

The ECX-53 is our sub miniature SMD crystal with a 3.2 x 5 mm footprint. This package is ideal for today's compact wireless applications where board space is critical.

## FEATURES

- Compact and low profile
- RoHS Compliant (Note 7 Exemption)
- Tape & Reel (1000 pcs)

## PART NUMBERING GUIDE "EXAMPLE"

	FREQUENCY (16.000 MHz)	LOAD CAPACITANCE*	PACKAGE TYPE**
ECS	- 160	- 20	- 30

\* Load capacitance (xx=xx pF, S=series resonance) \*\* Package Type examples (30=ECX-53)  
 Note: See Product Selection Guide for additional options including tighter tolerances or extended temperature range.

## OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
FREQUENCY RANGE		12.000		40.000	MHz
CALIBRATION TOLERANCE	@ +25°C			±50*	PPM
FREQUENCY STABILITY ref @25°C	-10 ~ +60°C			±50*	PPM
SHUNT CAPACITANCE				5	pF
LOAD CAPACITANCE	C <sub>L</sub> (Customer Specified)	12	16 standard	Series	pF
DRIVE LEVEL	DL			100	µW
OPERATING TEMPERATURE	T <sub>OPR</sub> **	-10		+60	°C
STORAGE TEMPERATURE	T <sub>STG</sub>	-40		+85	°C
AGING CHARACTERISTICS (Per Year)	@ +25°C ± 3°C per year			±5	PPM

\* Tighter specifications are available. \*\*Extended temperature range available.

## EQUIVALENT SERIES RESISTANCE / MODE OF OSCILLATION

FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω	FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω
14.300 ~ 17.999	Fundamental	100	25.000 ~ 40.000	Fundamental	60
18.000 ~ 24.999	Fundamental	80			

## PACKAGE DIMENSIONS (mm)

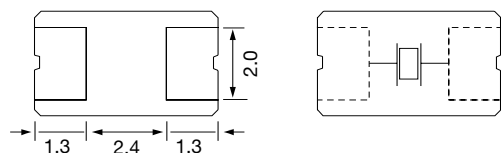
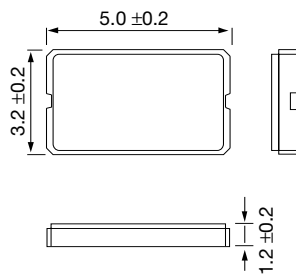


Figure 1) ECX-53 - Top, Side Bottom and End views

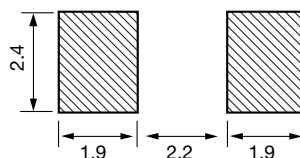


Figure 2) Land Pattern

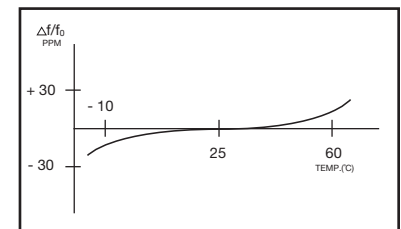


Figure 3) Frequency vs Temperature Curve