

The ultra-miniature ECX-31B is a very compact SMD Tuning Fork Crystal. The 3.2 x 1.5 x 0.9 mm ceramic package is ideal for today's SMD manufacturing environment.

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- Low Profile
- 3.2 x 1.5 mm Footprint
- Extended Temp. Range
- RoHS Compliant

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-31B			UNITS
		MIN	TYP	MAX	
Frequency			32.768		KHz
Frequency Tolerance	@ +25°C			± 20 *	ppm
Temperature Coefficient		-0.028	-0.034	-0.040	ppm/°C <sup>2</sup>
Shunt Capacitance	Co		1.05		pF
Load Capacitance	Specify in P/N		12.5		pF
Drive Level	DL		0.1	1.0	μW
Equivalent Series Resistance	R1			70K	Ω
Insulation Resistance	@ 100V DC	500M			Ω
Turnover Temperature		+20	+25	+30	°C
Operating Temperature	Topr	-40		+85	°C
Storage Temperature	Tstg	-55		+125	°C
Aging (First Year)	@ +25°C ±3°C			±3	ppm

## DIMENSIONS (mm)

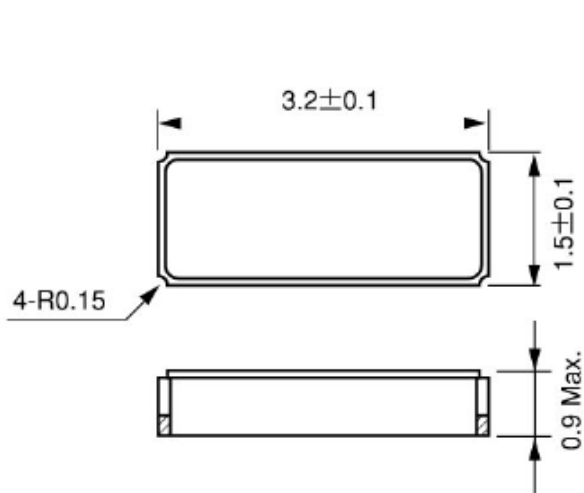


Figure 1) Top, Side, and Bottom views

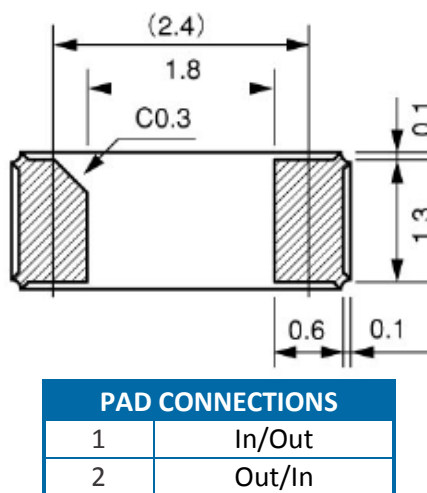


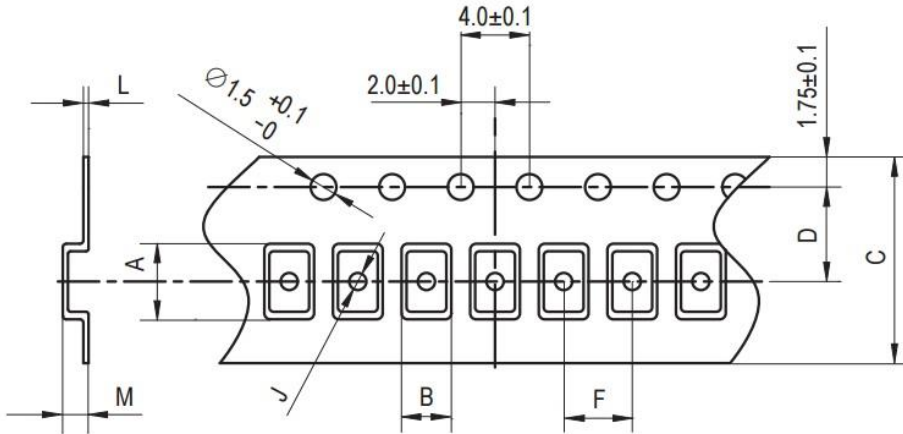
Figure 2) Suggested Land Pattern

## PART NUMBERING GUIDE: Example ECS-.327-12.5-34B-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	CUSTOM OPTIONS Tolerance	PACKAGING
ECS	.327 = 32.768 KHz	-34B = ECX-31B	Blank = ±20 ppm * C = ± 10 ppm	TR = Tape & Reel 3K/Reel

\*Contact ECS for availability

**POCKET TAPE DIMENSIONS (mm)**



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
3.4	1.7	12.0	5.5	4.0	1.0	0.3	1.2	180	3000pcs

**SOLDER PROFILE**

Peak solder Temp +260°C Max 10 sec Max.

2 Cycles Max.

MSL 1, Lead Finish Au

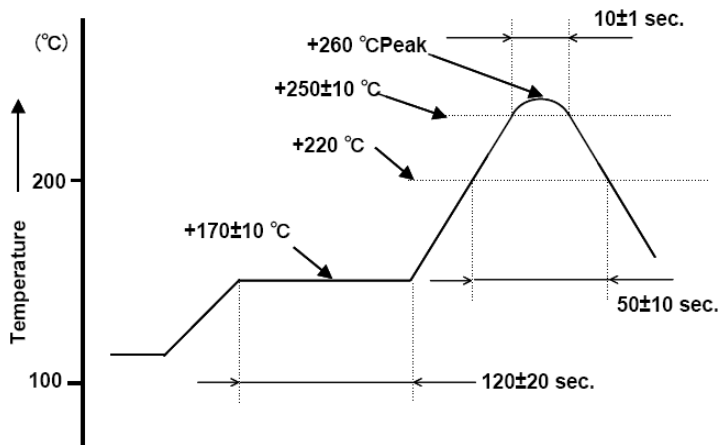


Figure 1) Suggested Reflow Profile

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