

## 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>
EC1	Resistance Welded Short HC-49/US Crystal	E1U Series
EC2	Resistance Welded HC-49/US Crystal	E2U 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.

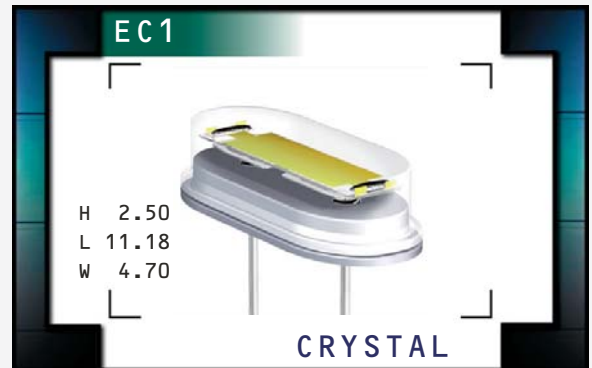
Best Regards,



Isaac Gonzalez  
Configuration Manager  
Ecliptek Corporation

# EC1 Series

- HC-49/US short package
- AT or BT cut available
- Resistance weld seal
- Tight tolerance/stability
- Tape and reel, insulator tab, and custom lead length options available



## NOTES

**OBSOLETE**

## ELECTRICAL SPECIFICATIONS

Frequency Range	3.579545MHz to 50.000MHz
Frequency Tolerance / Stability	$\pm 50\text{ppm}$ / $\pm 100\text{ppm}$ (Standard), $\pm 30\text{ppm}$ / $\pm 50\text{ppm}$ (AT cut only), $\pm 15\text{ppm}$ / $\pm 30\text{ppm}$ (AT cut only),
Over Operating Temperature Range	$\pm 15\text{ppm}$ / $\pm 20\text{ppm}$ (AT cut only), or $\pm 10\text{ppm}$ / $\pm 15\text{ppm}$ (AT cut only)
Operating Temperature Range	0°C to 70°C (Standard), -20°C to 70°C (AT cut only), or -40°C to 85°C (AT cut only)
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	1 mWatt Maximum
Load Capacitance (C <sub>L</sub> )	18pF (Standard), Custom C <sub>L</sub> $\geq 10\text{pF}$ , 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
3.579545MHz to 4.999MHz	200 Max	Fundamental / AT	15.000MHz to 15.999MHz	60 Max	Fundamental / AT
5.000MHz to 5.999MHz	150 Max	Fundamental / AT	16.000MHz to 23.999MHz	50 Max	Fundamental / AT
6.000MHz to 7.999MHz	120 Max	Fundamental / AT	24.000MHz to 30.000MHz	40 Max	Fundamental / AT
8.000MHz to 8.999MHz	90 Max	Fundamental / AT	24.000MHz to 40.000MHz	40 Max	Fundamental / BT
9.000MHz to 9.999MHz	80 Max	Fundamental / AT	28.6363MHz to 29.999MHz	150 Max	Third Overtone / AT
10.000MHz to 14.999MHz	70 Max	Fundamental / AT	30.000MHz to 50.000MHz	100 Max	Third Overtone / AT

## PART NUMBERING GUIDE

### EC1 A - T - 20 - 30.000M - I2 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 (See Page 42)  
I2=Insulator Tab (See Page 42)

