

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.

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-31B			UNITS
		MIN	TYP	MAX	
Frequency	Fo		32.768		KHz
Frequency Tolerance @ +25°C	Optional ±10 ppm, See P/N Guide			± 20	ppm
Load Capacitance	Specify in P/N		12.5		pF
Drive Level	DL		0.1	1.0	μW
Equivalent Series Resistance	R1			70K	Ω
Turnover Temperature		+20	+25	+30	°C
Temperature Coefficient		-0.028	-0.034	-0.040	ppm/°C <sup>2</sup>
Shunt Capacitance	Co		1.05		pF
First Year Aging	+25°C ±3°C			± 3	ppm
Operating Temperature	Topr	-40		+85	°C
Storage Temperature	Tstg	-55		+125	°C
Insulation Resistance	@ 100V DC	500M			

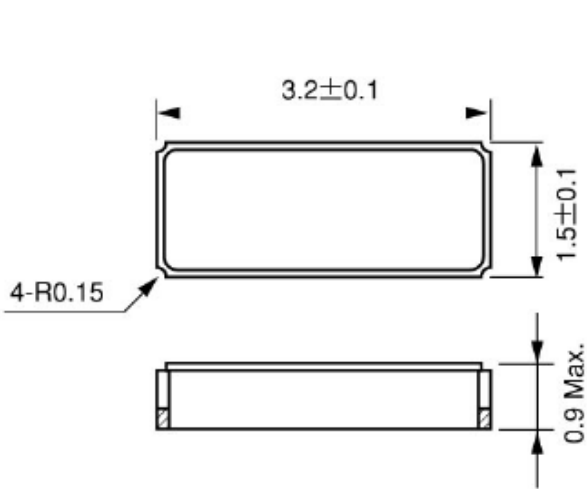


Figure 1) Top and Side View

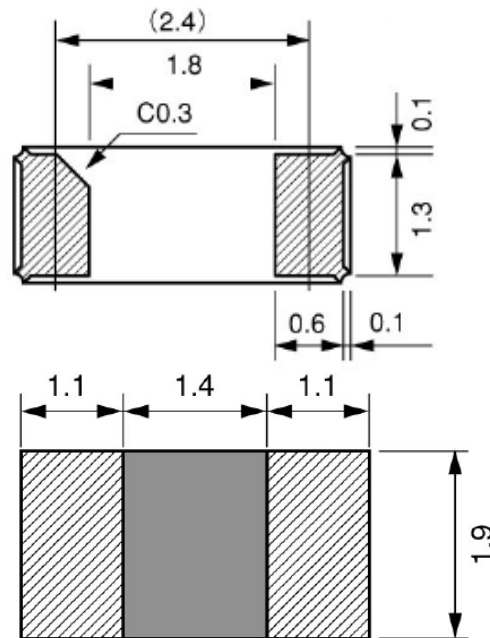


Figure 2) Bottom View and Suggested Land