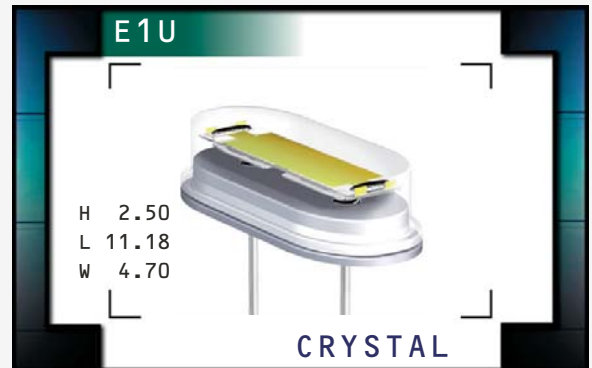


# E1U Series



ECLIPTEK<sup>®</sup>  
CORPORATION

- RoHS Compliant (Pb-Free)
- 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

# Datasheet.Live

## ELECTRICAL SPECIFICATIONS

<b>Frequency Range</b>	3.579545MHz to 50.000MHz
<b>Frequency Tolerance / Stability</b>	±50ppm / ±100ppm (Standard), ±30ppm / ±50ppm (AT cut only), ±15ppm / ±30ppm (AT cut only),
<b>Over Operating Temperature Range</b>	±15ppm / ±20ppm (AT cut only), or ±10ppm / ±15ppm (AT cut only)
<b>Operating Temperature Range</b>	0°C to 70°C, -20°C to 70°C (AT cut only), or -40°C to 85°C (AT cut only)
<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>	1 mWatt Maximum
<b>Load Capacitance (C<sub>L</sub>)</b>	18pF Parallel Resonant (Standard), Custom C <sub>L</sub> ≥10pF Parallel Resonant, 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
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	24.576MHz 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

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
CRYSTAL

SERIES  
E1U

PACKAGE  
HC-49/US Short

CLASS  
CR41

REV. DATE  
08/08

## PART NUMBERING GUIDE

### E1U 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=Blank, A=Tray, TR=Tape and Reel

#### AVAILABLE OPTIONS

Blank=None (Standard)  
 CX=Custom Lead Length  
 I2=Insulator Tab

#### FREQUENCY

#### LOAD CAPACITANCE

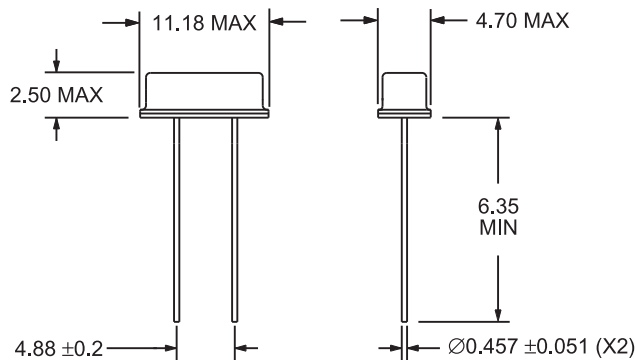
S=Series Resonant  
 XX=XXpF Parallel Resonant

#### MODE OF OPERATION / CRYSTAL CUT

A=Fundamental / AT  
 B=Third Overtone / AT  
 D=Fundamental / BT

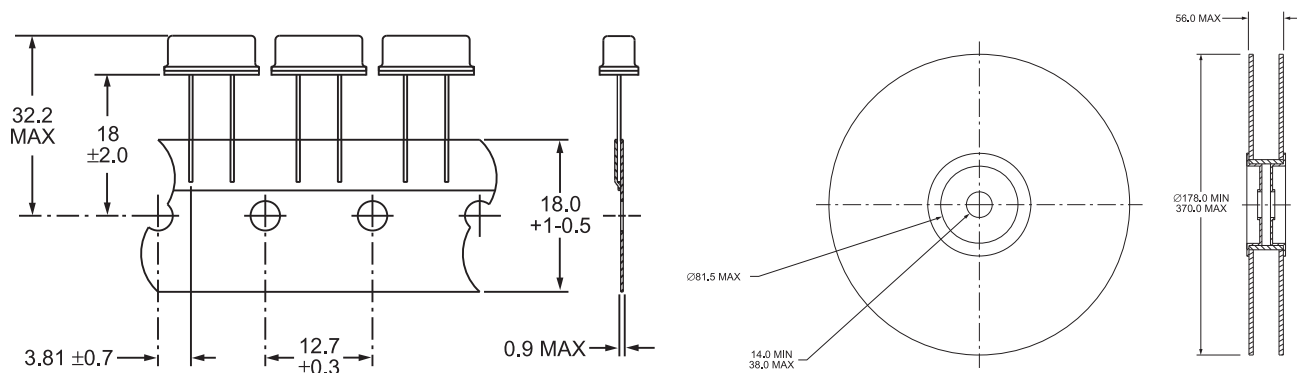
#### MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



#### TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



1000 Pieces per Reel  
 Compliant to EIA-468B

#### ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATION
ESD Susceptibility	MIL-STD-883, Method 3015, Class 1, HBM: 1500V
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Flammability	UL94-V0
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Lead Integrity	MIL-STD-883, Method 2004
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A

#### MARKING SPECIFICATIONS

Line 1: E XX.XXX M  
 Frequency in MHz  
 (5 Digits Maximum + Decimal)

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