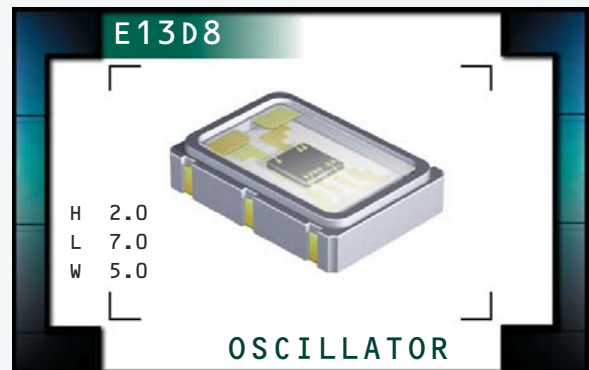


E13D8 Series



ECLIPTEK[®]
CORPORATION

- RoHS Compliant (Pb-Free)
- LVPECL Output Oscillators
- 3.3V Supply Voltage
- Ceramic 6-pad SMD Package
- Stability to ± 25 ppm
- Tri-State Output
- Complementary Output
- Available on Tape and Reel
- Wide Range of Available Frequencies



ELECTRICAL SPECIFICATIONS

| | | |
|--|---|--|
| Nominal Frequency | 75MHz, 77.76MHz, 80MHz, 100MHz, 106.25MHz, 125MHz, 150MHz, 155.52MHz, 156.25MHz, 159.375MHz, 187.5MHz, 212.5MHz, 250MHz, 311.04MHz, 312.5MHz | |
| 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_{CC}) | 3.3V _{DC} $\pm 5\%$ | |
| Input Current | With Load | 75mA Maximum |
| 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, 1st Year Aging at 25°C, Shock, and Vibration | ± 50 ppm Maximum, or ± 25 ppm Maximum |
| Output Voltage Logic High (V_{OH}) | $V_{CC} - 1.4V_{DC}$ Minimum, $V_{CC} - 1.2V_{DC}$ Typical, $V_{CC} - 0.9V_{DC}$ Maximum | |
| Output Voltage Logic Low (V_{OL}) | $V_{CC} - 1.7V_{DC}$ Minimum, $V_{CC} - 1.85V_{DC}$ Typical, $V_{CC} - 2.0V_{DC}$ Maximum | |
| Peak to Peak Output Voltage Swing | 600mVdc Minimum, 800mVdc Typical, 1000mVdc Maximum | |
| Rise Time / Fall Time | 20% to 80% of waveform | 300pSec Typical, 600pSec Maximum |
| Duty Cycle | at 50% of waveform | 50 ± 5 (%) |
| Load Drive Capability | 50 Ohms into $V_{CC} - 2.0V_{DC}$ | |
| Logic Control / Additional Output | Tri-State and Complementary Output | |
| Tri-State Input Voltage | V_{IH} of 70% of V_{CC} Minimum No Connection V_{IL} of 30% of V_{CC} Maximum | Enables Output Enables Output Disables Output: High Impedance |
| Standby Current | Disabled Output, High Impedance, Without Load | 600 μ A Maximum |
| Start Up Time | 10 mSeconds Maximum | |
| RMS Phase Jitter | FJ = 12kHz to 20MHz | 0.7pSec Typical, 1 pSec Maximum |
| Typical Phase Noise | Fo=156.250MHz | -60dBc/Hz at 10Hz Offset -90dBc/Hz at 100Hz Offset -115dBc/Hz at 1kHz Offset -129dBc/Hz at 10kHz Offset -130dBc/Hz at 100kHz Offset -131dBc/Hz at 1MHz Offset -148dBc/Hz at 10MHz Offset |

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
E13D8

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS4N

REV. DATE
10/07

PART NUMBERING GUIDE

E13D8 D 2 F - 155.520M TR

FREQUENCY TOLERANCE & STABILITY/ OPERATING TEMPERATURE RANGE

C=±25ppm Maximum over 0°C to +70°C
 D=±50ppm Maximum over 0°C to +70°C
 G=±25ppm Maximum over -40°C to +85°C
 H=±50ppm Maximum over -40°C to +85°C

AVAILABLE OPTIONS

Blank= Tubes
 TR= Tape and Reel (Standard)

