

## Product EOL Announcement

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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
ECCM5B	RoHS Compliant (Pb-free) 3.5mm x 6mm Ceramic 2-Pad 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
23-June-2009	1-December-2009	1-March-2010

### 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="#">ECCM5A</a>	RoHS Compliant (Pb-free) 3.5mm x 6mm 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.

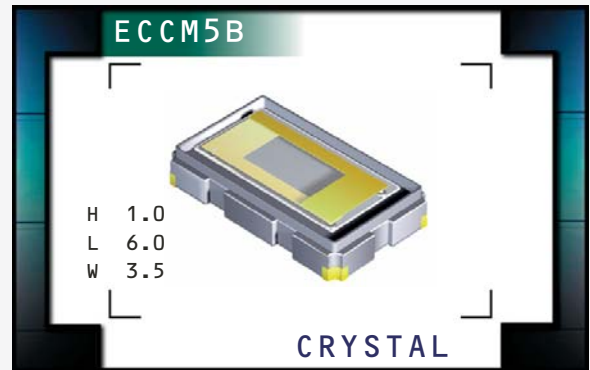
Please do not hesitate to contact us if you have any questions or need further assistance.

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

# ECCM5B Series



- RoHS Compliant (Pb-Free)
- Miniature two pad ceramic surface mount package
- AT cut
- Tight tolerance/stability
- Frequencies to 40.000MHz available
- Tape and reel available



## NOTES

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## ELECTRICAL SPECIFICATIONS

<b>Frequency Range</b>	12.000MHz, 12.288MHz, 13.000MHz, 14.318MHz, 14.31818MHz, 14.7456MHz, 16.000MHz, 16.384MHz, 18.432MHz, 20.000MHz, 24.000MHz, 24.576MHz, 25.000MHz, 26.000MHz, 27.000MHz, 28.000MHz, 28.240MHz, 28.636MHz, 30.000MHz, 32.000MHz, 33.000MHz, 40.000MHz
<b>Frequency Tolerance</b>	±15ppm, ±30ppm, or ±50ppm
<b>Frequency Stability</b>	±20ppm, ±30ppm, or ±50ppm
<b>Operating Temperature Range</b>	-10°C to 60°C, -20°C to 60°C, 0°C to 70°C, -10°C to 70°C, -20°C to 70°C, or -40°C to 85°C
<b>Aging (at 25°C)</b>	±3ppm / year Maximum
<b>Storage Temperature Range</b>	-40°C to 85°C
<b>Shunt Capacitance</b>	5pF Maximum
<b>Insulation Resistance</b>	500 Megaohms Minimum at 100V <sub>DC</sub>
<b>Drive Level</b>	100 µWatts Maximum
<b>Load Capacitance (C<sub>L</sub>)</b>	18pF (Standard), C <sub>L</sub> ≥ 10pF, or Series Resonant
<b>Spurious Response</b>	-3dB Minimum; F <sub>0</sub> to F <sub>0</sub> +5000ppm

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

Frequency Range	ESR (Ω)	Mode / Cut
12.000MHz to 19.999999MHz	60 Maximum	Fundamental / AT
20.001MHz to 34.999999MHz	50 Maximum	Fundamental / AT
35.000MHz to 40.000MHz	40 Maximum	Fundamental / AT

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
CRYSTAL

SERIES  
ECCM5B

PACKAGE  
CERAMIC

CLASS  
CR39

REV. DATE  
05/09

## PART NUMBERING GUIDE

### ECCM5B 5 D C - 20 - 32.000M TR

**FREQUENCY TOLERANCE (AT 25°C)**  
4=±15ppm, 5=±30ppm, 6=±50ppm

**FREQUENCY STABILITY**  
D=±20ppm, E=±30ppm, F=±50ppm

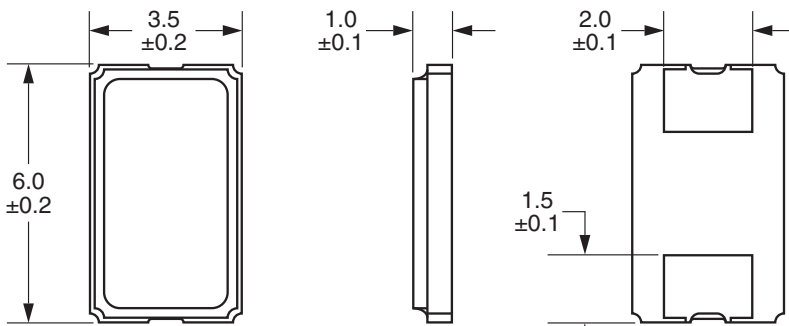
**OPERATING TEMPERATURE RANGE**  
A=-10°C to 60°C, B=-20°C to 60°C, C=0°C to 70°C,  
D=-10°C to 70°C, E=-20°C to 70°C, F=-40°C to 85°C

**PACKAGING OPTIONS**  
Blank=Bulk, TR=Tape and Reel

**FREQUENCY**

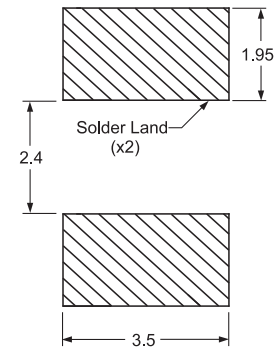
**LOAD CAPACITANCE**  
Blank=18pF (Standard)  
S=Series, XX=XXpF (Custom)

#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



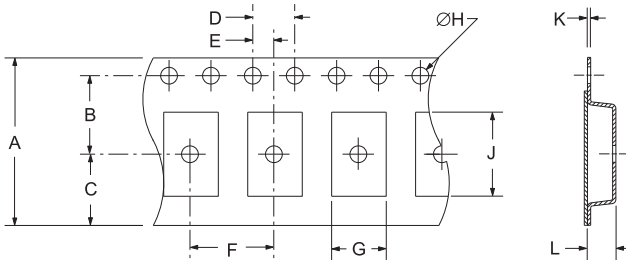
Pad 1: Input/Output  
Pad 2: Input/Output

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

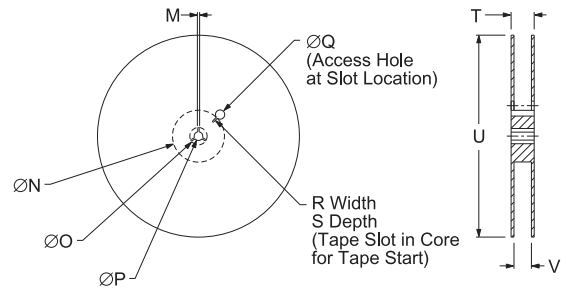


Tolerance = ±0.2

#### TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E	
	16±.3	7.5±.1	6.75±.2	4±.1	2±.05	
	F	G	H	J	K	L
	8±.1	3.8±.1	1.5±.1	6.3±.1	.3±.05	1.3±.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	22.4 MAX	360 MAX	16.4+2-0	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: E XX.XX  
Frequency in MHz  
(4 Digits Maximum + Decimal)

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

MANUFACTURER  
ECLIPTEK CORP.

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CRYSTAL

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