ECLIPTEK® CORPORATION

# Marketing Bulletin

**DATE:** March 24th, 2006

**TO:** All Sales Personnel

**FROM:** Mark Stoner



**RE:** Product Termination

To all concerned parties,

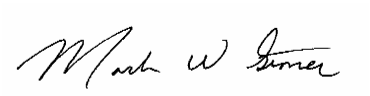
This bulletin is to notify all customers of the discontinuation of the following Ecliptek series effective March 24th, 2006:

| Series | Description | Recommended Replacement |
|---|---|---|
| E13C9 | 3.3V 5 x 7mm SMD LVPECL Oscillator | E13C7 or E13D8 |

In compliance with our End of Life (EOL) policy, this will serve as advanced notice of product termination. New orders will not be accepted after July 1st, 2006, with delivery to conclude by October 1st 2006.

If there are any questions pertaining to this bulletin, please fell free to contact me. Thank you again for your cooperation.

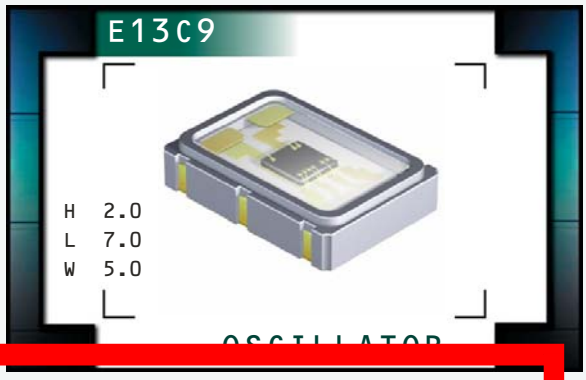
Best Regards,



Mark W. Stoner
Director of Marketing
Ecliptek Corporation

# E13C9 Series

- RoHS Compliant (Pb-Free)
- LVPECL Output Oscillators
- 3.3V Supply Voltage
- AT-Cut Fundamental Mode Inverted Mesa Crystal
- Ceramic 6-pad SMD Package
- Stability to 25ppm
- Tri-State Enable High and Enable Low Options Available on Pad 1 or Pad 2
- Complementary Output
- Wide Range of Available Frequencies






OBSOLETE

## ELECTRICAL SPECIFICATIONS

| | | |
|---|---|---|
| **Nominal Frequency** | | 19.440MHz to 200.000MHz |
| **Operating Temperature Range** | | 0°C to 70°C, or -40°C to +85°C |
| **Storage Temperature Range** | | -55°C to 125°C |
| **Supply Voltage ($V_{CC}$)** | | $3.3V_{DC}$ ±5% |
| **Input Current** | | 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 | ±100ppm, ±50ppm, or ±25ppm Maximum |
| **Output Voltage Logic High ($V_{OH}$)** | | $V_{CC}$-1.025$V_{DC}$ Minimum |
| **Output Voltage Logic Low ($V_{OL}$)** | | $V_{CC}$-1.620$V_{DC}$ Maximum |
| **Rise Time / Fall Time** | 20% to 80% of waveform | 1.5 nSeconds Maximum, 600 pSec Typical |
| **Duty Cycle** | at 50% of waveform | 50 ±10(%)<br>50 ±5(%) |
| **Load Drive Capability** | | 50 Ohms into $V_{CC}$-2.0$V_{DC}$ |
| **Logic Control / Additional Output** | Enable High or Enable Low | No Connect and Complementary Output or Tri-State and Complementary Output |
| **Enable High Tri-State Input Voltage** | $V_{IH}$ of 70% of $V_{CC}$ Minimum<br>No Connection<br>$V_{IL}$ of 30% of $V_{CC}$ Maximum | Enables Output<br>Enables Output<br>Disables Output: High Impedance |
| **Enable Low Tri-State Input Voltage** | $V_{IH}$ of 70% of $V_{CC}$ Minimum<br>No Connection<br>$V_{IL}$ of 30% of $V_{CC}$ Maximum | Disables Output: High Impedance<br>Enables Output<br>Enables Output |
| **Output Disable Current** | | 25mA Maximum |
| **Start Up Time** | | 10 mSeconds Maximum |
| **RMS Phase Jitter** | < 44.736MHz; $F_J$ = 12kHz to 20MHz<br>≥ 44.736MHz, < 77.760MHz; $F_J$ = 12kHz to 20MHz<br>≥ 77.760MHz; $F_J$ = 12kHz to 20MHz | 5 pSec Maximum<br>2 pSec Maximum<br>1 pSec Maximum |
| **Phase Noise (at 155.520MHz)** | at 10Hz Offset<br>at 100Hz Offset<br>at 1kHz Offset<br>at 10kHz Offset<br>at 100kHz Offset | -75dBc/Hz Typical<br>-95dBc/Hz Typical<br>-125dBc/Hz Typical<br>-140dBc/Hz Typical<br>-145dBc/Hz Typical |