FREQUENCY

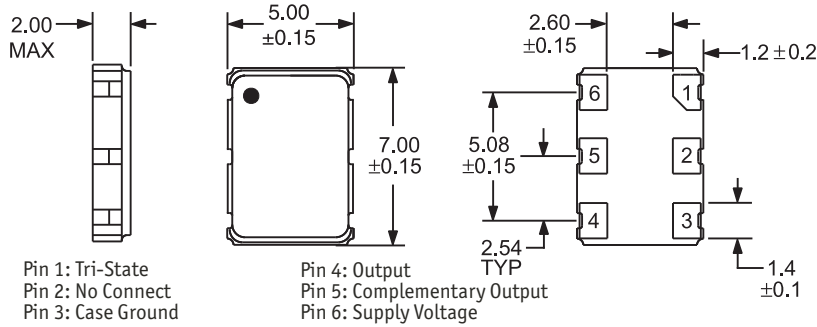
LOGIC CONTROL/ADDITIONAL OUTPUT

F= Tri-State and Complementary Output

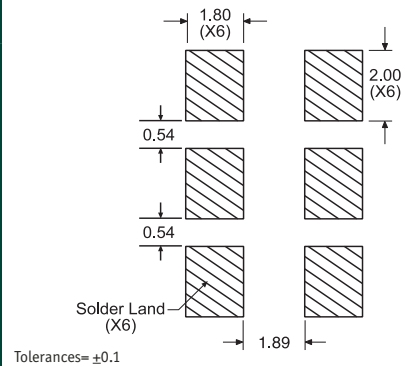
DUTY CYCLE

2= 50 ±5(%)

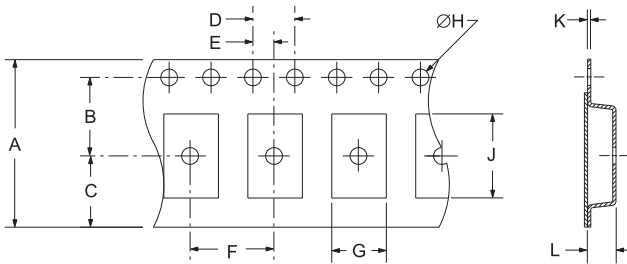
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



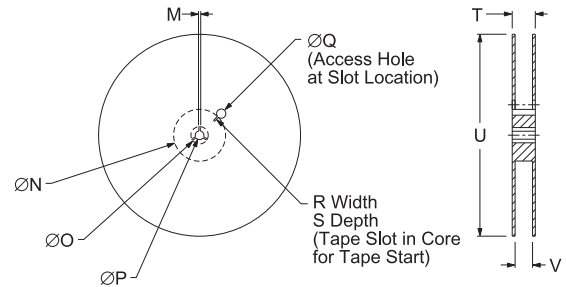
SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



| TAPE | A | B | C | D | E | |
|------|---------|--------|-----------|-------|---------|-----|
| | 16±.3-1 | 7.5±.1 | 6.75±.1 | 4 ±.1 | 2±.1 | |
| | F | G | H | J | K | L |
| | 8±.1 | B0* | 1.5 +.1-0 | A0* | .3 ±.05 | K0* |



| REEL | M | N | O | P | Q | |
|------|---------|--------|----------|---------|----------|----------|
| | 1.5 MIN | 50 MIN | 20.2 MIN | 13±.2 | 40 MIN | |
| | R | S | T | U | V | QTY/REEL |
| | 2.5 MIN | 10 MIN | 22.4 MAX | 360 MAX | 16.4+2-0 | 1,000 |

*Compliant to EIA 481A

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 |
| Solderability | MIL-STD-883, Method 2002 |
| Temperature Cycling | MIL-STD-883, Method 1010 |
| Resistance to Soldering Heat | MIL-STD-202, Method 210 |
| Resistance to Solvents | MIL-STD-202, 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
 Eclipsetek Manufacturing Identifier

| MANUFACTURER | CATEGORY | SERIES | PACKAGE | VOLTAGE | CLASS | REV. DATE |
|----------------|------------|--------|---------|---------|-------|-----------|
| ECLIPTEK CORP. | OSCILLATOR | E13D8 | CERAMIC | 3.3V | OS4N | 10/07 |