

The miniature ECX-31B is the most cost effective SMD Tuning Fork Crystal today. The 3.2 x 1.5 x 0.9 mm ceramic package is ideal high density circuit boards. Offerings in extended temperature and frequency tolerance as low at  $\pm 10$  ppm.

Request a Sample



- Low Profile
- 3.2 x 1.5 mm Footprint
- Extended Temp. Range
- RoHS Compliant
- Low Power RTC Applications such as STM32 [AN2867](#)

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-31B			UNITS
		MIN	TYP	MAX	
Frequency			32.768		KHz
Frequency Tolerance	@ +25°C			$\pm 20$ *	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	$\mu$ W
Equivalent Series Resistance	R1			70K	$\Omega$
Insulation Resistance	@ 100V DC	500M			$\Omega$
Turnover Temperature		+20	+25	+30	°C
Operating Temperature	Topr	-40		+85	°C
Storage Temperature	Tstg	-55		+125	°C
Aging (First Year)	@ +25°C $\pm 3$ °C			$\pm 3$	ppm

## DIMENSIONS (mm)

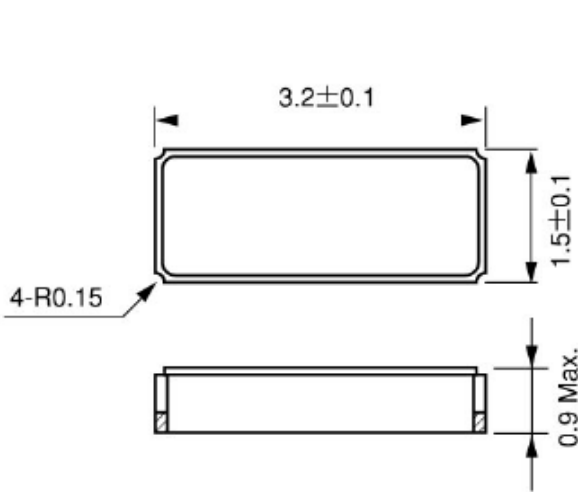


Figure 1) Top, Side, and Bottom views

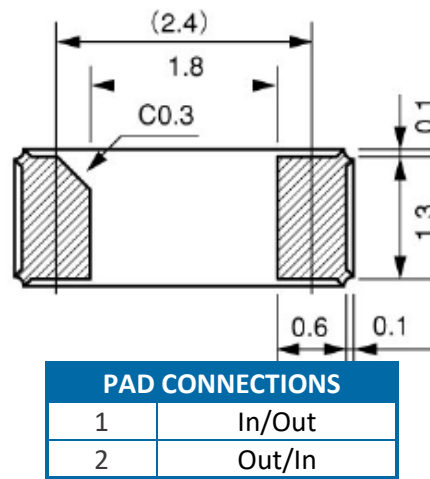


Figure 2) Suggested Land Pattern

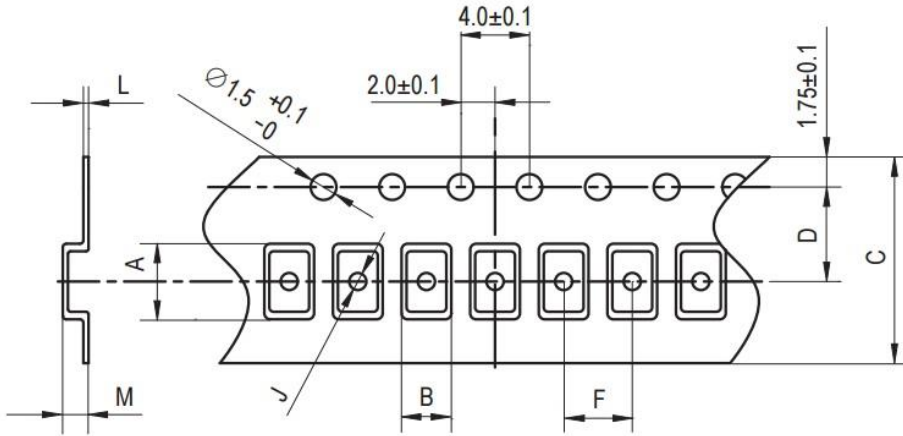
## PART NUMBERING GUIDE: Example ECS-.327-12.5-34B-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	CUSTOM OPTIONS Tolerance	PACKAGING
ECS	.327 = 32.768 KHz 12.5 = 12.5 pF 9 = 9 pF 7 = 7 pF 6 = 6 pF	-34B = ECX-31B	Blank = $\pm 20$ ppm * C = $\pm 10$ ppm	TR = Tape & Reel 3K/Reel

\*Contact ECS for availability

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**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

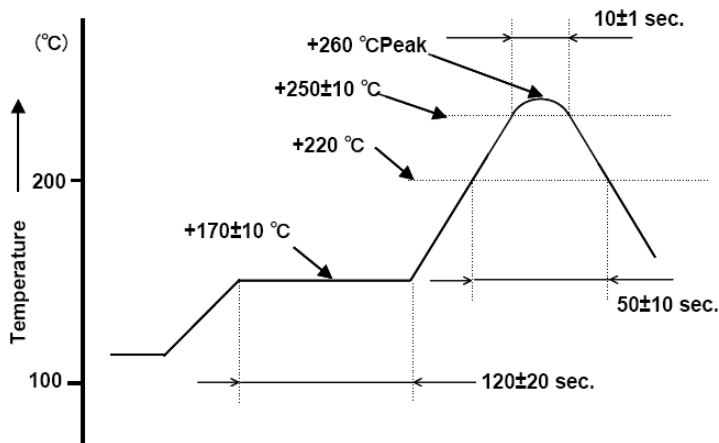


Figure 1) Suggested Reflow Profile