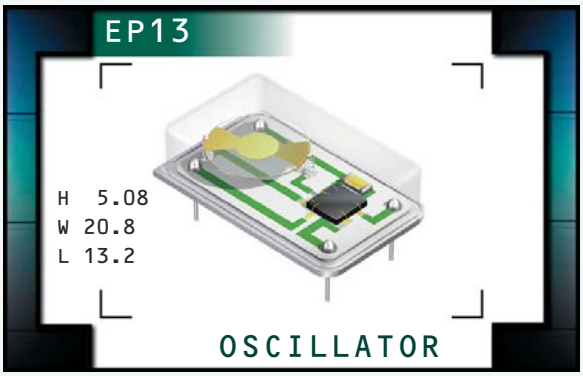
EP13 Series

- RoHS Compliant (Pb-free)
- EPO™ Programmable Oscillators
- 3.3V supply voltage
- 14 pin DIP package
- HCMOS output
- Stability to 50ppm
- Custom lead length, gull wing options available



ELECTRICAL SPECIFICATIONS

Frequency Range		1.000MHz to 106.250MHz
Operating Temperature Range		-20°C to 70°C or -40°C to 85°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		$3.3V_{DC}$ ±$0.3V_{DC}$
Input Current		28mA Maximum (Unloaded)
Disable Current (TS Option)		16mA Maximum (Pin 1=Ground)
Standby Current (PD Option)		20µA Maximum (Pin 1=Ground)
Frequency Tolerance / Stability	Inclusive of all conditions: Calibration Tolerance at 25°C, Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, First Year Aging at 25°C, Shock, and Vibration	±100ppm or ±50ppm Maximum
Output Voltage Logic High (V_{OH})	w/HCMOS Load	V_{DD}-$0.4V_{DC}$ Minimum I_{OH}=-8mA
Output Voltage Logic Low (V_{OL})	w/HCMOS Load	$0.4V_{DC}$ Maximum I_{OL}=+8mA
Rise Time / Fall Time	20% to 80% of waveform w/HCMOS Load	4 nSeconds Maximum
Duty Cycle	at 50% of waveform w/HCMOS Load	50 ±10(%) (Standard)
	at 50% of waveform w/HCMOS Load (≤50.000MHz Only)	50 ±5(%) (Optional)
Load Drive Capability	≤50.000MHz	30pF HCMOS Load Maximum
	>50.000MHz	15pF HCMOS Load Maximum
Output Control Function	TS	Tri-State
	PD	Power Down
Output Control Function Input Voltage	V_{IH}: No Connection or ≥70% of V_{DD}	Enables Output
	V_{IL}: (TS Option) ≤20% of V_{DD}	Disable Output: High Impedance
	V_{IL}: (PD Option) ≤20% of V_{DD}	Disable Output: Logic Low
Aging (at 25°C)		±5ppm / year Maximum
Start Up Time		10 mSeconds Maximum
RMS Jitter	<12.000MHz	50pSec Maximum, 15pSec Typical
	≥12.000MHz	13pSec Maximum, 10pSec Typical
Peak to Peak Jitter	<12.000MHz	500pSec Maximum, 100pSec Typical
	≥12.000MHz	100pSec Maximum, 60pSec Typical

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EP13	14 pin DIP	3.3V	OS44	12/05

PART NUMBERING GUIDE

EP13 00 ET T TS - 24.000M - CL125

FREQUENCY TOLERANCE / STABILITY
00=±100ppm Maximum (Standard)
45=±50ppm Maximum

OPERATING TEMP. RANGE
Blank=-20°C to 70°C or ET=-40°C to 85°C

DUTY CYCLE
Blank=50 ±10(%) (Standard), T=50 ±5(%)

AVAILABLE OPTIONS
Blank=None (Standard)
CLXXX=Custom Lead Length (See Page 133)
G=Full Size Gull Wing (See Page 132)

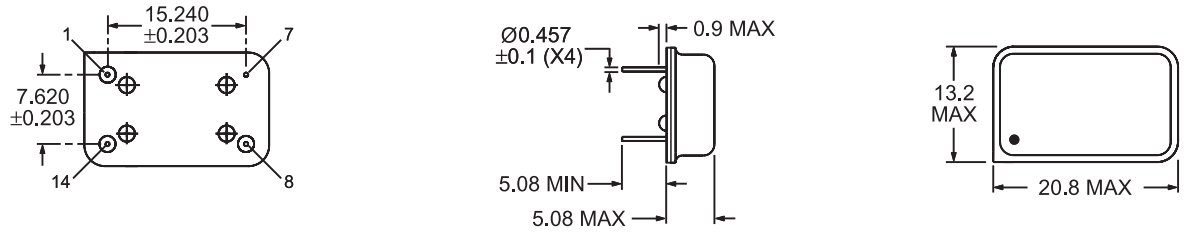
FREQUENCY

OUTPUT CONTROL FUNCTION
TS=Tri-State, PD=Power Down

NOTES

MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



Pin 1: Tri-State or Power Down
Pin 7: Ground/Case Ground
Pin 8: Output
Pin 14: 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: EP13 TS
- TS: Output Control Function (PD = Power Down; TS = Tri-State Enable High)
- EP13: Series Designator

Line 3: XX.XXX M
- Frequency in MHz (5 Digits Maximum + Decimal)

Line 4: XX Y ZZ
- ZZ: Week of Year
- Y: Last Digit of Year
- XX: Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EP13	14 pin DIP	3.3V	OS44	12/05