

## Marketing Bulletin

**DATE:** April 20<sup>th</sup>, 2010  
**TO:** All Sales Personnel  
**FROM:** Isaac Gonzalez  
**RE:** Product Termination

To all concerned parties,

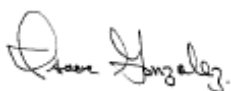
This bulletin is to notify all customers of the discontinuation of the following Ecliptek series effective April 20<sup>th</sup>, 2010:

| <b>Series</b> | <b>Description</b>   | <b>Recommended Replacement</b> |
|---------------|--|--------------------------------|
| EC28          | RoHS Compliant (Pb-free) 2.5V 14 Pin DIP Metal Thru-Hole LVCMOS Oscillator | <a href="#">EH27</a>           |
| EC28HS        | RoHS Compliant (Pb-free) 2.5V 8 Pin DIP Metal Thru-Hole LVCMOS Oscillator  | <a href="#">EH27</a>           |

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 September 1<sup>st</sup>, 2010, with delivery to conclude by December 1<sup>st</sup>, 2010.

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

Best Regards,



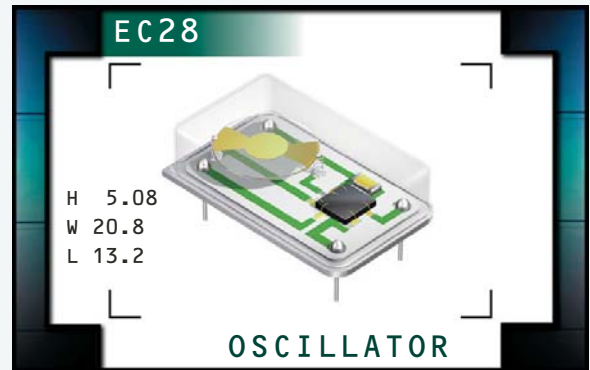
Isaac Gonzalez  
Configuration Manager  
Ecliptek Corporation

# EC28 Series



**ECLIPTEK**<sup>®</sup>  
CORPORATION

- Crystal Clock Oscillators
- LVCMOS Output
- +2.5V Supply Voltage
- Tri-State Output Option
- Custom Lead Length & Gull Wing Options
- 14 pin DIP Metal Package
- RoHS Compliant (Pb-free)



## NOTES

### ELECTRICAL SPECIFICATIONS

|  |  |   |
|--|--|---|
| <b>Frequency Range (MHz)</b>                               |  | 1.544MHz to 33.000MHz   |
| <b>Operating Temperature Range (OTR)</b>                   | ±100ppm, ±50ppm, or 25ppm  | 0°C to 70°C or -40°C to 85°C                                  |
| <b>Storage Temperature Range (STR)</b>                     |  | -55°C to 125°C  |
| <b>Supply Voltage (V<sub>DD</sub>)</b>                     |  | 2.5V <sub>DC</sub> ±5%  |
| <b>Input Current (I<sub>DD</sub>)</b>                      | ≤24.000MHz   | 10mA Maximum  |
|  | >24.000MHz   | 20mA Maximum  |
| <b>Frequency Tolerance / Stability</b>                     | Inclusive of Operating Temperature Range, Supply Voltage, and Load | ±100ppm, ±50ppm, ±25ppm, or ±20ppm Maximum (0°C to 70°C Only) |
| <b>Output Voltage Logic High (V<sub>OH</sub>)</b>          |  | 90% of V <sub>DD</sub> Minimum I <sub>OH</sub> =-4mA          |
| <b>Output Voltage Logic Low (V<sub>OL</sub>)</b>           |  | 10% of V <sub>DD</sub> Minimum I <sub>OL</sub> =+4mA          |
| <b>Rise Time / Fall Time (T<sub>r</sub>/T<sub>f</sub>)</b> | 20% to 80% of Waveform ≤24.000MHz                                  | 6 nSeconds Maximum  |
|  | 20% to 80% of Waveform >24.000MHz                                  | 4 nSeconds Maximum  |
| <b>Duty Cycle (SYM)</b>                                    | at 50% of Waveform   | 50 ±10(%) (Standard) or 50 ±5(%) (Optional)                   |
| <b>Load Drive Capability (C<sub>LOAD</sub>)</b>            |  | 15pF Maximum  |
| <b>Tri-State Input Voltage</b>                             | V <sub>IH</sub> : No Connection                                    | Enables Output  |
|  | V <sub>IH</sub> : ≥90% of V <sub>DD</sub>                          | Enables Output  |
|  | V <sub>IL</sub> : ≤10% of V <sub>DD</sub>                          | Disables Output: High Impedance                               |
| <b>Aging (at 25°C)</b>                                     |  | ±5ppm / year Maximum  |
| <b>Start Up Time (T<sub>s</sub>)</b>                       |  | 10 mSeconds Maximum   |
| <b>Period Jitter: Absolute</b>                             |  | ±100pSeconds Maximum  |
| <b>Period Jitter: One Sigma</b>                            |  | ±25pSeconds Maximum   |