| MANUFACTURER | CATEGORY | SERIES | PACKAGE | VOLTAGE | CLASS | REV. DATE |
|---|---|---|---|---|---|---|
| ECLIPTEK CORP. | OSCILLATOR | E13C9 | CERAMIC | 3.3V | OS1T | 06/04 |

OBSOLETE

# PART NUMBERING GUIDE

**E13C9 E 2 F - 155.520M TR**

**FREQUENCY TOLERANCE & STABILITY/ OPERATING TEMPERATURE RANGE**
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
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

**DUTY CYCLE**
1=50% ±10%, 2=50% ±5%

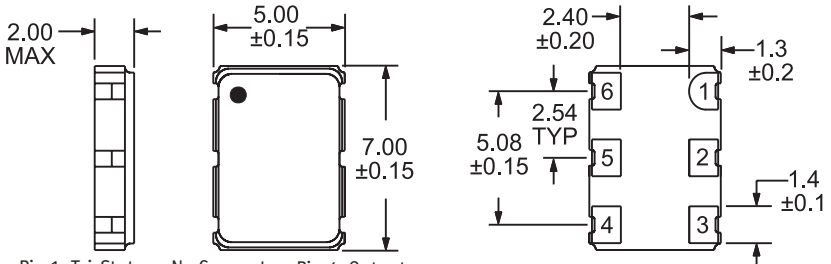
**AVAILABLE OPTIONS**
Blank=Tubes
TR=Tape and Reel (Standard)

**FREQUENCY**

**LOGIC CONTROL/ADDITIONAL OUTPUT**
C=No Connect and Complementary Output
F=Tri-State (Enable High) on Pad 1 and Complementary Output
H=Tri-State (Enable High) on Pad 2 and Complementary Output
J=Tri-State (Enable Low) on Pad 1 and Complementary Output
K=Tri-State (Enable Low) on Pad 2 and Complementary Output

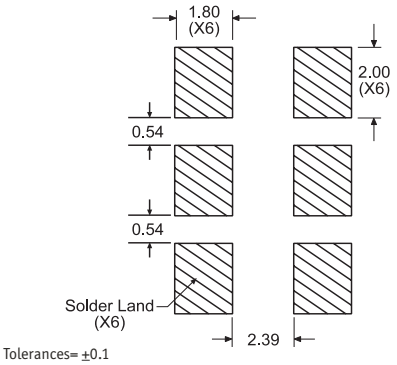


## MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



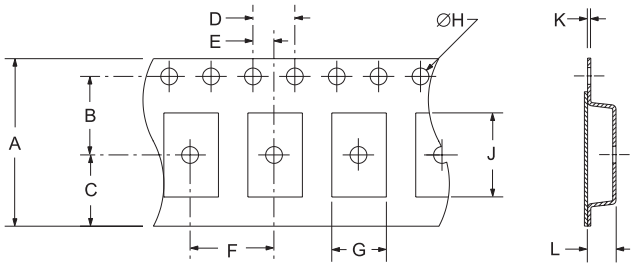

Pin 1: Tri-State or No Connect
Pin 2: Tri-State or No Connect
Pin 3: Case Ground
Pin 4: Output
Pin 5: Complementary Output
Pin 6: Supply Voltage

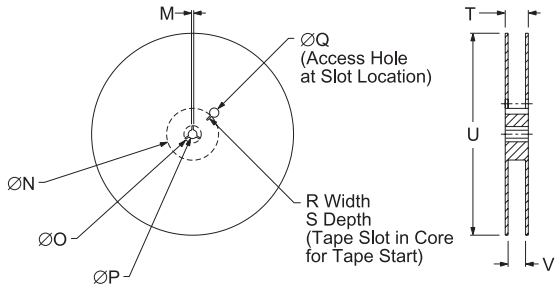
## SUGGESTED SOLDER PAD LAYOUT
ALL DIMENSIONS IN MILLIMETERS




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 | 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
Ecliptek Manufacturing Identifier

| MANUFACTURER | CATEGORY | SERIES | PACKAGE | VOLTAGE | CLASS | REV. DATE |
|---|---|---|---|---|---|---|
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