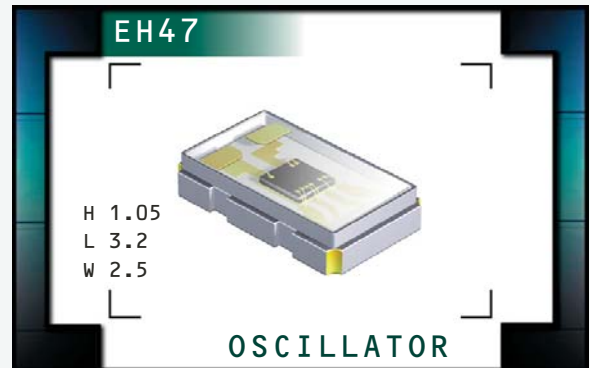


EH47 Series



ECLIPTEK[®]
CORPORATION

- RoHS Compliant (Pb-Free)
- Ceramic SMD package
- 2.5V supply voltage
- LVCMOS output
- Stability to ± 20 ppm
- Available on tape and reel



NOTES

ELECTRICAL SPECIFICATIONS

| | | |
|--|--|---|
| Frequency Range | | 2.500MHz to 166.000MHz |
| 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}) | | 2.5V _{DC} $\pm 5\%$ |
| Input Current (No Load) | 2.500MHz to 25.000MHz | 6mA Maximum |
| | 25.001MHz to 75.000MHz | 7mA Maximum |
| | 75.001MHz to 100.000MHz | 8mA Maximum |
| | 100.001MHz to 166.000MHz | 9mA 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, First Year Aging at 25°C, 260°C Reflow, Shock, and Vibration | ± 100 ppm Maximum ± 50 ppm Maximum ± 25 ppm Maximum ± 20 ppm Maximum |
| Output Voltage Logic High (V_{OH}) | | 90% of V_{DD} Minimum $I_{OH} = -8$ mA |
| Output Voltage Logic Low (V_{OL}) | | 10% of V_{DD} Maximum $I_{OL} = +8$ mA |
| Rise Time / Fall Time | 2.500MHz to 50.000MHz 20% to 80% of Waveform | 6 nSeconds Maximum |
| | 50.001MHz to 75.000MHz 20% to 80% of Waveform | 4 nSeconds Maximum |
| | 75.001MHz to 166.000MHz 20% to 80% of Waveform | 2 nSeconds Maximum |
| Load Drive Capability | | 15pF Maximum |
| Duty Cycle | at 50% of Waveform | 50 ± 10 (%) (Standard) or 50 ± 5 (%) (Optional) |
| Tri-State Input Voltage | $V_{IH} \geq 90\%$ of V_{DD} or No Connection $V_{IH} \leq 10\%$ of V_{DD} | Enables Output Disables Output: High Impedance |
| Standby Current | Pin 1 = Ground | 10 μ A Maximum |
| Aging (at 25°C) | | ± 5 ppm / year Maximum |
| Start Up Time | | 10mSeconds Maximum |
| Period Jitter: Absolute | | ± 100 pSec Maximum |

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EH47

PACKAGE
CERAMIC

VOLTAGE
2.5V

CLASS
057C

REV. DATE
06/09

PART NUMBERING GUIDE

EH47 00 ETTTS - 24.000M TR

FREQUENCY TOLERANCE / STABILITY

00 = ±100ppm Maximum (Standard)
 45 = ±50ppm Maximum
 25 = ±25ppm Maximum
 20 = ±20ppm Maximum

OPERATING TEMP. RANGE

Blank = 0°C to 70°C or
 ET = -40°C to 85°C

DUTY CYCLE

Blank = 50 ±10% (Standard)
 T = 50 ±5%

AVAILABLE OPTIONS

Blank = Bulk (Standard)
 TR = Tape and Reel

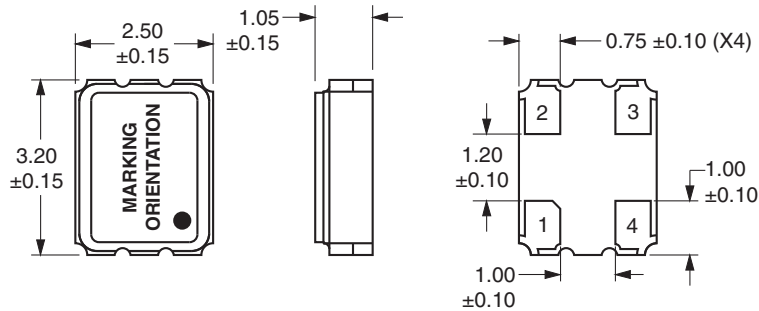
FREQUENCY

OUTPUT CONTROL FUNCTION

TS = Tri-State (High Impedance)

