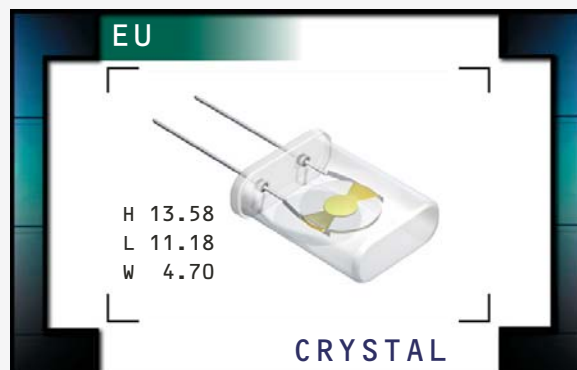


EU Series

- 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



ECLIPTEK
CORPORATION



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, -20°C to 70°C, or -40°C to 85°C
Aging (at 25°C)	±5ppm / year Maximum
Storage Temperature Range	-40°C to 125°C
Shunt Capacitance	7pF Maximum
Insulation Resistance	500 Megaohms Minimum at 100V _{DC}
Drive Level	2 mWatts Maximum
Load Capacitance (C _L)	18pF (Standard), Custom C _L ≥ 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
11/07

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

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 Sleeve

FREQUENCY

LOAD CAPACITANCE

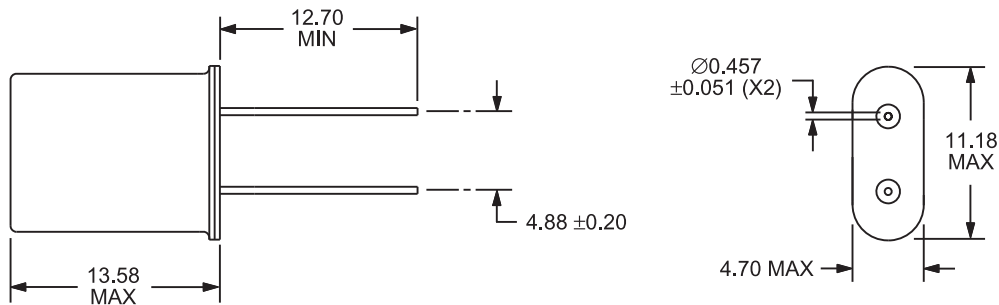
S=Series, XX=XXpF

MODE OF OPERATION / CRYSTAL CUT

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

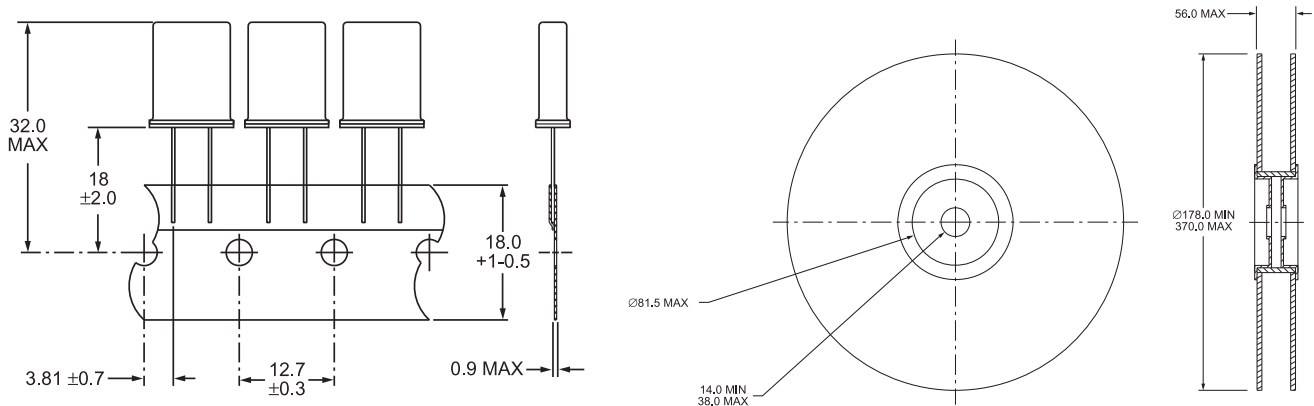
MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



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

1000 Pieces per Reel
 Compliant to EIA-468B

MANUFACTURER
 ECLIPTEK CORP.

CATEGORY
 CRYSTAL

SERIES
 EU

PACKAGE
 HC-49/U

CLASS
 CR40

REV. DATE
 11/07