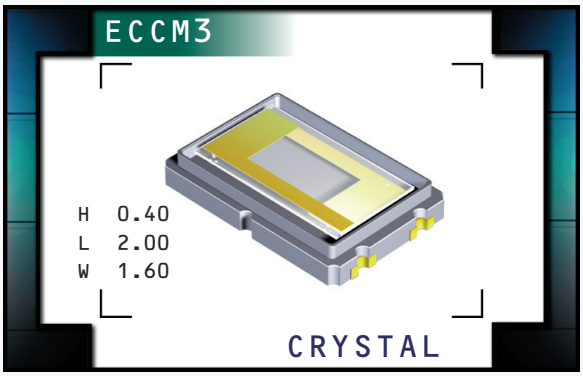
ECCM3 Series

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



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	±10ppm / ±10ppm or ±10ppm / ±15ppm
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)	±3ppm / 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 +5000ppm
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	CATEGORY	SERIES	PACKAGE	CLASS	REV. DATE
ECLIPTEK CORP.	CRYSTAL	ECCM3	CERAMIC	CR59	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

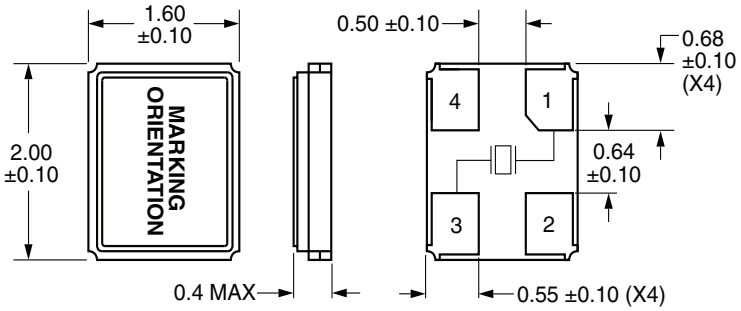
MODE OF OPERATION
A=Fundamental

PACKAGING OPTIONS
Blank=Bulk, TR=Tape and Reel

FREQUENCY

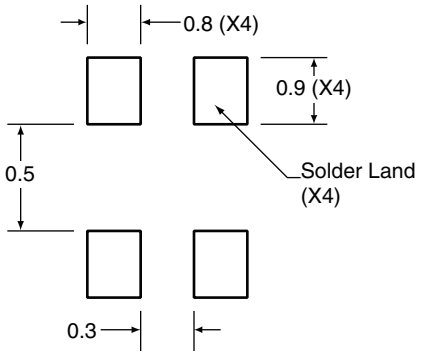
LOAD CAPACITANCE
08=8pF Parallel Resonant
12=12pF Parallel Resonant

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



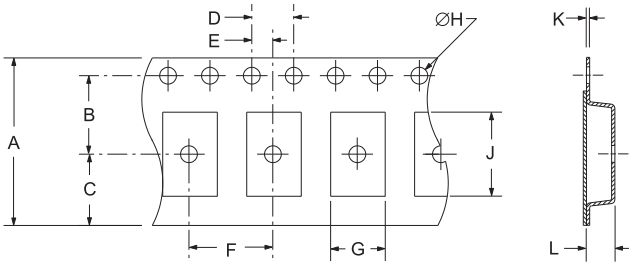
Pad 1: Input/Output
Pad 2: Cover/Ground
Pad 3: Input/Output
Pad 4: Cover/Ground

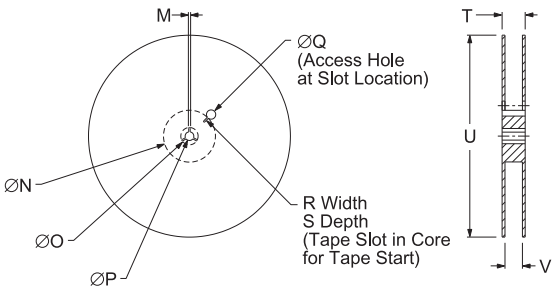
SUGGESTED SOLDER PAD LAYOUT
ALL DIMENSIONS IN MILLIMETERS



All Tolerances are ±0.1

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

*Compliant to EIA-481A

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATION
ESD Susceptibility	MIL-STD-883, Method 3015, Class 1, HBM: 1500V
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Flammability	UL94-V0
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A

MARKING SPECIFICATIONS

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

Line 2: XXX
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	CLASS	REV. DATE
ECLIPTEK CORP.	CRYSTAL	ECCM3	CERAMIC	CR59	01/10