

EB13C3 Series



- RoHS Compliant (Pb-Free)
- Ceramic SMD package
- 3.3V supply voltage
- Low input current
- LVHCMOS output
- Stability to ± 20 ppm
- Standby Function
- Available in tube or tape and reel



ELECTRICAL SPECIFICATIONS

| | | |
|--|--|---|
| Frequency Range | | 6.144MHz to 44.736MHz |
| Operating Temperature Range | | 0°C to 70°C -40°C to 85°C |
| Storage Temperature Range | | -55°C to 125°C |
| Supply Voltage (V_{DD}) | | 3.3V _{DC} $\pm 10\%$ |
| Input Current | 6.144MHz to 10.000MHz | 2mA Maximum |
| | 10.001MHz to 25.000MHz | 3mA Maximum |
| | 25.001MHz to 40.000MHz | 5mA Maximum |
| | 40.001MHz to 44.736MHz | 12mA 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, Shock, and Vibration | ± 100 ppm, ± 50 ppm, ± 25 ppm or ± 20 ppm Max. |
| Output Voltage Logic High (V_{OH}) | ≤ 40.000 MHz | 90% of V_{DD} Min. (-1.6mA) |
| | > 40.000 MHz | (-8mA) |
| Output Voltage Logic Low (V_{OL}) | ≤ 40.000 MHz | 10% of V_{DD} Max. (+1.6mA) |
| | > 40.000 MHz | (+8mA) |
| Rise / Fall Time | ≤ 25.000 MHz 20% to 80% of Waveform | 6 nSeconds Maximum |
| | > 25.000 MHz 20% to 80% of Waveform | 4 nSeconds Maximum |
| Duty Cycle | at 50% of Waveform | 50 ± 10 (%) (Standard) |
| | at 50% of Waveform | 50 ± 5 (%) (Optional) |
| Load Drive Capability | | 15pF HCMOS Load Maximum |
| Tri-State Input Voltage | No Connection | Enables Output |
| | $V_{IH} \geq 90\%$ of V_{DD} | Enables Output |
| | $V_{IL} \leq 10\%$ of V_{DD} | Disables Output: High Impedance |
| Standby Current | Disabled Output: High Impedance | 10 μ A Maximum |
| Start Up Time | | 10 mSeconds Maximum |
| Period Jitter: One Sigma | | 25pSeconds Maximum |

| | | | | | | |
|--------------------------------|------------------------|------------------|--------------------|-----------------|---------------|--------------------|
| MANUFACTURER ECLIPTEK CORP. | CATEGORY OSCILLATOR | SERIES EB13C3 | PACKAGE CERAMIC | VOLTAGE 3.3V | CLASS OS11 | REV. DATE 03/03 |
|--------------------------------|------------------------|------------------|--------------------|-----------------|---------------|--------------------|

PART NUMBERING GUIDE

EB13C3 F 2 H - 40.000M TR

FREQUENCY TOLERANCE / STABILITY

C=±100ppm Maximum over 0°C to +70°C
 D=±50ppm Maximum over 0°C to +70°C
 E=±25ppm Maximum over 0°C to +70°C
 F=±20ppm Maximum over 0°C to +70°C
 G=±100ppm Maximum over -40°C to +85°C
 H=±50ppm Maximum over -40°C to +85°C
 J=±25ppm Maximum over -40°C to +85°C
 K=±20ppm Maximum over -40°C to +85°C

PACKAGING OPTIONS

Blank=Bulk, TR=Tape and Reel (Standard)

FREQUENCY

OUTPUT CONTROL FUNCTION

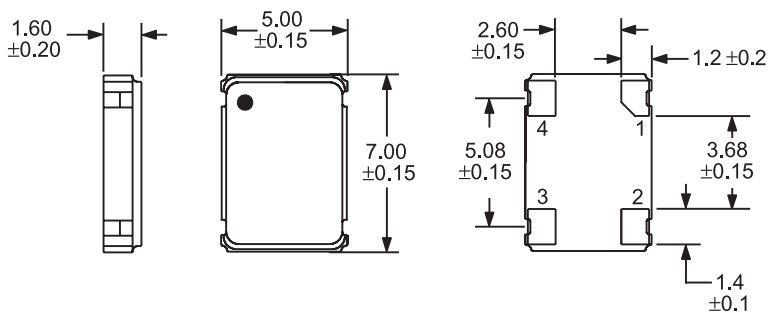
H=Tri-State

DUTY CYCLE

1=50 ±10(%)
 2=50 ±5(%)

MECHANICAL DIMENSIONS

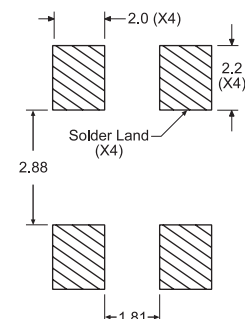
ALL DIMENSIONS IN MILLIMETERS



Pin 1: Tri-State
 Pin 2: Case Ground
 Pin 3: Output
 Pin 4: Supply Voltage

SUGGESTED SOLDER PAD LAYOUT

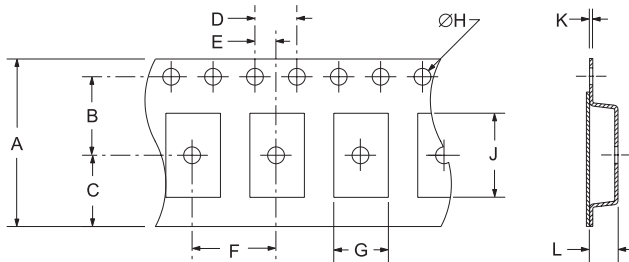
ALL DIMENSIONS IN MILLIMETERS



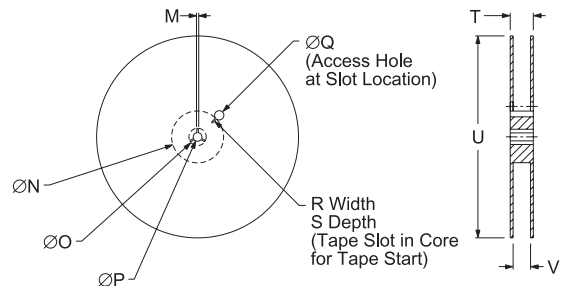
Tolerances = ±0.1

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 |



| 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 |

*Compliant to EIA 481A

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic

| 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
 Ecliptek Manufacturing Identifier

| MANUFACTURER | CATEGORY | SERIES | PACKAGE | VOLTAGE | CLASS | REV. DATE |
|----------------|------------|--------|---------|---------|-------|-----------|
| ECLIPTEK CORP. | OSCILLATOR | EB13C3 | CERAMIC | 3.3V | OS1I | 03/03 |