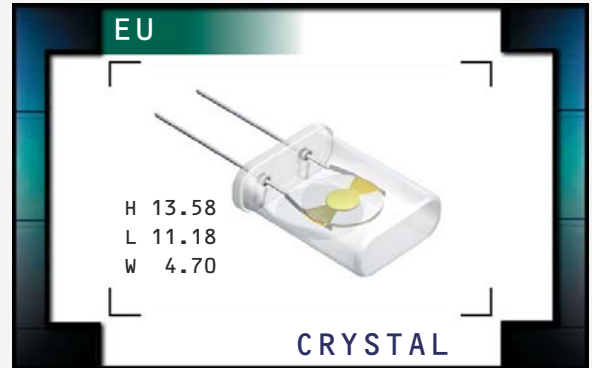


# EU Series



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

- RoHS Compliant (Pb-Free)
- 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

<b>Frequency Range</b>	1.8432MHz to 65.000MHz
<b>Frequency Tolerance / Stability</b>	±50ppm / ±100ppm (Standard), ±30ppm / ±50ppm,
<b>Over Operating Temperature Range</b>	±15ppm / ±30ppm, *±15ppm / ±20ppm, or ±10ppm / ±15ppm
<b>Operating Temperature Range</b>	0°C to 70°C, -20°C to 70°C, -40°C to 85°C, or -40°C to 125°C*
<b>Aging (at 25°C)</b>	±5ppm / year Maximum
<b>Storage Temperature Range</b>	-40°C to 125°C
<b>Shunt Capacitance</b>	7pF Maximum
<b>Insulation Resistance</b>	500 Megaohms Minimum at 100V <sub>DC</sub>
<b>Drive Level</b>	2 mWatts Maximum
<b>Load Capacitance (C<sub>L</sub>)</b>	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

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
CRYSTAL

SERIES  
EU

PACKAGE  
HC-49/U

CLASS  
CR40

REV. DATE  
09/06

## PART NUMBERING GUIDE

### EU A A 18 - 20.000M - I2 TR

#### FREQUENCY TOLERANCE / STABILITY

A=±50ppm at 25°C, ±100ppm from 0°C to 70°C  
 B=±50ppm at 25°C, ±100ppm from -20°C to 70°C  
 C=±50ppm at 25°C, ±100ppm from -40°C to 85°C  
 D=±30ppm at 25°C, ±50ppm from 0°C to 70°C  
 E=±30ppm at 25°C, ±50ppm from -20°C to 70°C  
 F=±30ppm at 25°C, ±50ppm from -40°C to 85°C  
 G=±15ppm at 25°C, ±30ppm from 0°C to 70°C  
 H=±15ppm at 25°C, ±30ppm from -20°C to 70°C  
 J=±15ppm at 25°C, ±30ppm from -40°C to 85°C  
 K=±15ppm at 25°C, ±20ppm from 0°C to 70°C  
 L=±15ppm at 25°C, ±20ppm from -20°C to 70°C  
 M=±15ppm at 25°C, ±20ppm from -40°C to 85°C  
 N=±10ppm at 25°C, ±15ppm from 0°C to 70°C  
 P=±10ppm at 25°C, ±15ppm from -20°C to 70°C  
 Q=±10ppm at 25°C, ±15ppm from -40°C to 85°C  
 T=±30ppm at 25°C, ±50ppm from -40°C to +125°C

#### PACKAGING OPTIONS

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

#### AVAILABLE OPTIONS

Blank=None (Standard), CX=Custom Lead Length  
 G=Gull Wing  
 I2=Insulator Tab  
 L=Third Lead  
 L2=Alternate Third Lead  
 V=Vinyl Sleaving

#### FREQUENCY

#### LOAD CAPACITANCE

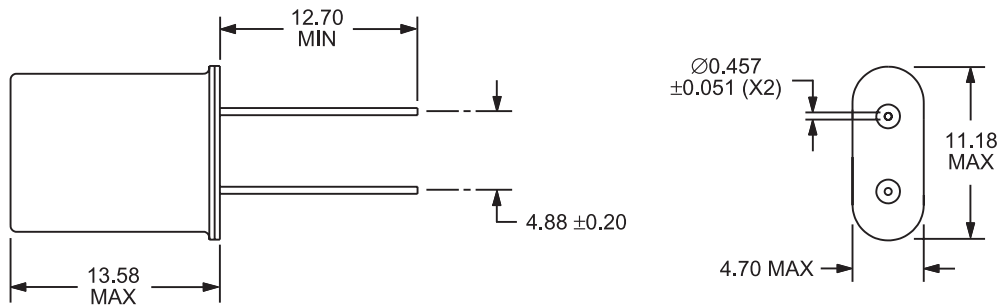
S=Series, XX=XXpF

#### MODE OF OPERATION / CRYSTAL CUT

A=Fundamental / AT, B=Third Overtone / AT

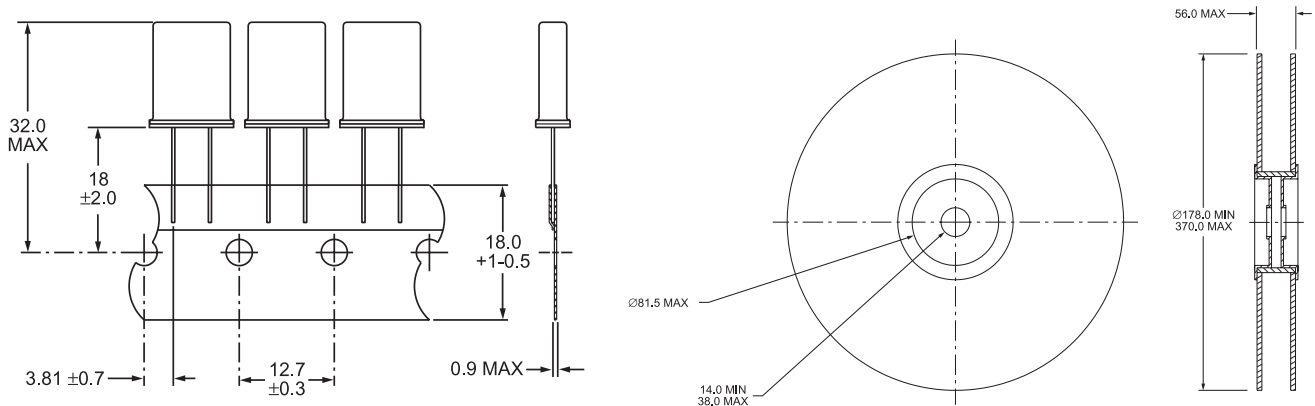
#### MECHANICAL DIMENSIONS

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  
 Lead Integrity  
 Lead Termination  
 Mechanical Shock  
 Resistance to Soldering Heat  
 Resistance to Solvents  
 Solderability  
 Temperature Cycling  
 Vibration

##### SPECIFICATION

MIL-STD-883, Method 1014, Condition A  
 MIL-STD-883, Method 1014, Condition C  
 MIL-STD-883, Method 2004  
 Sn 2µm - 6µm  
 MIL-STD-202, Method 213, Condition C  
 MIL-STD-202, Method 210  
 MIL-STD-883, Method 215  
 MIL-STD-883, Method 2002  
 MIL-STD-883, Method 1010  
 MIL-STD-883, Method 2007, Condition A

#### MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: EXX,XXXM

Frequency in MHz (5 Digits Maximum + Decimal)

Line 3: XX

Ecliptek Manufacturing Identifier

MANUFACTURER  
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