X	X	X
-20°C to +70°C	C			X	X

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



Pin 1: No Connect or Voltage Control
Pin 7: Case Ground
Pin 8: Output
Pin 14: Supply Voltage



MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: XX.XXX M

Frequency in MHz
(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

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

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EB71F51

PACKAGE
14 pin DIP

VOLTAGE
5.0V

CLASS
OS1Z

REV. DATE
05/07