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
EC28

PACKAGE  
14 pin DIP

VOLTAGE  
2.5V

CLASS  
OS53

REV. DATE  
08/06

## PART NUMBERING GUIDE

### EC28 00 ET T TS - 32.000M - G

**FREQUENCY TOLERANCE / STABILITY**

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

**OPERATING TEMP. RANGE**

Blank=0°C to 70°C, ET=-40°C to 85°C

**DUTY CYCLE**

Blank=50±10(%), T=50±5(%)

**AVAILABLE OPTIONS**

Blank=None  
 CLXXX=Custom Lead Length  
 G=Full Size Gull Wing

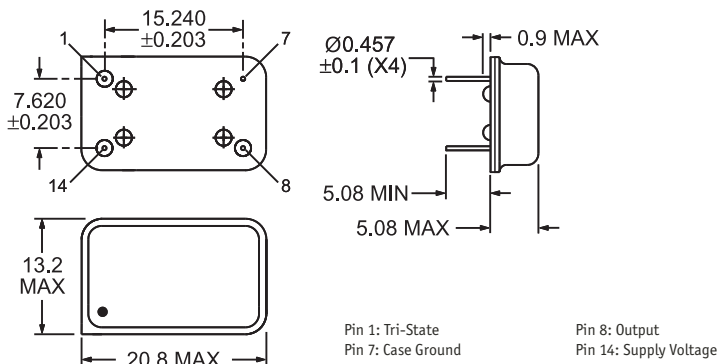
**FREQUENCY**

**OUTPUT CONTROL FUNCTION**

TS=Tri-State Enable High

## NOTES

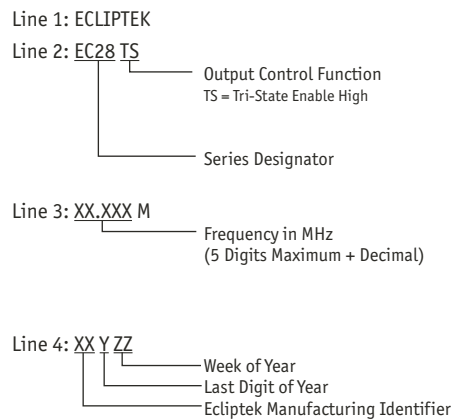
**MECHANICAL DIMENSIONS**  
 ALL DIMENSIONS IN MILLIMETERS



**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               |

**MARKING SPECIFICATIONS**



Note: Pin 1 shall be designated with a dot

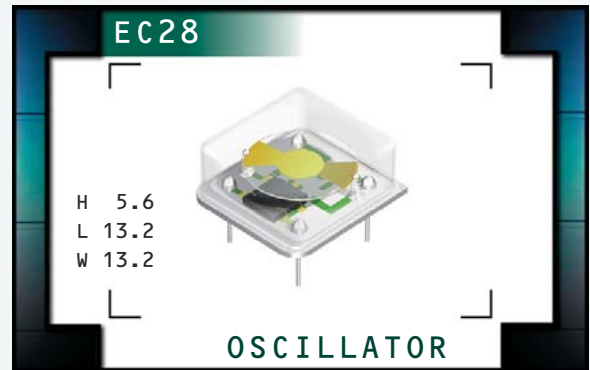
| MANUFACTURER   | CATEGORY   | SERIES | PACKAGE    | VOLTAGE | CLASS | REV. DATE |
|----------------|------------|--------|------------|---------|-------|-----------|
| ECLIPTEK CORP. | OSCILLATOR | EC28   | 14 pin DIP | 2.5V    | OS53  | 08/06     |

# EC28 Series



ECLIPTEK<sup>®</sup>  
CORPORATION

- Crystal Clock Oscillators
- LVCMOS Output
- +2.5V Supply Voltage
- Tri-State Output Option
- Custom Lead Length & Gull Wing Options
- 8 pin DIP Metal Package
- RoHS Compliant (Pb-free)



