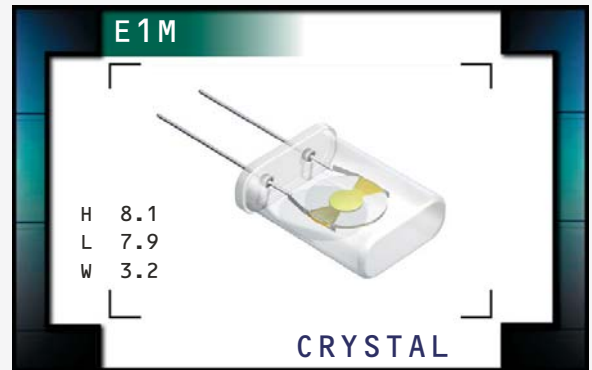


# E1M Series

- RoHS Compliant (Pb-Free)
- UM-1 package
- AT cut
- Tight tolerance/stability
- Frequencies to 150.000MHz available



## NOTES

TABLE 1: PART NUMBERING CODES				
FREQUENCY STABILITY	X = Available N/A = Not Available	OPERATING TEMPERATURE RANGE		
		0°C to 50°C	-20°C to 70°C	-40°C to 85°C
	Code	A	B	C
	±10ppm	B	X	X
±15ppm	C	X	X	X
±30ppm	D	X	X	X

## ELECTRICAL SPECIFICATIONS

Frequency Range	10.000MHz to 150.000MHz
Frequency Tolerance	±10ppm or ±15ppm
Frequency Stability	Per Table 1
Operating Temperature Range	Per Table 1
Aging (at 25°C)	±1ppm / year Maximum
Storage Temperature Range	-55°C to 125°C
Shunt Capacitance	7pF Maximum
Insulation Resistance	500 Megaohms Minimum at 100V <sub>DC</sub>
Load Capacitance (C <sub>L</sub> )	18pF (Standard), C <sub>L</sub> ≥ 8pF, or Series Resonant

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

Frequency Range	ESR (Ω)	Mode / Cut	Drive Level (μW)
10.000MHz to 15.999MHz	50 Maximum	Fundamental / AT	50 Maximum
16.000MHz to 40.000MHz	40 Maximum	Fundamental / AT	10 Maximum
30.000MHz to 90.000MHz	70 Maximum	Third Overtone / AT	100 Maximum
80.000MHz to 100.000MHz	150 Maximum	Fifth Overtone / AT	100 Maximum
100.001MHz to 120.000MHz	120 Maximum	Fifth Overtone / AT	100 Maximum
120.001MHz to 150.000MHz	100 Maximum	Fifth Overtone / AT	100 Maximum

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
CRYSTAL

SERIES  
E1M

PACKAGE  
UM-1

CLASS  
CR10

REV. DATE  
05/04

## PART NUMBERING GUIDE

### E1M 1 A B A 20 - 30.000M -G TR

#### FREQUENCY TOLERANCE (AT 25°C)

2=±10ppm  
3=±15ppm

#### FREQUENCY STABILITY

B=±10ppm  
C=±15ppm  
D=±30ppm

#### OPERATING TEMPERATURE RANGE

A=0°C to 50°C  
B=-20°C to 70°C  
C=-40°C to 85°C

#### PACKAGING OPTIONS

Blank=Bulk, TR=Tape and Reel\*

#### AVAILABLE OPTIONS

G=Gull Wing with Metal Jacket

#### FREQUENCY

#### LOAD CAPACITANCE

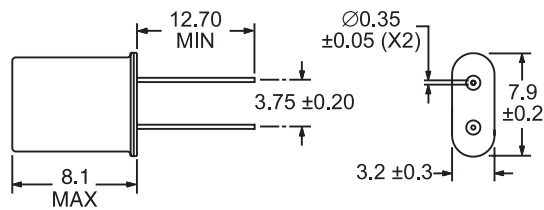
S=Series  
XX=XXpF (18=18pF)

#### MODE OF OPERATION

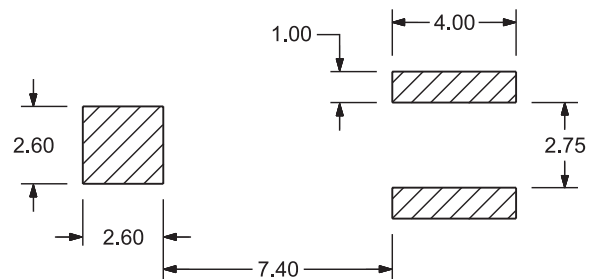
A=Fundamental  
B=Third Overtone  
C=Fifth Overtone

\*Tape and Reel is only available with Gull Wing Option

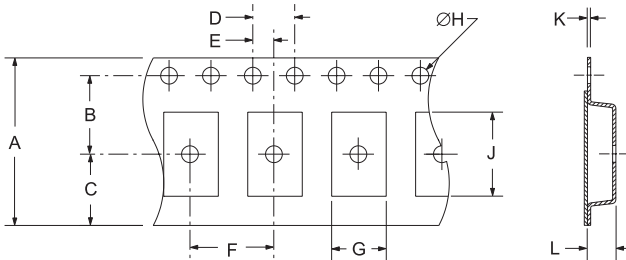
#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



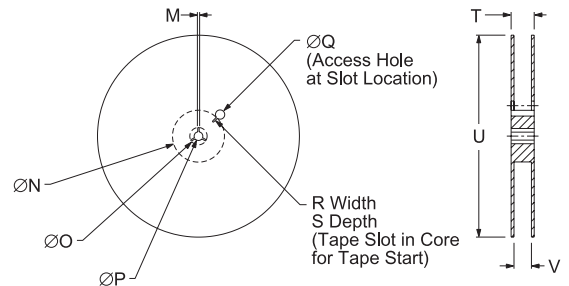
#### SUGGESTED SOLDER PAD LAYOUT FOR GULL WING CONFIGURATION ALL DIMENSIONS IN MILLIMETERS



#### TAPE AND REEL DIMENSIONS FOR GULL WING CONFIGURATION ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E	
	24±.3	11.5±.1	10.75±.1	4±.1	2±.1	
F	G	H	J	K	L	
	12±.1	8.17±.1	1.55+0/-0.5	13.8±.1	.4±.05	3.9±0.1



REEL	M	N	O	P	Q	
	1.5 MIN	50 MIN	20.2 MIN	13±.2	40 MIN	
R	S	T	U	V	QTY/REEL	
	2.5 MIN	10 MIN	30.4 MAX	360 MAX	24,4+2-0	1,000

#### ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

#### PARAMETER

Fine Leak Test  
Gross Leak Test  
Mechanical Shock  
Vibration  
Lead Integrity  
Solderability  
Temperature Cycling  
Resistance to Soldering Heat  
Resistance to Solvents

#### SPECIFICATION

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

#### MARKING SPECIFICATIONS

Line 1: E XX.XX  
Frequency in MHz  
(4 Digits Maximum + Decimal)

Line 2: XX Y ZZ  
Week of Year  
Last Digit of Year  
Eclipsek Manufacturing Identifier

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
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