



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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- ▶ Compact and low profile
- ▶ Industry Std. Footprint
- ▶ Extended Temp Range Option
- ▶ RoHS Compliant

# ECX-64A

## SMD QUARTZ CRYSTAL

The ECX-64A is a miniature SMD Crystal with a 3.5 x 6 mm 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-64A			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
8.00 ~ 15.999	Fundamental	80	20.000 ~ 49.999	Fundamental	40
16.000 ~ 19.999	Fundamental	60	50.000 ~ 30.000	3rd Overtone	100

### DIMENSIONS (mm)

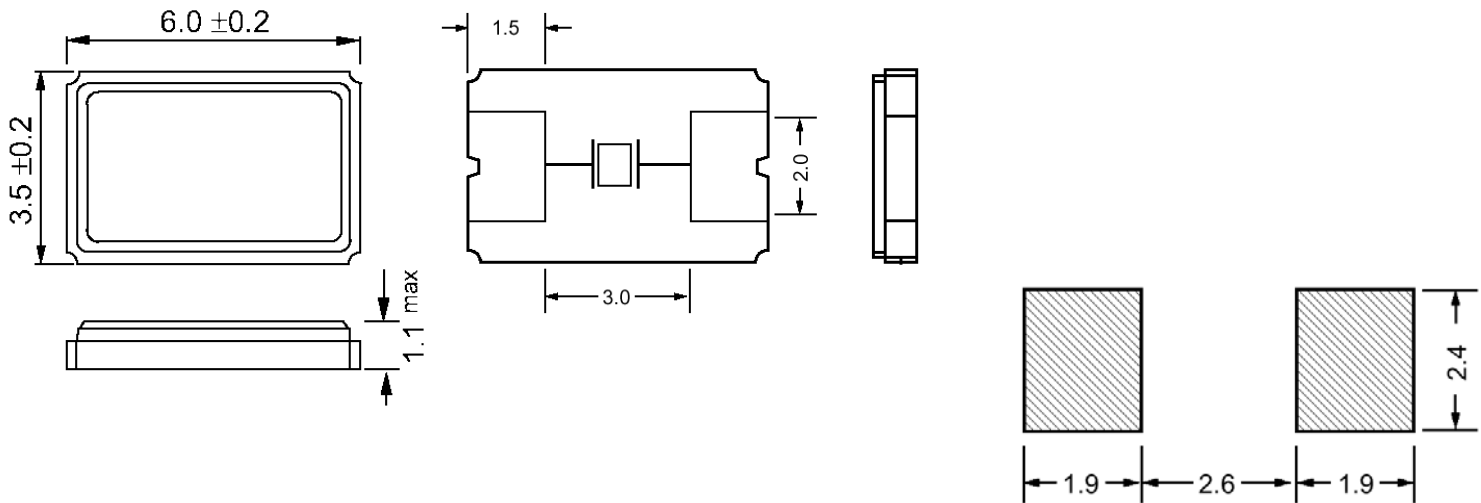


Figure 1) Top, Side, Bottom and End views

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 C = ± 10 ppm	Blank = Std D = ± 100 ppm E = ± 50 ppm G = ± 30 ppm H = ± 25 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