

- ▶ Low Profile
- ▶ 4.9 x 1.8 mm Footprint
- ▶ Extended Temp. Range
- ▶ RoHS Compliant



# ECX-39

## SMD TUNING FORK CRYSTAL

The miniature ECX-39 is a very compact SMD Tuning Fork Crystal. The 4.9 x 1.8 x 1.0 mm ceramic package is ideal for today's SMD manufacturing environment.

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-39			UNITS
		MIN	TYP	MAX	
Frequency	Fo		32.768		KHz
Frequency Tolerance, @ +25°C	Standard			± 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		1.33		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			Ω

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

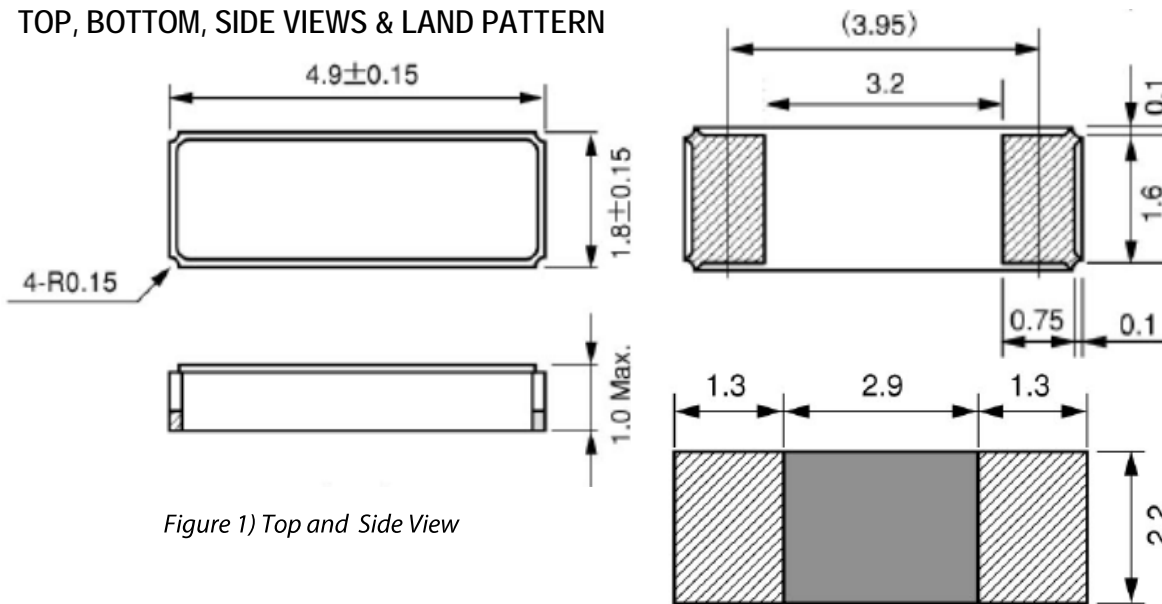


Figure 1) Top and Side View

Figure 2) Bottom View and Suggested Land

### PART NUMBERING GUIDE: Example ECS-.327-12.5-39-TR

ECS	Frequency Abbreviation	Load Capacitance	Package Type	Tolerance	Packaging
	.327 = 32.768 KHz	12.5 = 12.5 pF 9 = 9 pF 7 = 7 pF	-39 = ECX-39	Blank = Std C = ± 10 ppm	-TR = Tape & Reel 3K/Reel