

## Marketing Bulletin

**DATE:** May 1<sup>st</sup>, 2008  
**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 May 1<sup>st</sup>, 2008:

| <b>Series</b> | <b>Description</b>                | <b>Recommended Replacement</b> |
|---------------|-----------------------------------|--------------------------------|
| EC            | Resistance Welded HC-49/U Crystal | <a href="#">EU Series</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>, 2009, with delivery to conclude by December 31<sup>st</sup>, 2009.

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

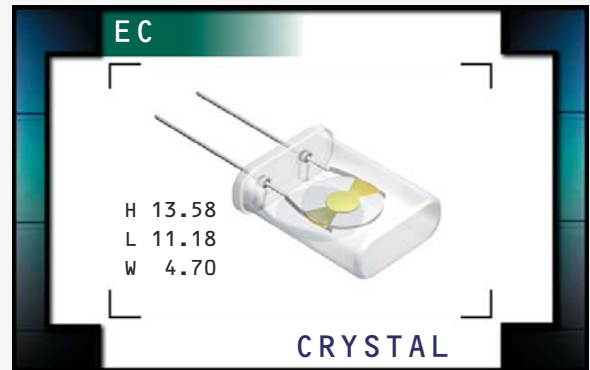
Best Regards,



Isaac Gonzalez  
Configuration Manager  
Ecliptek Corporation

# EC Series

- HC-49/U package
- AT cut
- Resistance weld seal
- Tight tolerance/stability
- Tape and reel, vinyl sleeve, insulator tab, third lead, and custom lead length options available



## NOTES

### ELECTRICAL SPECIFICATIONS

|                                    |   |
|------------------------------------|---|
| Frequency Range                    | 1.8432MHz to 65.000MHz  |
| Frequency Tolerance / Stability    | ±50ppm / ±100ppm (Standard), ±30ppm / ±50ppm,                     |
| Over Operating Temperature Range   | ±15ppm / ±30ppm, *±15ppm / ±20ppm, or ±10ppm / ±15ppm             |
| Operating Temperature Range        | 0°C to 70°C (Standard), -20°C to 70°C, or -40°C to 85°C           |
| Aging (at 25°C)                    | ±5ppm / year Maximum  |
| Storage Temperature Range          | -40°C to 85°C   |
| Shunt Capacitance                  | 7pF Maximum   |
| Insulation Resistance              | 500 Megaohms Minimum at 100V <sub>DC</sub>                        |
| Drive Level                        | 2 mWatts Maximum  |
| Load Capacitance (C <sub>L</sub> ) | 18pF (Standard), Custom C <sub>L</sub> ≥ 10pF, or Series Resonant |

### EQUIVALENT SERIES RESISTANCE (ESR), MODE OF OPERATION (MODE), AND CUT

| Frequency Range       | ESR (Ω) | Mode / Cut       | Frequency Range        | ESR (Ω) | Mode / Cut          |
|-----------------------|---------|------------------|------------------------|---------|---------------------|
| 1.8432MHz to 1.999MHz | 650 Max | Fundamental / AT | 4.100MHz to 4.999MHz   | 80 Max  | Fundamental / AT    |
| 2.000MHz to 2.399MHz  | 550 Max | Fundamental / AT | 5.000MHz to 5.999MHz   | 75 Max  | Fundamental / AT    |
| 2.400MHz to 2.999MHz  | 350 Max | Fundamental / AT | 6.000MHz to 6.999MHz   | 50 Max  | Fundamental / AT    |
| 3.000MHz to 3.199MHz  | 250 Max | Fundamental / AT | 7.000MHz to 7.999MHz   | 40 Max  | Fundamental / AT    |
| 3.200MHz to 3.499MHz  | 200 Max | Fundamental / AT | 8.000MHz to 9.999MHz   | 35 Max  | Fundamental / AT    |
| 3.500MHz to 3.599MHz  | 180 Max | Fundamental / AT | 10.000MHz to 12.999MHz | 30 Max  | Fundamental / AT    |
| 3.600MHz to 3.899MHz  | 150 Max | Fundamental / AT | 13.000MHz to 32.768MHz | 25 Max  | Fundamental / AT    |
| 3.900MHz to 3.999MHz  | 120 Max | Fundamental / AT | 24.000MHz to 29.999MHz | 60 Max  | Third Overtone / AT |
| 4.000MHz to 4.099MHz  | 100 Max | Fundamental / AT | 30.000MHz to 65.000MHz | 40 Max  | Third Overtone / AT |

## PART NUMBERING GUIDE

### EC AT - 20 - 30.000M - G TR

#### FREQUENCY TOLERANCE / STABILITY

Blank=±50ppm at 25°C, ±100ppm from 0°C to 70°C  
 A=±50ppm at 25°C, ±100ppm from -20°C to 70°C  
 B=±50ppm at 25°C, ±100ppm from -40°C to 85°C  
 C=±30ppm at 25°C, ±50ppm from 0°C to 70°C  
 D=±30ppm at 25°C, ±50ppm from -20°C to 70°C  
 E=±30ppm at 25°C, ±50ppm from -40°C to 85°C  
 F=±15ppm at 25°C, ±30ppm from 0°C to 70°C  
 G=±15ppm at 25°C, ±30ppm from -20°C to 70°C  
 H=±15ppm at 25°C, ±30ppm from -40°C to 85°C  
 J=±15ppm at 25°C, ±20ppm from 0°C to 70°C  
 K=±15ppm at 25°C, ±20ppm from -20°C to 70°C  
 L=±15ppm at 25°C, ±20ppm from -40°C to 85°C  
 M=±10ppm at 25°C, ±15ppm from 0°C to 70°C  
 N=±10ppm at 25°C, ±15ppm from -20°C to 70°C

