

- ▶ Low Profile
- ▶ 2 x 1.2 mm Footprint
- ▶ Extended Temp. Range
- ▶ RoHS Compliant



# ECX-12

## SMD TUNING FORK CRYSTAL

The ultra-miniature ECX-12 is a very compact SMD Tuning Fork Crystal. The 2.0 x 1.2 x 0.6 mm ceramic package is ideal for today's SMD manufacturing environment.

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-12			UNITS
		MIN	TYP	MAX	
Frequency	Fo		32.768		KHz
Frequency Tolerance	@ +25°C			± 20	ppm
Load Capacitance	Specify in P/N		12.5		pF
Drive Level	DL			0.5	μW
Equivalent Series Resistance	R1			90K	Ω
Motional Capacitance			7.0		fF
Turnover Temperature		+20	+25	+30	°C
Temperature Coefficient		-0.02	-0.03	-0.04	ppm/°C <sup>2</sup>
Shunt Capacitance	Co		1.3		pF
First Year Aging	+25°C ±3°C			± 3	ppm
Operating Temperature	Topr	-40		+85	°C
Storage Temperature	Tstg	-55		+125	°C

### TOP, BOTTOM, SIDE VIEWS & LAND PATTERN

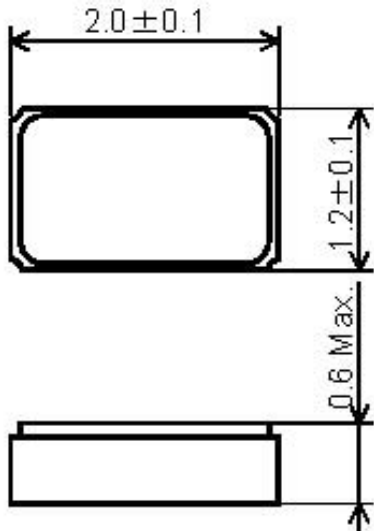


Figure 1) Top, Side and Bottom View

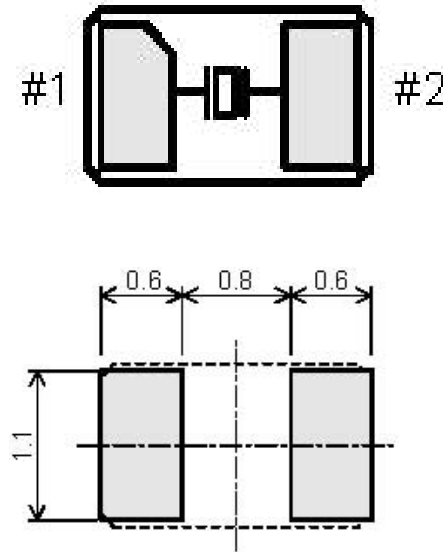
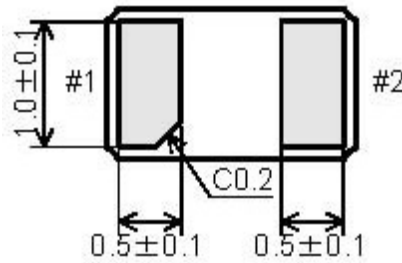


Figure 2) Crystal connection and Suggested Land

### PART NUMBERING GUIDE: Example ECS-.327-12.5-12-TR

ECS	- Frequency Abbreviation	- Load Capacitance	- Package Type	- Packaging
	.327 = 32.768 KHz	12.5 = 12.5 pF 9 = 9 pF 7 = 7 pF 6 = 6 pF	-12 = ECX-12	-TR = Tape & Reel 3K/Reel