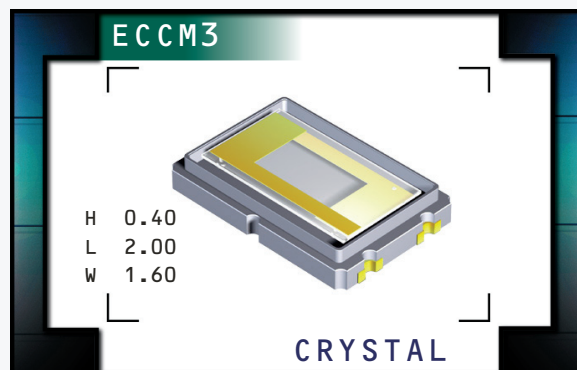


ECCM3 Series

- Quartz Crystal Resonators
- 4 Pad Ceramic SMD Package
- Seam Sealed
- AT Cut
- Fundamental Mode
- Tight Tolerance/Stability
- RoHS Compliant (Pb-Free)



ECLIPTEK
CORPORATION



NOTES

ELECTRICAL SPECIFICATIONS

Nominal Frequency (MHz)	24.000, 25.000, 26.000, 27.000, 30.000, 32.000, 34.400, 38.400, 40.000, 44.000, and 48.000MHz
Frequency Tolerance / Stability	
Over Operating Temperature Range	$\pm 10\text{ppm} / \pm 10\text{ppm}$ or $\pm 10\text{ppm} / \pm 15\text{ppm}$
Operating Temperature Range	-10°C to +60°C or -30°C to +85°C
Load Capacitance (C_L)	8pF Parallel Resonant 12pF Parallel Resonant
Shunt Capacitance	5pF Maximum
Mode of Operation	Fundamental
Crystal Cut	AT-Cut
Aging (at 25°C)	$\pm 3\text{ppm} / \text{year}$ Maximum
Drive Level	100 μWatts Maximum
Storage Temperature Range	-40°C to 90°C
Insulation Resistance	500 Megaohms Minimum at 100V _{DC}
Spurious Response	-3dB Minimum; F_0 to $F_0 + 5000\text{ppm}$
Equivalent Series Resistance	120 Ohms Maximum from 24.000MHz to 25.999999MHz 100 Ohms Maximum from 26.000MHz to 29.999999MHz 80 Ohms Maximum from 30.000MHz to 35.999999MHz 50 Ohms Maximum from 36.000MHz to 48.000MHz

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
CRYSTAL

SERIES
ECCM3

PACKAGE
CERAMIC

CLASS
CR59

REV. DATE
01/10

PART NUMBERING GUIDE

ECCM3 Q A 12 - 24.000M TR

FREQUENCY TOLERANCE/STABILITY

Q=±10ppm at 25°C, ±15ppm over -30°C to +85°C
R=±10ppm at 25°C, ±10ppm over -10°C to +60°C

MODE OF OPERATION

A=Fundamental

PACKAGING OPTIONS

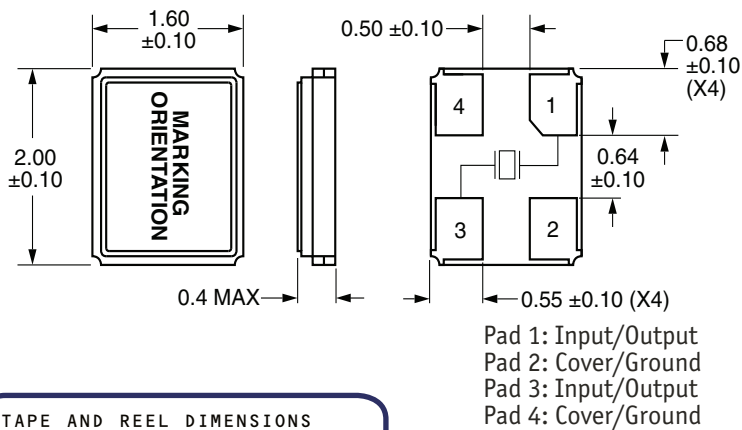
Blank=Bulk, TR=Tape and Reel

FREQUENCY

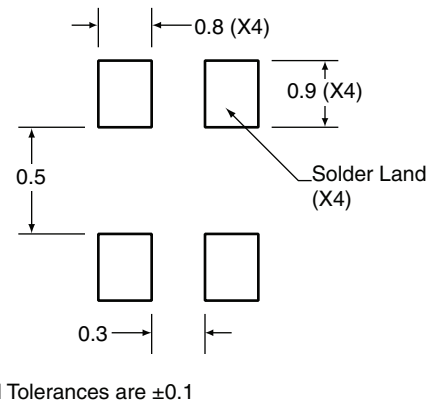
LOAD CAPACITANCE

08=8pF Parallel Resonant
12=12pF Parallel Resonant

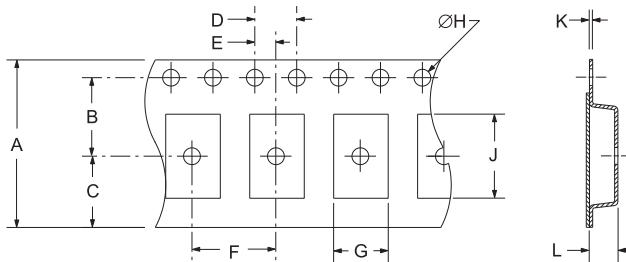
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



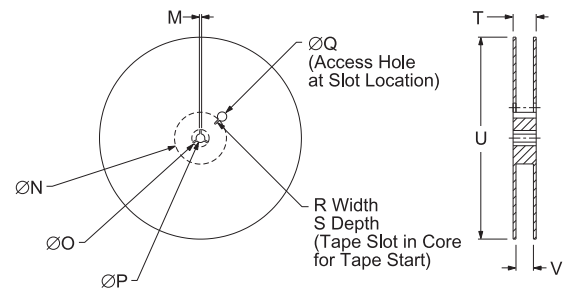
SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	8±.2	3.5±.1	2.75±.1	4 ±.1	2±.1
F	G	H	J	K	L
4±.1	1.85±1.0	1.55±.05	2.25±.1	.25 ±.05	.65±1.0



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	14.4 MAX	180 MAX	8.4+1.5-0	1,000

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

PARAMETER

ESD Susceptibility
Fine Leak Test
Gross Leak Test
Flammability
Mechanical Shock
Moisture Resistance
Moisture Sensitivity
Resistance to Soldering Heat
Resistance to Solvents
Solderability
Temperature Cycling
Vibration

SPECIFICATION

MIL-STD-883, Method 3015, Class 1, HBM: 1500V
MIL-STD-883, Method 1014, Condition A
MIL-STD-883, Method 1014, Condition C
UL94-V0
MIL-STD-883, Method 2002, Condition B
MIL-STD-883, Method 1004
J-STD-020, MSL 1
MIL-STD-202, Method 210, Condition K
MIL-STD-202, Method 215
MIL-STD-883, Method 2003
MIL-STD-883, Method 1010, Condition B
MIL-STD-883, Method 2007, Condition A

MARKING SPECIFICATIONS

*Compliant to EIA-481A

Line 1: XX.X
Frequency in MHz
(3 Digits Maximum + Decimal)

Line 2: XXX
Eclipse Manufacturing Identifier

MANUFACTURER
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