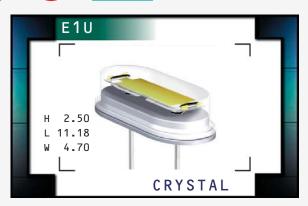
E1U Series

- 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

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	± 15 ppm / ± 20 ppm (AT cut only), or ± 10 ppm / ± 15 ppm (AT cut only)			
Operating Temperature Range	0°C to 70°C, -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 125°C			
Shunt Capacitance	7pF Maximum			
Insulation Resistance	500 Megaohms Minimum at 100V _{DC}			
Drive Level	1 mWatt 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
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
MANUEACTURER	CATECORY	CEDIEC	DACKACE	22412	DEV DATE

CRYSTAL

ECLIPTEK CORP.

HC-49/US Short

PART NUMBERING GUIDE

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 $F=\pm30$ ppm at 25°C, ±50 ppm 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 $J=\pm15$ ppm at 25°C, ±30 ppm from -40°C to 85°C K=±15ppm at 25°C, ±20ppm from 0°C to 70°C $L=\pm15$ ppm at 25°C, ±20 ppm from -20°C to 70°C M= ± 15 ppm at 25°C, ± 20 ppm 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

E1U A A 18 - 20.000M - I2 TR **PACKAGING OPTIONS** Blank=Bulk, A=Tray, TR=Tape and Reel **AVAILABLE OPTIONS**

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

FREQUENCY

LOAD CAPACITANCE

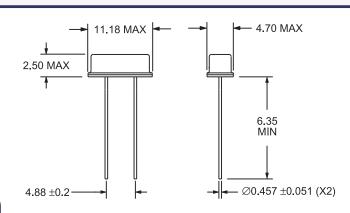
S=Series XX=XXpF (Custom)

MODE OF OPERATION / CRYSTAL CUT

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

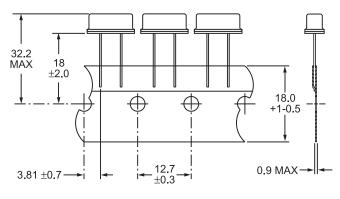
MECHANICAL DIMENSIONS

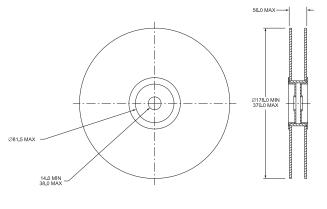
ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS





ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

PARAMETER **SPECIFICATION**

Fine Leak Test **Gross Leak Test** Lead Integrity Lead Termination Mechanical Shock

Resistance to Soldering Heat Resistance to Solvents Solderability Temperature Cycling

Vibration

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-202, Method 215 MIL-STD-883, Method 2002 MIL-STD-883, Method 1010

MIL-STD-883, Method 2007, Condition A

MARKING SPECIFICATIONS

1000 Pieces per Reel Compliant to EIA-468B

Line 1: E XX.XXX M

Frequency in MHz

(5 Digits Maximum + Decimal)

MANUFACTURER CATEGORY SERIES PACKAGE CLASS REV . DATE 11/07 ECLIPTEK CORP. CRYSTAL E1U HC-49/US Short CR41