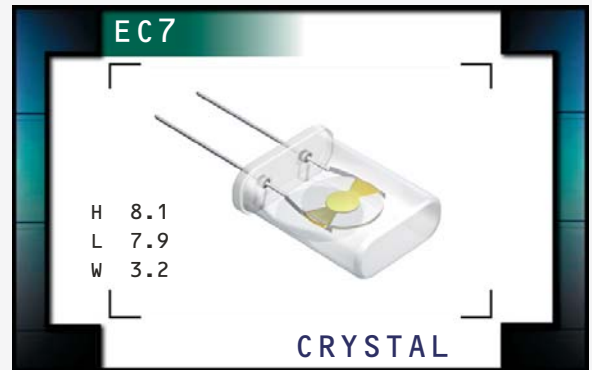


EC7 Series



- RoHS Compliant (Pb-Free)
- Inverted Mesa Crystal
- Fundamental mode frequencies to 212.5MHz
- UM-1 package
- AT cut
- Tight tolerance/stability
- Wide operating temperature range



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range	35.000MHz to 212.500MHz
Frequency Tolerance / Stability	±50ppm / ±100ppm, ±30ppm/±50ppm
Over Operating Temperature Range	±15ppm / ±30ppm, or ±10ppm / ±30ppm
Operating Temperature Range	0°C to 70°C, -20°C to 70°C, or -40°C to 85°C
Aging (at 25°C)	±3ppm / year Maximum
Storage Temperature Range	-40°C to 85°C
Shunt Capacitance	5pF Maximum
Drive Level	100µWatts Maximum
Load Capacitance (C _L)	18pF (Standard), Custom C _L ≥ 10pF, or Series Resonant
Motional Capacitance (C ₁)	3fF Min, 10fF Max (F ₀ ≤ 100MHz), 3fF Min, 13fF Max (F ₀ > 100MHz)
Insulation Resistance	500 Megaohms Minimum at 100V _{DC}

EQUIVALENT SERIES RESISTANCE (ESR), MODE OF OPERATION (MODE), AND CUT

Frequency Range	ESR (Ω)	Mode / Cut	Frequency Range	ESR (Ω)	Mode / Cut
35.000MHz to 50.000MHz	15 Max	Fundamental / AT	100.001MHz to 160.000MHz	25 Max	Fundamental / AT
50.001MHz to 100.000MHz	20 Max	Fundamental / AT	160.001MHz to 212.500MHz	30 Max	Fundamental / AT

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
CRYSTAL

SERIES
EC7

PACKAGE
UM-1

CLASS
CR36

REV. DATE
08/02

PART NUMBERING GUIDE

EC7 A - 20 - 35.000M

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=±10ppm at 25°C, ±30ppm from 0°C to 70°C
 K=±10ppm at 25°C, ±30ppm from -20°C to 70°C
 L=±10ppm at 25°C, ±30ppm from -40°C to 85°C

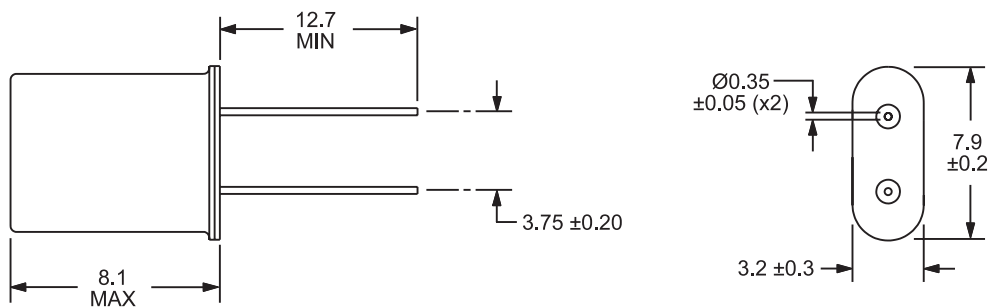
FREQUENCY

LOAD CAPACITANCE

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

NOTES

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATION
Seal Integrity	Bubble test in Perfluorocarbon at +125°C ±5°C for 60 seconds minimum.
Solderability	Sn63 Solder dip at +230°C ±5°C for 5 seconds/95% coverage.
Marking Permanency	10 Strokes with brush after 1 minute soak in solvent, 3 times.
Shock	Random drop on hard wooden plate 3 times from a height of 50cm.
Vibration	Frequency with an amplitude of 1.5mm sweeping between 10Hz to 55Hz within 1 minute (approximately) for 2 hours minimum on each axis (X,Y and Z) for a total of 6 hours.

MARKING SPECIFICATIONS

Line 1: ECLIPTEK
 Line 2: XX.XXXM — Frequency in MHz (5 Digits Maximum + Decimal)
 Line 3: XX — Ecliptek Manufacturing Identifier

MANUFACTURER ECLIPTEK CORP.	CATEGORY CRYSTAL	SERIES EC7	PACKAGE UM-1	CLASS CR36	REV. DATE 08/02
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