## NOTES

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| <b>Frequency Range (MHz)</b>                               |   | 1.544MHz to 33.000MHz   |
| <b>Operating Temperature Range (OTR)</b>                   | ±100ppm, ±50ppm, or ±25ppm<br>±20ppm  | 0°C to 70°C or -40°C to 85°C<br>0°C to 70°C                         |
| <b>Storage Temperature Range (STR)</b>                     |   | -55°C to 125°C  |
| <b>Supply Voltage (V<sub>DD</sub>)</b>                     |   | 2.5V <sub>DC</sub> ±5%  |
| <b>Input Current (I<sub>DD</sub>)</b>                      | ≤24.000MHz<br>>24.000MHz  | 10mA Maximum<br>20mA Maximum  |
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MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
EC28

PACKAGE  
8 pin DIP

VOLTAGE  
2.5V

CLASS  
OS54

REV. DATE  
08/06

## PART NUMBERING GUIDE

### EC28 00 HS ET TS - 32.000M - 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

TR= Tape & Reel (only offered with Half Size G and Half Size G2 Options)

#### AVAILABLE OPTIONS

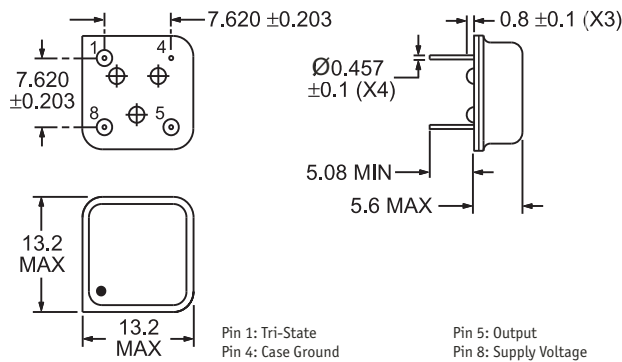
Blank=None  
 CLXX=Custom Lead Length  
 G=Half Size Gull Wing  
 G2=Half Size Gull Wing

#### FREQUENCY

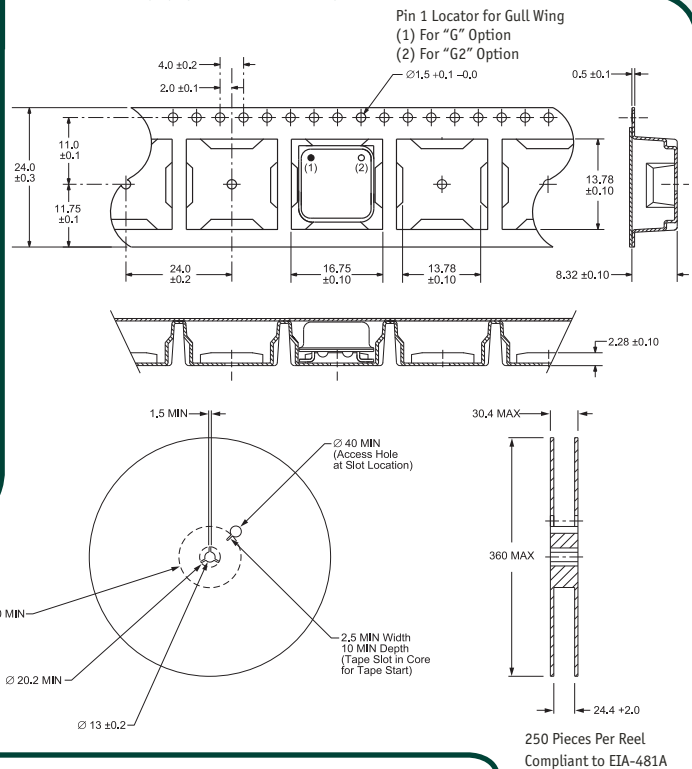
#### OUTPUT CONTROL FUNCTION

TS=Tri-State Enable High

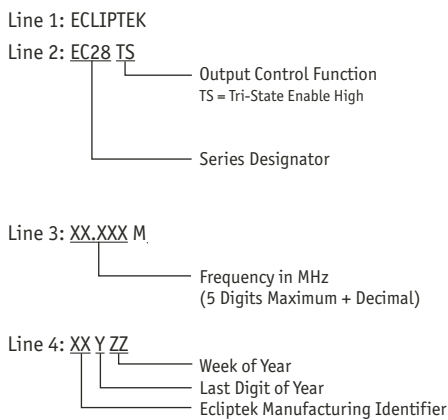
#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



#### TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



#### MARKING SPECIFICATIONS



Note: Pin 1 shall be designated with a dot

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| Characteristic               | Specification                         |
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| 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<br>ECLIPTEK CORP. | CATEGORY<br>OSCILLATOR | SERIES<br>EC28 | PACKAGE<br>8 pin DIP | VOLTAGE<br>2.5V | CLASS<br>OS54 | REV. DATE<br>08/06 |
|--------------------------------|------------------------|----------------|----------------------|-----------------|---------------|--------------------|