

- ▶ Compact and low profile
- ▶ Industry Std. Footprint
- ▶ Extended Temp Range Option
- ▶ RoHS Compliant
- ▶ 6 x 3.5 mm (4 Pad)

ECX-64

SMD QUARTZ CRYSTAL

The ECX-64 is a miniature SMD Crystal with a 3.5 x 6 mm 4 pad footprint. This cost effective with a height of 1.1 mm which is ideal for densely populated PCB applications.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-64			UNITS
		MIN	TYP	MAX	
Frequency Range		8.000		100.000	MHz
Frequency Tolerance	at +25°C			± 30 *	ppm
Frequency Stability	-10 to +70°C			± 50 *	ppm
Shunt Capacitance				7	pF
Load Capacitance	Specify in P/N	10	20	Series	pF
Drive Level				100	µW
Operating Temperature *		-10		+70	°C
Storage Temperature		-55		+125	°C
Aging (Per Year)	@ +25°C ±3°C			±5	ppm

EQUIVALENT SERIES RESISTANCE/MODE OF OSCILLATION

FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω	FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω
8.000 ~ 9.999	Fundamental	60	20.000 ~ 49.999	Fundamental	30
10.000 ~ 13.999	Fundamental	50	50.000 ~ 100.000	3rd Overtone	80
14.000 ~ 19.999	Fundamental	40			

DIMENSIONS (mm)

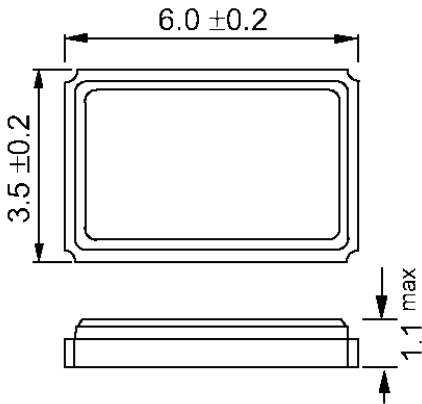


Figure 1) Top, Side, and Bottom views

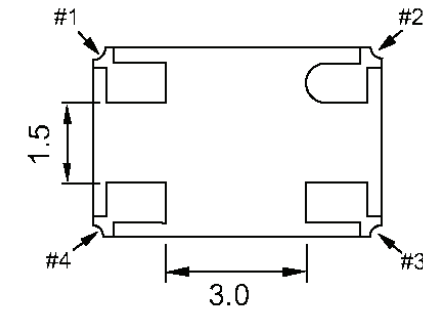


Figure 2) Suggested Land Pattern

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

** Pad 2 & 4 are connected to the metal lid which can be connected GND or No Connected.
Pad 1 or 2 may have a rounded or chamfered pad.

PART NUMBERING GUIDE: Example ECS-200-20-23B-TR

ECS - Frequency Abbreviation - Load Capacitance - Package

200 = 20.000 MHz
See P/N Guide

20 = 20 pF
S=Series

23B =
ECX-64

Custom Options

Tolerance	Stability	Temp Range	- Packaging
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Blank = Std
A = ± 25 ppm
J = ± 20 ppm
R = ± 15 ppm
C = ± 10 ppm

Blank = Std
D = ± 100 ppm
E = ± 50 ppm
G = ± 30 ppm
H = ± 25 ppm
T = ± 20 ppm
W = ± 15 ppm
K = ± 10 ppm

Blank = Std
M = -20 ~ +70°C
N = -40 ~ +85°C
P = -40 ~ +105°C
S = -40 ~ +125°C
U = -55 ~ +125°C

TR= Tape & Reel
1K/Reel

*Consult Factory for available stability options over extended temp range