



- ▶ Low Profile
- ▶ 3.2 x 2.5 mm Footprint
- ▶ Extended Temp. Range Option
- ▶ RoHS Compliant

ECX-32 SMD CRYSTAL

The sub miniature ECX-32 is a compact SMD Crystal. The 3.2 x 2.5 x 0.7 mm ceramic package is ideal for today's SMD manufacturing environment.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-32			UNITS
		MIN	TYP	MAX	
Frequency	Fundamental Mode	12.000		60.000	MHz
Frequency Tolerance	@ +25°C			± 50 *	ppm
Frequency Stability (ref @ 25°C)	-20 ~ +70°C			± 50 *	ppm
Shunt Capacitance				5.0	pF
Load Capacitance	Specify in P/N		20		pF
Equivalent Series Resistance	12.000 ~ 29.999 MHz			100	Ω
Equivalent Series Resistance	30.000 ~ 60.000 MHz			50	Ω
Drive Level				100	μW
Operating Temperature	T _{opr}	-20		+70	°C
Storage Temperature	T _{stg}	-40		+85	°C
Aging Characteristics (Per Year)	@ +25°C ± 3°C			± 5	ppm

PACKAGE DIMENSIONS (mm)

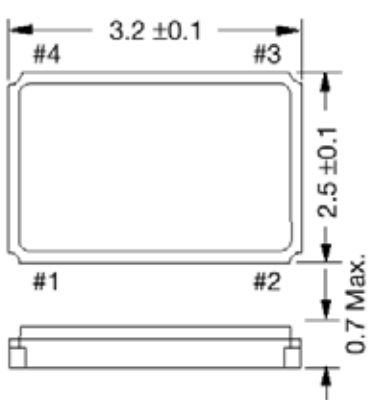


Figure 1) Top, Side and End Views

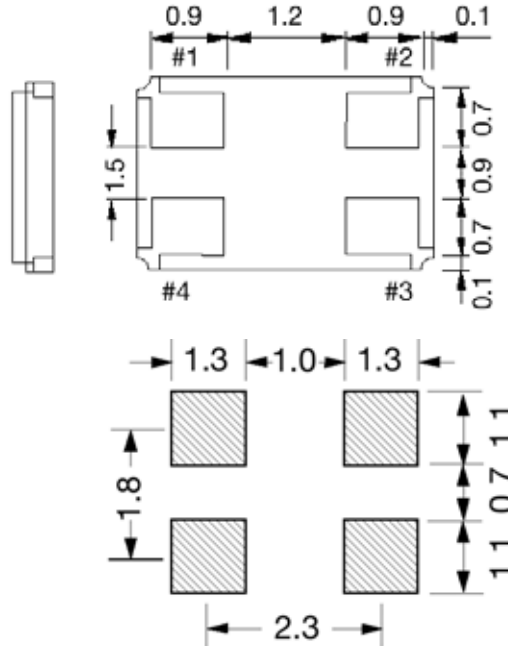
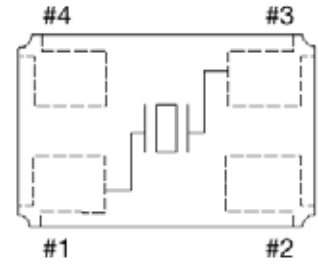


Figure 2) Bottom View and Suggested Land



Pad Connections	
1	In/Out
2	Gnd
3	In/Out
4	Gnd

Figure 3) Internal Connections (Top View)

PART NUMBERING GUIDE: Example ECS-160-20-33-TR

ECS - Frequency Abbreviation - Load - Package Type - Tolerance - Stability - Temp Range - Packaging

160 = 16.000 MHz
See P/N Guide for Std Frequencies

20 = 20 pF
S = Series

-33 =
ECX-32

A = ± 25 ppm
C = ± 10 ppm

D = ± 100 ppm
E = ± 50 ppm
G = ± 30 ppm
H = ± 25 ppm
K = ± 10 ppm

L = -10 ~ +70°C
M = -20 ~ +70°C
N = -40 ~ +85°C
P = -40 ~ +105°C

-TR =
Tape & Reel
1K/Reel

* Tighter Tolerance/Stability Options Available (see custom options)
Not all stabilities are available at all temp ranges, consult ECS.

Custom Options

- Tolerance - Stability - Temp Range - Packaging

