

- ▶ Compact and low profile
- ▶ Industry Std. Footprint
- ▶ Extended Temp Range Option
- ▶ RoHS Compliant
- ▶ 6 x 3.5 mm (2 Pad)
- ▶ MSL 1
- ▶ Lead Finish: Au

# ECX-64A

## SMD QUARTZ CRYSTAL

The ECX-64A is a miniature SMD Crystal with a 3.5 x 6 mm 2 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		100.00	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 ~ 15.999	Fundamental	80	20.000 ~ 49.999	Fundamental	30
16.000 ~ 19.999	Fundamental	60	50.000 ~ 100.000	3rd Overtone	100

### DIMENSIONS (mm)

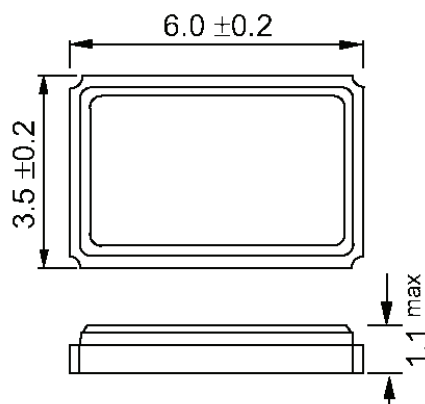


Figure 1) Top, Side, and Bottom views

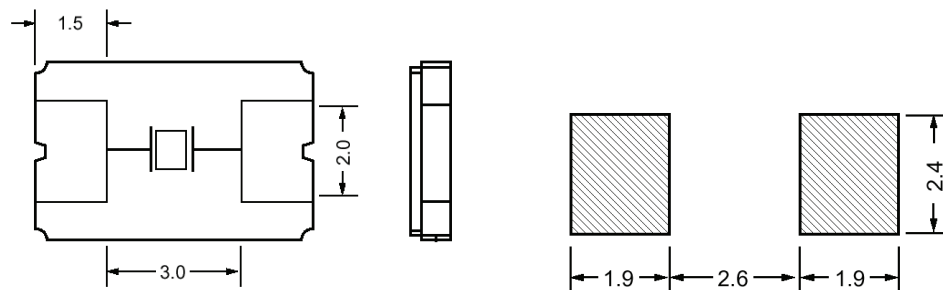


Figure 2) Suggested Land Pattern

### PART NUMBERING GUIDE: Example ECS-200-20-23A-TR

ECS - Frequency Abbreviation - Load Capacitance - Package

200 = 20.000 MHz  
See P/N Guide

20 = 20 pF  
S=Series

23A =  
ECX-64A

#### Custom Options

Tolerance

Stability

Temp Range

- Packaging

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