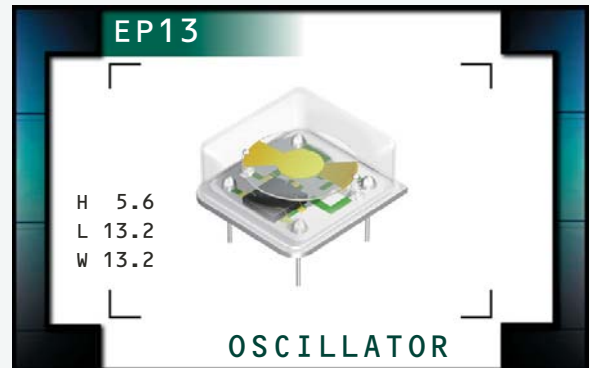


EP13 Series



- Programmable Crystal Oscillators
- HCMOS/TTL Output
- +3.3V Supply Voltage
- Tri-State and Power Down Options
- Custom Lead Length & Gull Wing Options
- 8 pin DIP Metal Package
- RoHS Compliant (Pb-free)



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})		V _{DD} -0.4V _{DC} Minimum I _{OH} =-8mA
Output Voltage Logic Low (V_{OL})		0.4V _{DC} Maximum I _{OL} =+8mA
Rise Time / Fall Time	20% to 80% of waveform	4 nSeconds Maximum
Duty Cycle	at 50% of waveform	50 ±10(%) (Standard)
	at 50% of waveform (≤50.000MHz Only)	50 ±5(%) (Optional)
Load Drive Capability	≤50.000MHz	30pF Maximum
	>50.000MHz	15pF Maximum
Output Control Function	TS	Tri-State
	PD	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	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 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
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(%), T=50 ±5(%)

PACKAGING OPTIONS

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

AVAILABLE OPTIONS

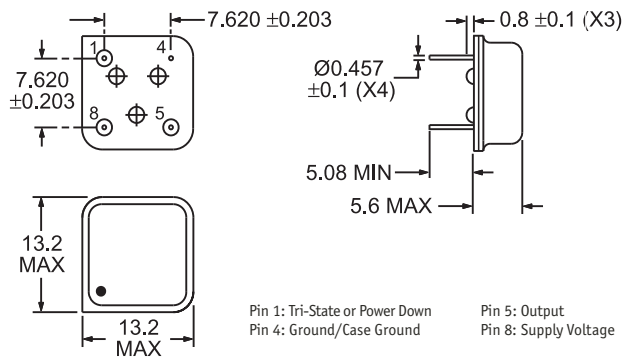
Blank=None
CLXXX=Custom Lead Length
G=Half Size Gull Wing
G2=Half Size Gull Wing

FREQUENCY

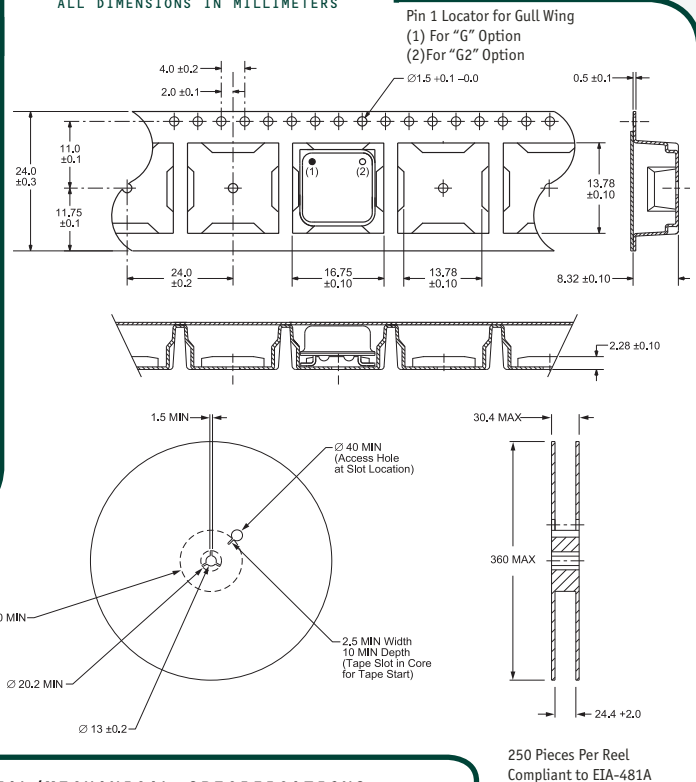
OUTPUT CONTROL FUNCTION

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