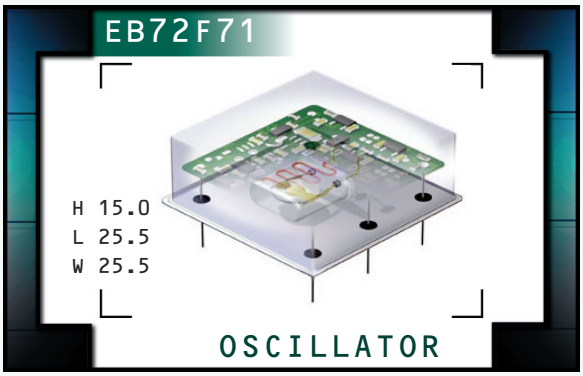
EB72F71 Series

- Oven Controlled Crystal Oscillator (OCXO)
- AT-Cut Crystal
- HCMOS output
- 3.3V supply voltage
- 5 pin DIP package
- External control voltage option available
- Stability to 80ppb



ELECTRICAL SPECIFICATIONS

Frequency Range		1.544MHz to 44.736MHz
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})		3.3V_{DC} ±5%
Frequency Tolerance / Stability		
vs. Initial Tolerance	at Nominal V_{DD} and V_C, at 25°C	±2.0ppm, ±1.5ppm, ±1.0ppm , ±500ppb, or ±300ppb Maximum
vs. Temperature Stability	at Nominal V_{DD} and V_C	±80ppb, ±100ppb, ±200ppb, ±280ppb, or ±500ppb Maximum
vs. Vdd	V_{DD} ±5%	±20ppb Maximum
vs. Load	Vload ±5%	±20ppb Maximum
vs. Aging (1 Day)	after 72 Hours of Operation	±3.0ppb Maximum
vs. Aging (1 Year)	after 72 Hours of Operation	±500ppb Maximum
vs. Aging (10 Years)	after 72 Hours of Operation	±3.0ppm Maximum
Crystal Cut		AT-Cut
Warm Up Time	to ±500ppb of Final Frequency at 1 Hour at 25°C	3 Minutes Maximum
Power Consumption	at Steady State, at 25°C	2.2 Watts Maximum
	During Warm Up, at 25°C	3.0 Watts Maximum
Output Voltage Logic High (V_{OH})	I_{OH} = -4mA	2.6V_{DC} Minimum
Output Voltage Logic Low (V_{OL})	I_{OL} = +4mA	0.4V_{DC} Maximum
Rise Time / Fall Time	≤ 10.000MHz Measured at 20% to 80% of Waveform	10 nSec Maximum
	> 10.000MHz Measured at 20% to 80% of Waveform	6 nSec Maximum
Duty Cycle	Measured at 50% of Waveform	50 ±5(%)
Load Drive Capability		15pF HCMOS Load Maximum
Frequency Deviation	Referenced to F_0 at V_C = 1.65V_{DC}; V_{DD}=5.0V_{DC} over OTR	±7ppm Minimum, ±20ppm Maximum
Control Voltage Range		0.0V_{DC} to V_{DD}
Control Voltage (V_C)		1.65V_{DC} ±1.35V_{DC}
Transfer Function		Positive Transfer Characteristic
Reference Voltage Output		2.8V_{DC} ±0.2V_{DC}
Linearity		±10% Maximum
Input Impedance		10kOhms Typical
Typical Phase Noise (at 12.800MHz)	1Hz Offset	-75dBc/Hz
	10Hz Offset	-100dBc/Hz
	100Hz Offset	-130dBc/Hz
	1kHz Offset	-140dBc/Hz
	10kHz Offset	-150dBc/Hz

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB72F71	5 pin DIP	3.3V	OS2E	01/04

PART NUMBERING GUIDE

EB72F71 A 10 B V 2 - 20.000M

INITIAL TOLERANCE
A=±2.0ppm, B=±1.5ppm, C=±1.0ppm, D=±500ppb, E=±300ppb

FREQUENCY STABILITY
2 Digit Code Per Table 1

OPERATING TEMPERATURE RANGE
1 Letter Code Per Table 1

FREQUENCY

DUTY CYCLE
2=50% ±5%

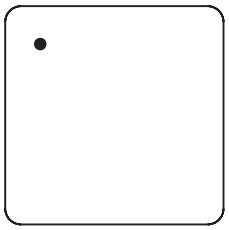
VOLTAGE CONTROL OPTION
N=None (No Connect on Pin 3 and Pin 4)
V=Voltage Control on Pin 3 and Reference Voltage Output on Pin 4

TABLE 1: PART NUMBERING CODES

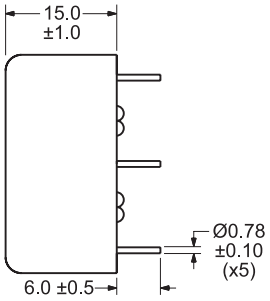
Operating Temperature Range		FREQUENCY STABILITY X Denotes availability				
		±80ppb	±100ppb	±200ppb	±280ppb	±500ppb
	Code	08	10	20	28	50
0˚C to +50˚C	A	X	X	X	X	X
0˚C to +70˚C	B		X	X	X	X
-20˚C to +70˚C	C				X	X

MECHANICAL DIMENSIONS

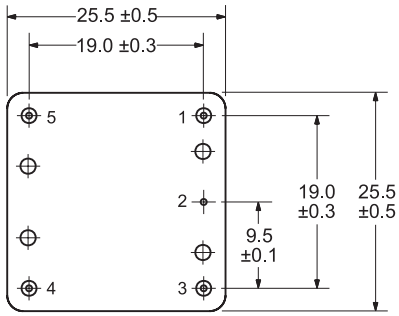
ALL DIMENSIONS IN MILLIMETERS



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



Pin 4: No Connect or Reference Voltage Output
Pin 5: Supply Voltage



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

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

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB72F71	5 pin DIP	3.3V	OS2E	01/04