#### FREQUENCY

#### LOAD CAPACITANCE

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

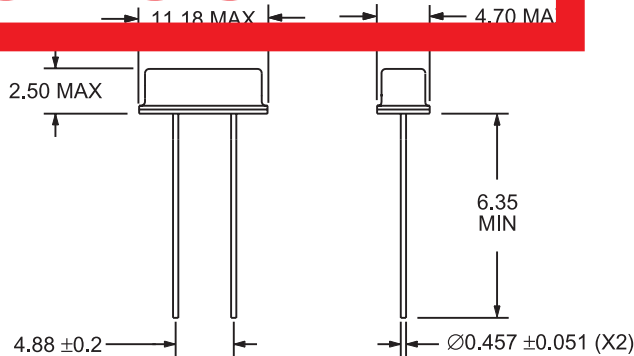
#### MODE OF OPERATION / CRYSTAL CUT

Blank=Fundamental / AT  
B=Fundamental / BT  
T=Third Overtone / AT

#### MECHANICAL DIMENSIONS

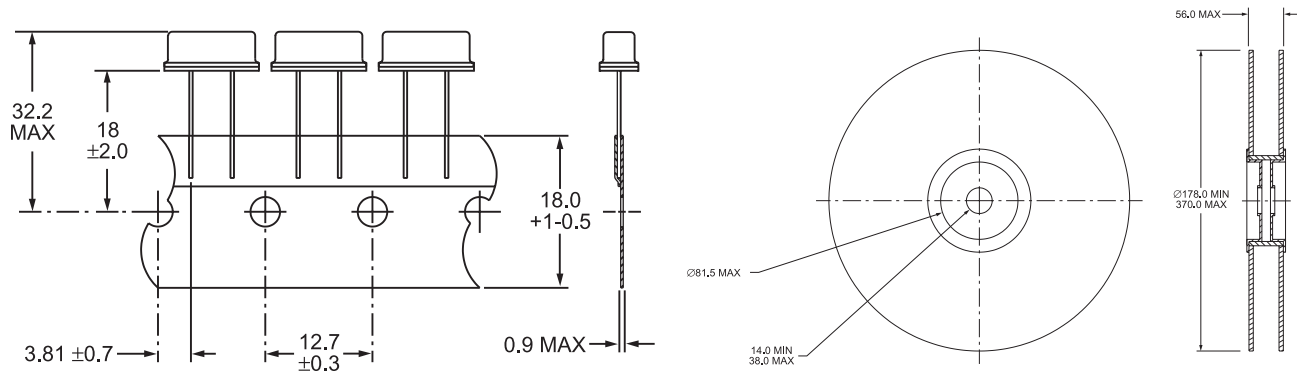
ALL DIMENSIONS IN MILLIMETERS

# OBSOLETE



#### 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: E XX.XXX M

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

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
CRYSTAL

SERIES  
EC1

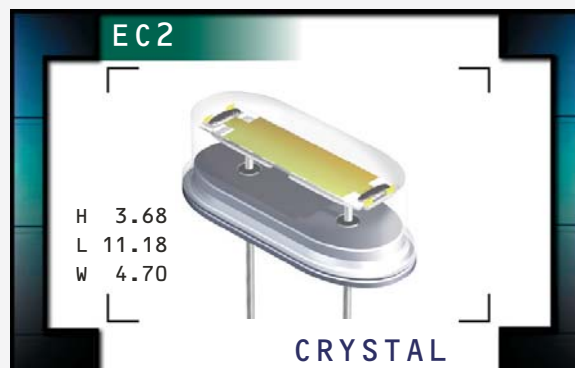
PACKAGE  
HC-49/US Short

CLASS  
CR22

REV. DATE  
03/06

# EC2 Series

- HC-49/US package
- AT or BT cut available
- Resistance weld seal
- Tight tolerance/stability
- Tape and reel, insulator tab, and custom lead length options available



## NOTES

**OBSOLETE**

## ELECTRICAL SPECIFICATIONS

Frequency Range	3.579545MHz to 50.000MHz
Frequency Tolerance / Stability	±50ppm / ±100ppm (Standard), ±30ppm / ±50ppm (AT cut only), ±15ppm / ±30ppm (AT cut only),
Over Operating Temperature Range	±15ppm / ±20ppm (AT cut only), or ±10ppm / ±15ppm (AT cut only)
Operating Temperature Range	0°C to 70°C (Standard), -20°C to 70°C (AT cut only), or -40°C to 85°C (AT cut only)
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	1 mWatt 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
3.579545MHz to 4.999MHz	200 Max	Fundamental / AT	15.000MHz to 15.999MHz	60 Max	Fundamental / AT
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10.000MHz to 14.999MHz	70 Max	Fundamental / AT	30.000MHz to 50.000MHz	100 Max	Third Overtone / AT

## PART NUMBERING GUIDE

**EC2 A - T - 20 - 30.000M - I2 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  
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 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  
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 K=±15ppm at 25°C, ±20ppm from -20°C to 70°C  
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 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 (Std)  
 CLXX=Custom Lead Length (See Page 42)  
 I2=Insulator Tab (See Page 42)

### FREQUENCY

### LOAD CAPACITANCE

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

### MODE OF OPERATION / CRYSTAL CUT

Blank=Fundamental / AT

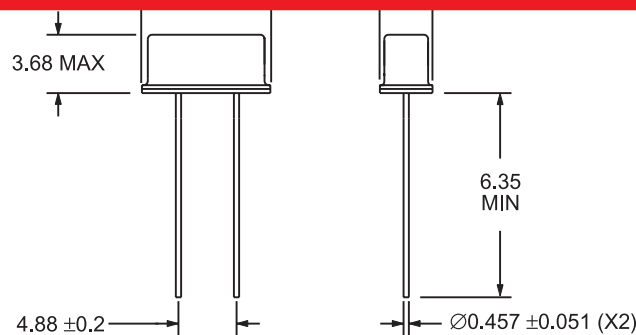
BT=Butterfly / BT

T=Third overtone / AT

**OBSOLETE**

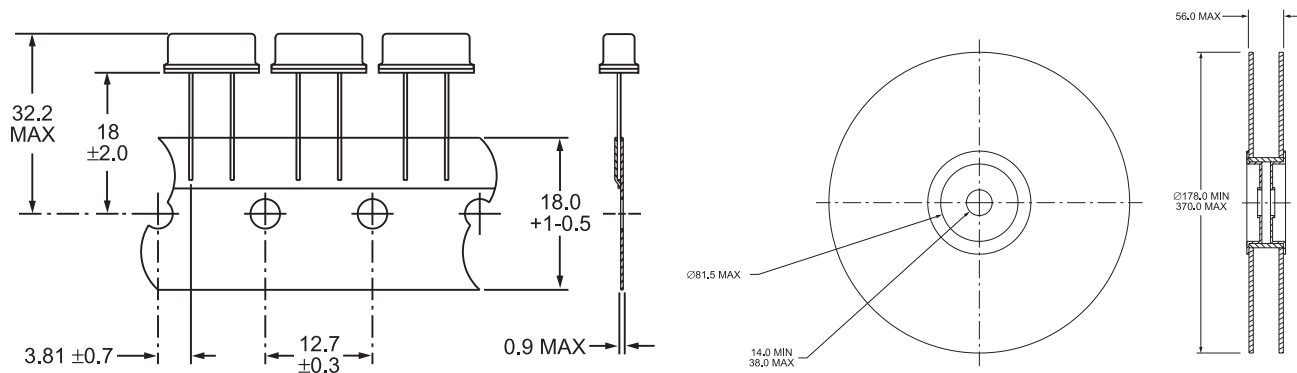
### MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



### TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



1000 Pieces per Reel  
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 MIL-STD-883, Method 215

### MARKING SPECIFICATIONS

Line 1: E XX.XXX M

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MANUFACTURER  
 ECLIPTEK CORP.

CATEGORY  
 CRYSTAL

SERIES  
 EC2

PACKAGE  
 HC-49/US

CLASS  
 CR04

REV. DATE  
 03/06