#### PACKAGING OPTIONS

Blank=Bulk, A=Tray, TR=Tape and Reel

#### AVAILABLE OPTIONS

Blank=None (Standard), CLXXX=Custom Lead Length(pp46)  
 G=Gull Wing, G3=Gull Wing & Metal Jacket (pp47)  
 I2=Insulator Tab (pp48)  
 L=Third Lead(pp48)  
 L2=Alternate Third Lead (pp48)  
 V=Vinyl Sleeve (pp48)

#### FREQUENCY

#### LOAD CAPACITANCE

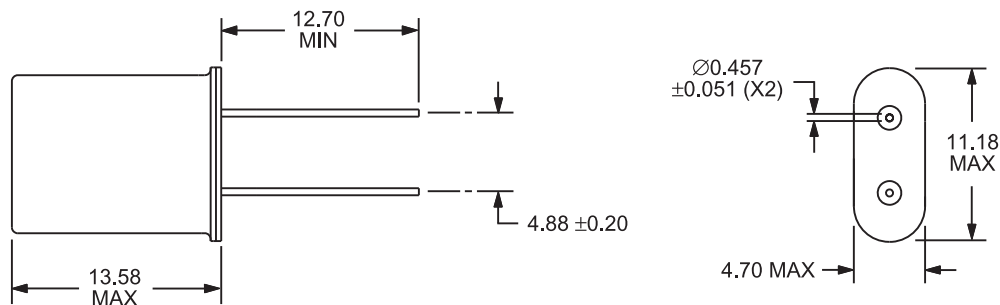
Blank=18pF (Standard), S=Series, XX=XXpF (Custom)

#### MODE OF OPERATION / CRYSTAL CUT

Blank=Fundamental / AT, T=Third Overtone / AT

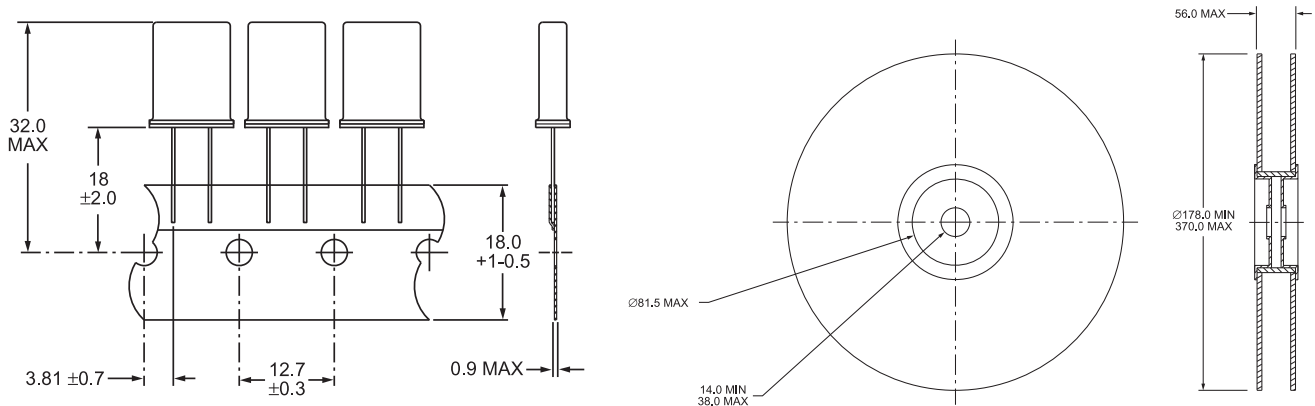
#### MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



#### TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



1000 Pieces per Reel  
 Compliant to EIA-468B

#### ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

##### PARAMETER

Fine Leak Test  
 Gross Leak Test  
 Mechanical Shock  
 Vibration  
 Lead Integrity  
 Solderability  
 Temperature Cycling  
 Resistance to Soldering Heat  
 Resistance to Solvents

##### SPECIFICATION

MIL-STD-883, Method 1014, Condition A  
 MIL-STD-883, Method 1014, Condition C  
 MIL-STD-202, Method 213, Condition C  
 MIL-STD-883, Method 2007, Condition A  
 MIL-STD-883, Method 2004  
 MIL-STD-883, Method 2002  
 MIL-STD-883, Method 1010  
 MIL-STD-883, Method 210  
 MIL-STD-883, Method 215

#### MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: E XX.XXXM

Frequency in MHz (5 Digits Maximum + Decimal)  
 E or Blank (No Marking)

Line 3: XX

Ecliptek Manufacturing Identifier

MANUFACTURER  
 ECLIPTEK CORP.

CATEGORY  
 CRYSTAL

SERIES  
 EC

PACKAGE  
 HC-49/U

CLASS  
 CR05

REV. DATE  
 11/07