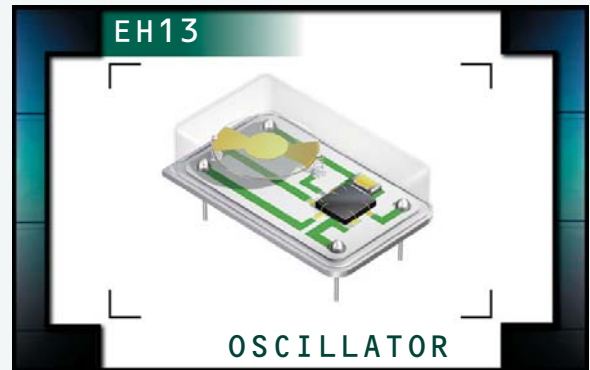


EH13 Series



ECLIPTEK[®]
CORPORATION

- Crystal Clock Oscillators
- LVCMOS Output
- +3.3V Supply Voltage
- Tri-State Output Function
- Custom Lead Length & Gull Wing Options
- 14 pin DIP Metal Package
- RoHS Compliant (Pb-free)



NOTES

ELECTRICAL SPECIFICATIONS

| | | |
|---|---|---|
| Frequency Range | | 1.000MHz to 155.520MHz |
| Operating Temperature Range | | 0°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 | | 35mA Maximum (Unloaded) |
| 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, ±50ppm, ±25ppm, or ±20ppm Maximum |
| Output Voltage Logic High (V_{OH}) | | 2.7V _{DC} Minimum I _{OH} = -8mA |
| Output Voltage Logic Low (V_{OL}) | | 0.5V _{DC} Maximum I _{OL} = +8mA |
| Rise Time / Fall Time | ≤70.000MHz 20% to 80% of Waveform >70.000MHz 20% to 80% of Waveform | 6 nSeconds Maximum 4 nSeconds Maximum |
| Load Drive Capability | ≤70.000MHz >70.000MHz | 30pF Maximum 15pF Maximum |
| Duty Cycle (at V_{DD}=3.3V_{DC}) | at 50% of Waveform | 50 ±10(%) (Standard) or 50 ±5(%) (Optional) |
| Tri-State Input Voltage | V _{IH} : No Connection or ≥2.2V _{DC} V _{IL} : ≤0.8V _{DC} | Enables Output Disables Output: High Impedance |
| Aging (at 25°C) | | ±5ppm / year Maximum |
| Start Up Time | | 10mSeconds Maximum |
| Period Jitter: Absolute | | ±250pSec Maximum, ±100pSec Typical |
| Period Jitter: One Sigma | | ±50pSec Maximum, ±40pSec Typical |

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EH13

PACKAGE
14 pin DIP

VOLTAGE
3.3V

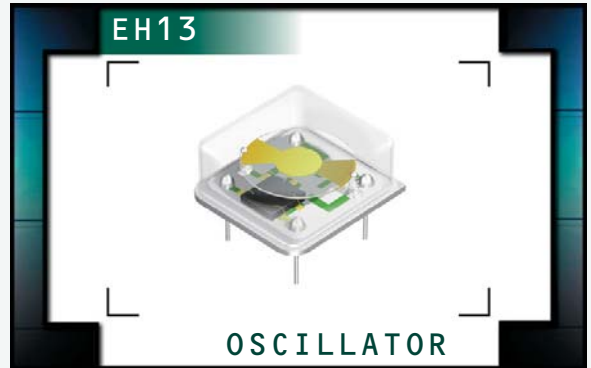
CLASS
OS44

REV. DATE
12/05

EH13 Series



- Crystal Clock Oscillators
- LVCMOS Output
- +3.3V Supply Voltage
- Tri-State Output Function
- Custom Lead Length & Gull Wing Options
- 8 pin DIP Metal Package
- RoHS Compliant (Pb-free)



NOTES

ELECTRICAL SPECIFICATIONS

| | | |
|---|---|---|
| Frequency Range | | 1.000MHz to 155.520MHz |
| Operating Temperature Range | | 0°C to 70°C or -40°C to 85°C |
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| Rise Time / Fall Time | ≤70.000MHz 20% to 80% of Waveform | 6 nSeconds Maximum |
| | >70.000MHz 20% to 80% of Waveform | 4 nSeconds Maximum |
| Load Drive Capability | ≤70.000MHz | 30pF Maximum |
| | >70.000MHz | 15pF Maximum |
| Duty Cycle (at V_{DD}=3.3V_{DC}) | at 50% of Waveform | 50 ±10(%) (Standard) or 50 ±5(%) (Optional) |
| Tri-State Input Voltage | V _{IH} : No Connection or ≥2.2V _{DC} V _{IL} : ≤0.8V _{DC} | Enables Output Disables Output: High Impedance |
| Aging (at 25°C) | | ±5ppm / year Maximum |
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| Period Jitter: Absolute | | ±250pSec Maximum, ±100pSec Typical |
| Period Jitter: One Sigma | | ±50pSec Maximum, ±40pSec Typical |