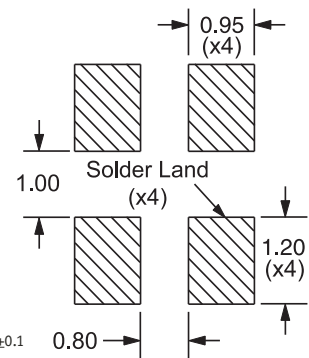
MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



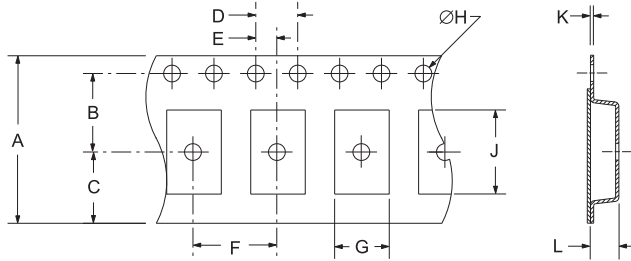
SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS

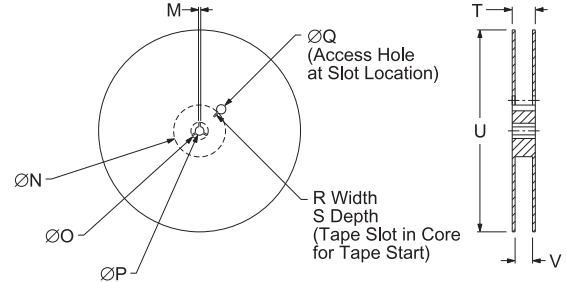


TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



| REEL | A | B | C | D | E |
|----------|-----------|---------------|------------|----------|-----------|
| | 12.0 ±0.3 | 5.5 ±0.05 | 4.75 ±0.10 | 4.0 ±0.1 | 2.0 ±0.05 |
| F | G | H | J | K | L |
| 4.0 ±0.1 | A0* | 1.5 +0.1 -0.0 | B0* | 0.6 MAX | K0* |



| REEL | M | N | O | P | Q |
|---------|---------|----------|----------|------------|----------|
| | 1.5 MIN | 50 MIN | 20.2 MIN | 13.0 ±0.2 | 40 MIN |
| R | S | T | U | V | QTY/REEL |
| 2.5 MIN | 10 MIN | 18.4 MAX | 180 MAX | 12.4 +2 -0 | 1,000 |

*Compliant to EIA 481A

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

| Characteristic | Specification |
|------------------------------|---|
| ESD Susceptibility | MIL-STD-883, Method 3015, Class 1, HBM: 1500V |
| Fine Leak Test | MIL-STD-883, Method 1014, Condition A |
| Flammability | UL94-V0 |
| Gross Leak Test | MIL-STD-883, Method 1014, Condition C |
| Mechanical Shock | MIL-STD-883, Method 2002, Condition B |
| Moisture Resistance | MIL-STD-883, Method 1004 |
| Moisture Sensitivity | J-STD-020, MSL 1 |
| Resistance to Soldering Heat | MIL-STD-202, Method 210, Condition K |
| Resistance to Solvents | MIL-STD-202, Method 215 |
| Solderability | MIL-STD-883, Method 2003 |
| Temperature Cycling | MIL-STD-883, Method 1010, Condition B |
| Vibration | MIL-STD-883, Method 2007, Condition A |

MARKING SPECIFICATIONS

Line 1: EPO
 Line 2: XXXXX
 Ecliptek Manufacturing Identifier

| MANUFACTURER | CATEGORY | SERIES | PACKAGE | VOLTAGE | CLASS | REV. DATE |
|----------------|------------|--------|---------|---------|-------|-----------|
| ECLIPTEK CORP. | OSCILLATOR | EH47 | CERAMIC | 2.5V | 057C | 06/09 |