



**ECLIPTEK®**  
CORPORATION

## 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:

Series	Description	Recommended Replacement
EC	Resistance Welded HC-49/U Crystal	EU Series

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.

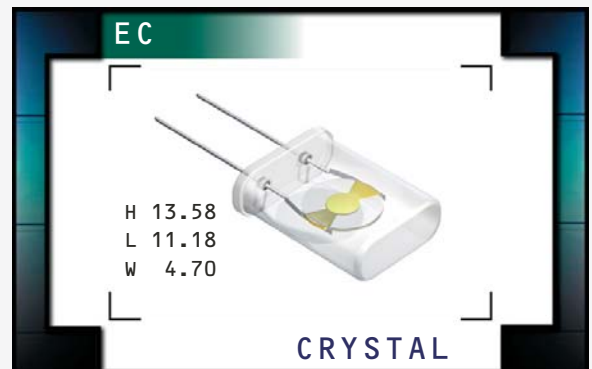
Best Regards,

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	$\pm 50\text{ppm}$ / $\pm 100\text{ppm}$ (Standard), $\pm 30\text{ppm}$ / $\pm 50\text{ppm}$ ,
Over Operating Temperature Range	$\pm 15\text{ppm}$ / $\pm 30\text{ppm}$ , * $\pm 15\text{ppm}$ / $\pm 20\text{ppm}$ , or $\pm 10\text{ppm}$ / $\pm 15\text{ppm}$
Operating Temperature Range	0°C to 70°C (Standard), -20°C to 70°C, or -40°C to 85°C
Aging (at 25°C)	$\pm 5\text{ppm}$ / 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> $\geq$ 10pF, or Series Resonant

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

Frequency Range	ESR ( $\Omega$ )	Mode / Cut	Frequency Range	ESR ( $\Omega$ )	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

### ECAT-20-30.000M-GTR

#### 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

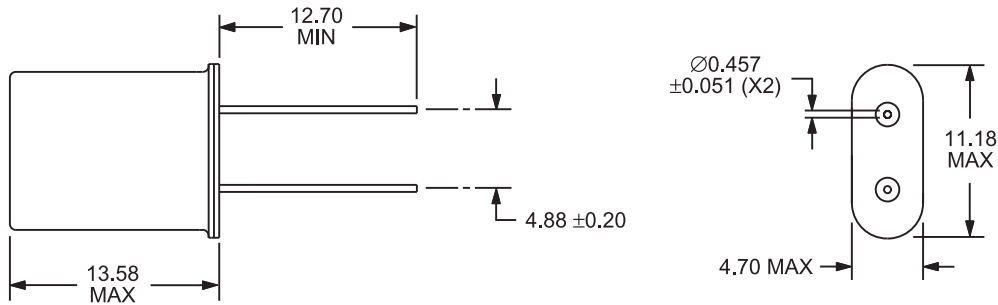
Blank=18pF (Standard), S=Series, XX=XXpF (Custom)

#### MODE OF OPERATION / CRYSTAL CUT

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

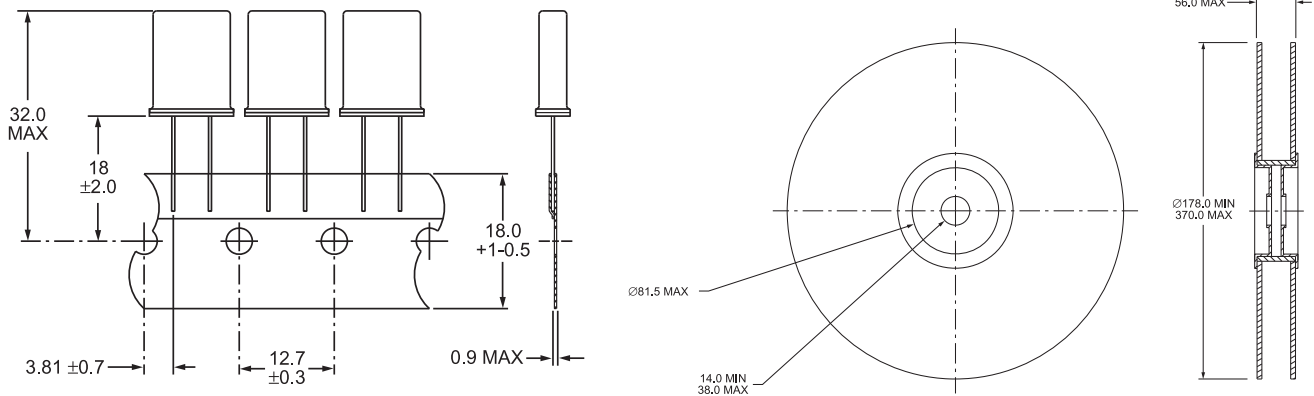
#### MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



#### TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



#### 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

1000 Pieces per Reel  
 Compliant to EIA-468B