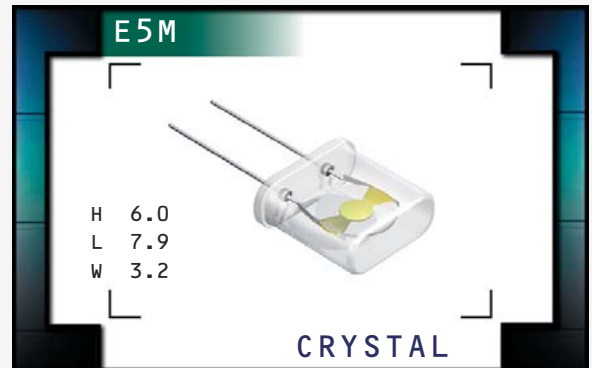


E5M Series

- RoHS Compliant (Pb-Free)
- UM-5 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 _{DC}
Load Capacitance (C _L)	18pF (Standard), C _L ≥ 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
E5M

PACKAGE
UM-5

CLASS
CR12

REV. DATE
05/04

PART NUMBERING GUIDE

E5M 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

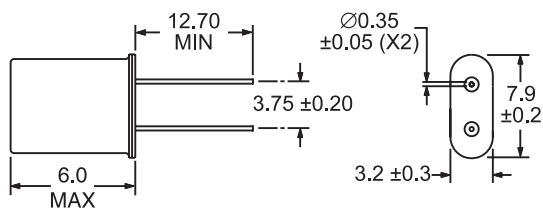
S=Series
XX=XXpF (18=18pF)

MODE OF OPERATION

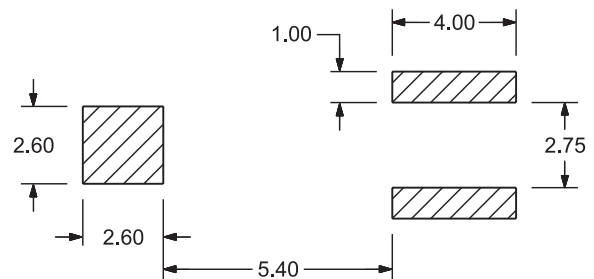
A=Fundamental
B=Third Overtone
C=Fifth Overtone

*Tape and Reel is only available with Gull Wing Option

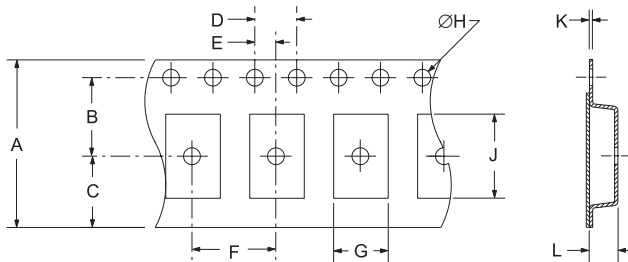
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



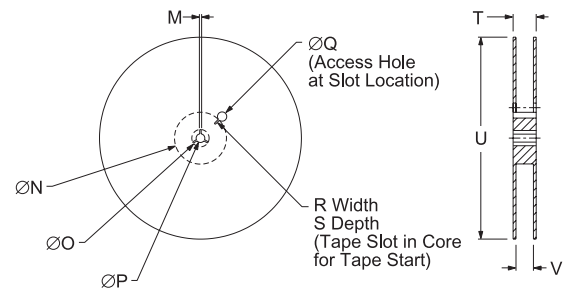
SUGGESTED SOLDER PAD LAYOUT FOR GULL WING CONFIGURATION ALL DIMENSIONS IN MILLIMETERS



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.

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