

## Product EOL Announcement

The Product EOL Announcement signifies that a product series has entered the final phase of the Ecliptek Product Life Cycle, and serves as advance notice of product termination per the Ecliptek End of Life (EOL) policy.

Ecliptek Corporation announces End of Life initiation for the following product series with the intent of discontinuing its availability.

EOL Series	Description
ECCM2	2.0 x 2.5mm Ceramic SMD Crystal

### EOL Timeline

The last date Ecliptek will accept orders (Stage 2) and the last date orders may be scheduled for shipment (Stage 3) are listed in the table below.

Stage 1 EOL Announce Date	Stage 2 Last Date to Order	Stage 3 Last Date to Ship
27-July-2010	31-March-2011	30-June-2011

### Alternative Products

In order to fulfill your requirements beyond this product's discontinuation, we invite you to evaluate the recommended alternative Ecliptek product series referenced below. Please click on the link to view the data sheet.

Alternative Series	Description
<a href="#">ECM2A</a>	2.0 x 2.5mm Ceramic SMD Crystal

### Automated EOL Notification

Ecliptek offers automated notification of Product EOL Announcements. Place part numbers for which you'd like to receive EOL Notifications into your personalized [Parts List](#) on our website and we'll email you when EOL is announced.

Please do not hesitate to contact us if you have any questions or need further assistance.

Ecliptek Global Customer Support Team  
(800) 433-1280 x300  
[customersupport@ecliptek.com](mailto:customersupport@ecliptek.com)

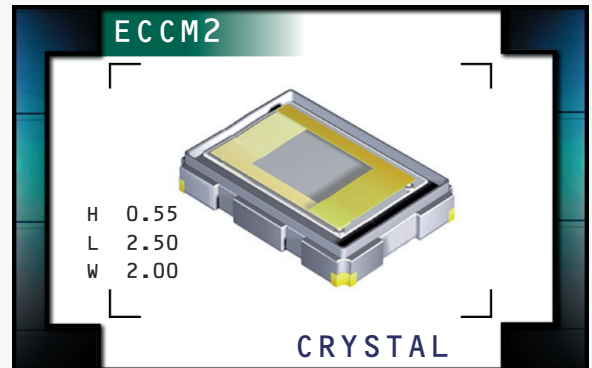
All product warranties for discontinued products will be honored in full according to Ecliptek [Terms and Conditions of Sale](#).

# ECCM2 Series



ECLIPTEK<sup>®</sup>  
CORPORATION

- RoHS Compliant (Pb-Free)
- Miniature four pad ceramic surface mount package
- AT Cut
- Tape and reel available



## NOTES

### ELECTRICAL SPECIFICATIONS

**Nominal Frequency (MHz)** 16.000, 19.660, 20.000, 24.000, 24.576, 25.000, 26.000, 27.000, 29.4912, 29.939, 30.000, 30.720, 32.000, 34.400, 38.400, 40.000, 44.000, 48.000, and 50.000MHz

#### 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**  $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  or  $-30^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

**Load Capacitance ( $C_L$ )** 8pF Parallel Resonant  
12pF Parallel Resonant

**Shunt Capacitance** 5pF Maximum

**Mode of Operation** Fundamental

**Crystal Cut** AT-Cut

**Aging (at  $25^{\circ}\text{C}$ )**  $\pm 3\text{ppm} / \text{year}$  Maximum

**Drive Level** 100  $\mu\text{Watts}$  Maximum

**Storage Temperature Range**  $-40^{\circ}\text{C}$  to  $90^{\circ}\text{C}$

**Insulation Resistance** 500 Megaohms Minimum at  $100V_{DC}$

**Spurious Response**  $-3\text{dB}$  Minimum;  $F_0$  to  $F_0 + 5000\text{ppm}$

**Equivalent Series Resistance**  
100 Ohms Maximum from 16.000MHz to 19.999999MHz  
80 Ohms Maximum from 20.000MHz to 29.999999MHz  
60 Ohms Maximum from 30.000MHz to 39.999999MHz  
50 Ohms Maximum from 40.000MHz to 50.000MHz

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
CRYSTAL

SERIES  
ECCM2

PACKAGE  
CERAMIC

CLASS  
CR58

REV. DATE  
09/09

## PART NUMBERING GUIDE

### ECCM2 Q A 12 - 20.000M 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**

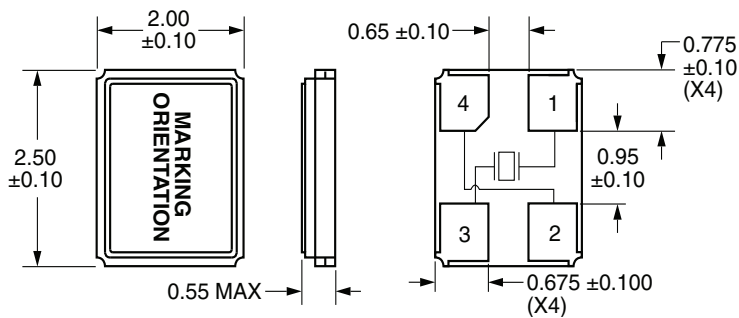
Blank=Bulk, TR=Tape and Reel

**FREQUENCY**

**LOAD CAPACITANCE**

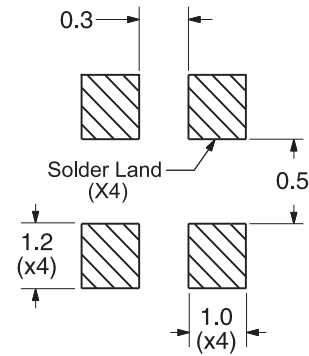
08=8pF Parallel Resonant  
 12=12pF Parallel Resonant

**MECHANICAL DIMENSIONS**  
 ALL DIMENSIONS IN MILLIMETERS



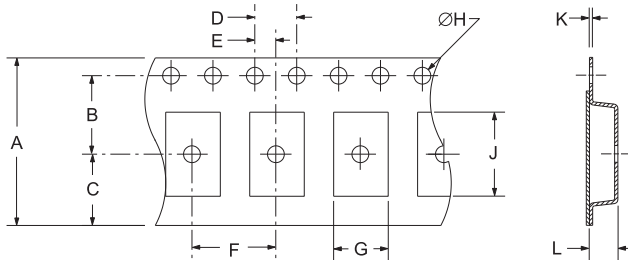
Pad 1: Input/Output  
 Pad 2: Cover/Ground  
 Pad 3: Input/Output  
 Pad 4: Cover/Ground

**SUGGESTED SOLDER PAD LAYOUT**  
 ALL DIMENSIONS IN MILLIMETERS

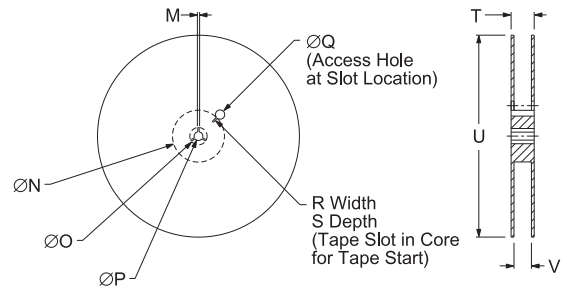


Tolerance = ±0.2

**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±.05
F	G	H	J	K	L
4±.1	2.25±.05	1.55±.05	2.7±.1	.25±.05	.65±.05



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

**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**

\*Compliant to EIA-481A

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

Line 2: **XXX**  
 Ecliptek Manufacturing Identifier

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