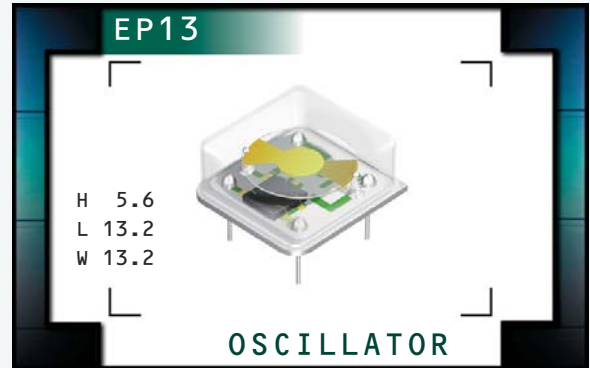


EP13 Series



ECLIPTEK[®]
CORPORATION

- RoHS Compliant (Pb-free)
- EPO™ Programmable Oscillators
- 3.3V Supply Voltage
- 8 Pin DIP Package
- HCMOS Output
- Stability to 50ppm
- Custom Lead Length and 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 at 50% of waveform w/HCMOS Load (≤50.000MHz Only)	50 ±10(%) (Standard) 50 ±5(%) (Optional)
Load Drive Capability	≤50.000MHz >50.000MHz	30pF HCMOS Load Maximum 15pF HCMOS Load Maximum
Output Control Function	TS PD	Tri-State Power Down
Output Control Function Input Voltage	V_{IH} : No Connection or ≥70% of V_{DD} V_{IL} : (TS Option) ≤20% of V_{DD} V_{IL} : (PD Option) ≤20% of V_{DD}	Enables Output Disable Output: High Impedance Disable Output: Logic Low
Aging (at 25°C)		±5ppm / year Maximum
Start Up Time		10 mSeconds Maximum
RMS Jitter	<12.000MHz ≥12.000MHz	50pSec Maximum, 15pSec Typical 13pSec Maximum, 10pSec Typical
Peak to Peak Jitter	<12.000MHz ≥12.000MHz	500pSec Maximum, 100pSec Typical 100pSec Maximum, 60pSec Typical

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EP13	PACKAGE 8 pin DIP	VOLTAGE 3.3V	CLASS OS45	REV. DATE 08/05
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PART NUMBERING GUIDE

EP13 00 HS ET TS - 24.000M - G TR

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum (Standard)
45=±50ppm Maximum

PACKAGE

HS=Half Size 8 Pin DIP

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(%)

PACKAGING OPTIONS

Blank=Bulk (Standard)
TR=Tape & Reel (only offered with Half Size G and Half Size G2 options)

AVAILABLE OPTIONS

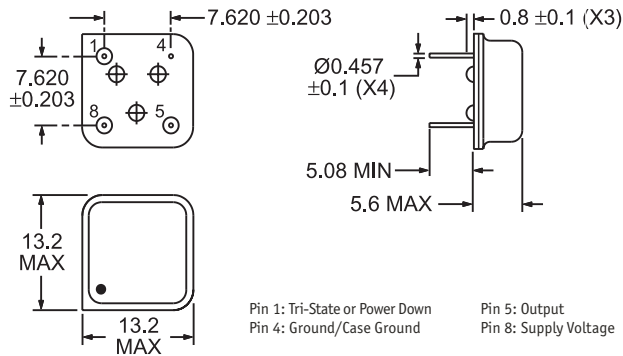
Blank=None (Standard)
CLXXX=Custom Lead Length (See Page 133)
G=Half Size Gull Wing (See Page 132)
G2=Half Size Gull Wing (See Page 132)

FREQUENCY

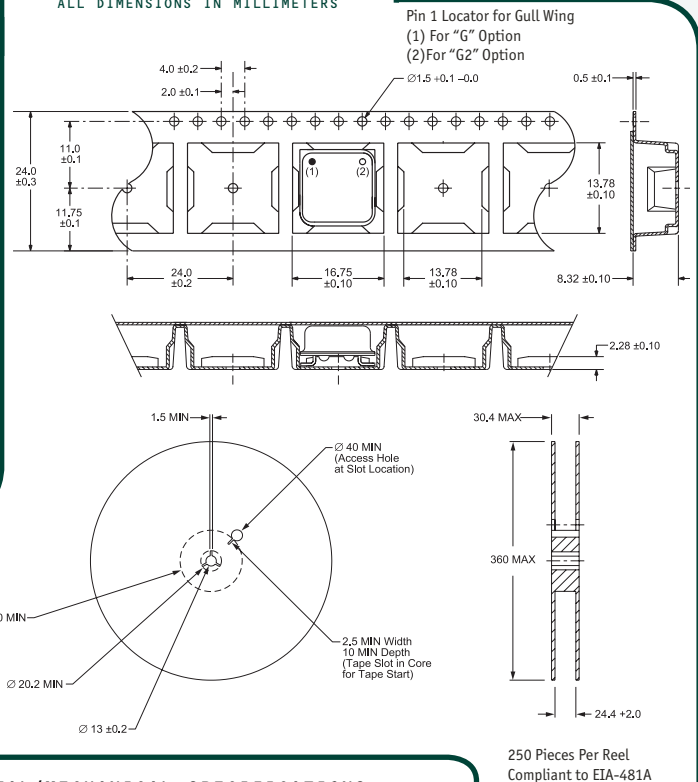
OUTPUT CONTROL FUNCTION

TS=Tri-State, PD=Power Down

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS

- Line 1: ECLIPTEK
- Line 2: EP13 TS
 - Output Control Function
PD = Power Down
TS = Tri-State Enable High
 - Series Designator
- Line 3: XX.XXX M
 - Frequency in MHz
(5 Digits Maximum + Decimal)
- Line 4: 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
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 EP13	PACKAGE 8 pin DIP	VOLTAGE 3.3V	CLASS OS45	REV. DATE 08/05
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