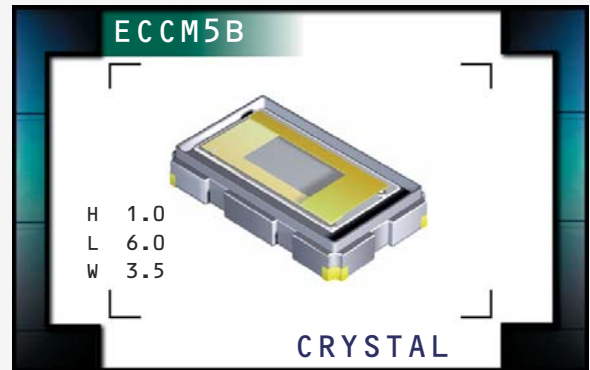


ECCM5B Series



ECLIPTEK[®]
CORPORATION

- 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

ELECTRICAL SPECIFICATIONS

Frequency Range	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
Frequency Tolerance	±15ppm, ±30ppm, or ±50ppm
Frequency Stability	±20ppm, ±30ppm, or ±50ppm
Operating Temperature Range	-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
Aging (at 25°C)	±3ppm / year Maximum
Storage Temperature Range	-40°C to 85°C
Shunt Capacitance	5pF Maximum
Insulation Resistance	500 Megaohms Minimum at 100V _{DC}
Drive Level	100 µWatts Maximum
Load Capacitance (C_L)	18pF (Standard), C _L ≥ 10pF, or Series Resonant
Spurious Response	-3dB Minimum; F ₀ to F ₀ +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

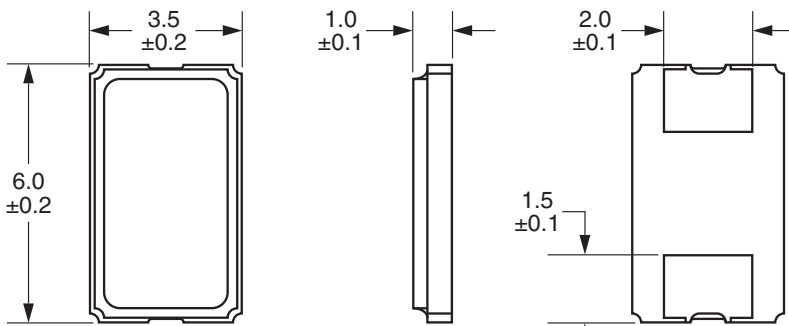
PACKAGING OPTIONS
 Blank=Bulk, TR=Tape and Reel

FREQUENCY

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

MECHANICAL DIMENSIONS

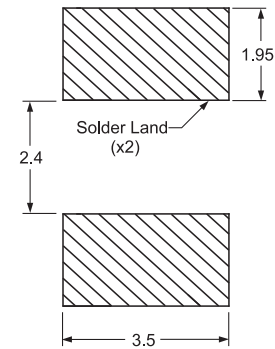
ALL DIMENSIONS IN MILLIMETERS



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

SUGGESTED SOLDER PAD LAYOUT

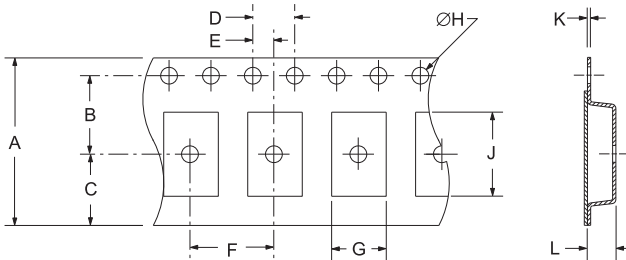
ALL DIMENSIONS IN MILLIMETERS



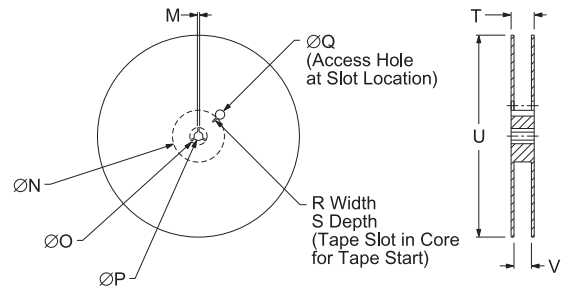
Tolerance = ±0.2

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
	8±.1	3.8±.1	1.5±.1	6.3±.1	.3±.05
				L	
				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
	2.5 MIN	10 MIN	22.4 MAX	360 MAX	16.4+2-0
					QTY/REEL
					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

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