| | | | | | | |
|--------------------------------|------------------------|----------------|----------------------|-----------------|---------------|--------------------|
| MANUFACTURER ECLIPTEK CORP. | CATEGORY OSCILLATOR | SERIES EH13 | PACKAGE 8 pin DIP | VOLTAGE 3.3V | CLASS OS45 | REV. DATE 08/05 |
|--------------------------------|------------------------|----------------|----------------------|-----------------|---------------|--------------------|

PART NUMBERING GUIDE

EH13 00 HS ET TS - 70.000M - G TR

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum
 45=±50ppm Maximum, 25=±25ppm Maximum
 20=±20ppm Maximum

PACKAGE

HS=Half Size 8 Pin DIP

OPERATING TEMP. RANGE

Blank=0°C to 70°C, 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

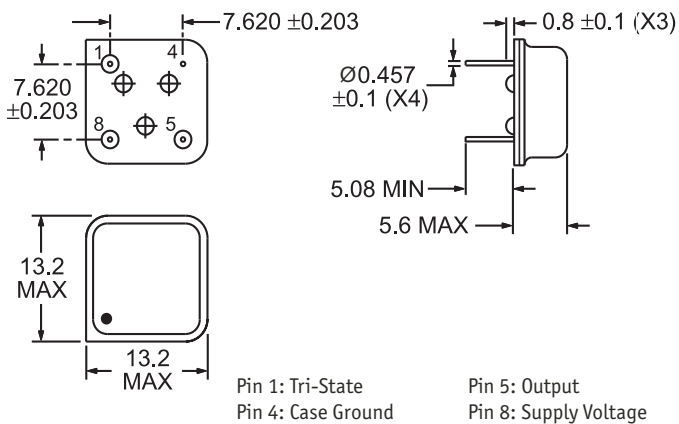
Blank=None
 CLXXX=Custom Lead Length
 G=Half Size Gull Wing
 G2=Half Size Gull Wing

FREQUENCY

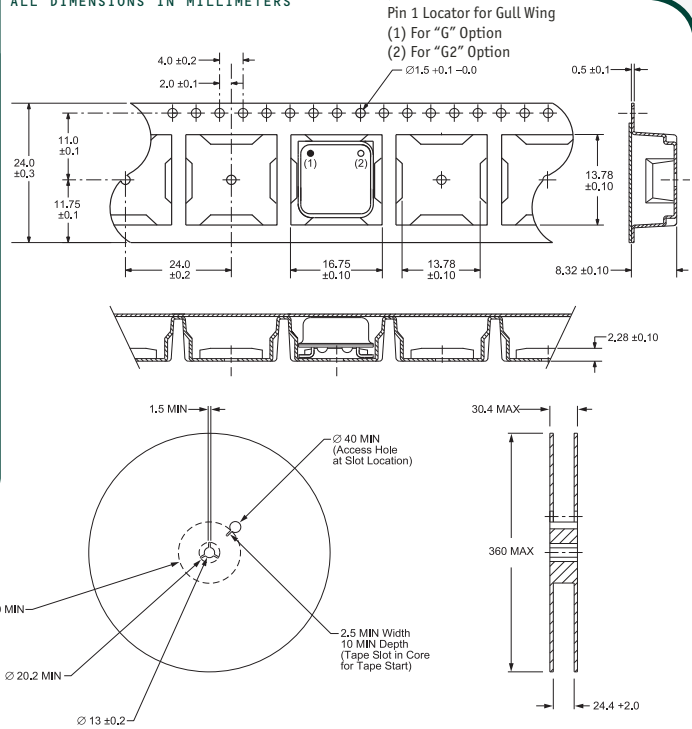
OUTPUT CONTROL FUNCTION

TS=Tri-State Enable High

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS

Line 1: ECLIPTEK
 Line 2: EH13 TS — 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, Eclipsetek 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 |

250 Pieces Per Reel
 Compliant to EIA-481A

| MANUFACTURER | CATEGORY | SERIES | PACKAGE | VOLTAGE | CLASS | REV. DATE |
|----------------|------------|--------|-----------|---------|-------|-----------|
| ECLIPTEK CORP. | OSCILLATOR | EH13 | 8 pin DIP | 3.3V | OS45 | 08/05 |