



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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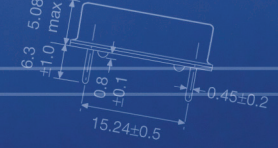


- ▶ Low profile
- ▶ 2.0 x 1.6 mm Footprint
- ▶ RoHS Compliant (2011/65/EU)
- ▶ MSL: 1
- ▶ Lead Finish: Au
- ▶ AEC-Q200 Qualified

# ECX-1637Q

## SMD CRYSTAL

The ECX-1637Q is a miniature SMD Crystal with a 2.0 x 1.6 mm footprint . AEC-Q200 Qualified.



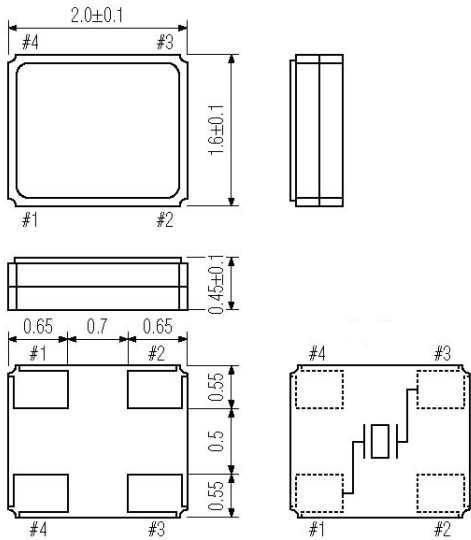
### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-1637Q			UNITS
		MIN	TYP	MAX	
Frequency Range		16.000		48.000	MHz
Frequency Tolerance	at +25°C			± 30	ppm
Frequency Stability	-40 to +125°C (ES Option)			± 50	ppm
Shunt Capacitance				5	pF
Load Capacitance	Specify in P/N		8		pF
Drive Level			10	100	µW
Operating Temperature	(ES Option)	-40		+125	°C
Storage Temperature		-40		+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
16.00 ~ 19.999	Fundamental	150	26.000 ~ 39.999	Fundamental	80
20.00 ~ 25.999	Fundamental	100	40.000 ~ 80.000	Fundamental	70

### DIMENSIONS (mm)



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

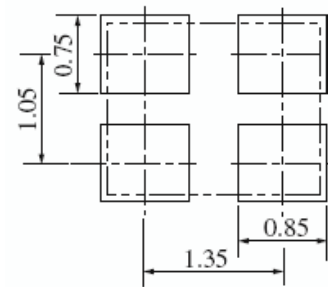


Figure 1) Top, Side, Bottom, End views and Crystal Connection (Top View)

Figure 2) Suggested Land Pattern

### PART NUMBERING GUIDE: Example ECS-240-8-37Q-ES-TR

ECS - Frequency Abbreviation - Load Capacitance - Package

240 = 24.000 MHz  
See P/N Guide

8 = 8 pF  
S=Series

37Q =  
ECX-1637Q

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 L = -10 ~ +70°C M = -20 ~ +70°C N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C U = -55 ~ +125°C	TR= Tape & Reel 3K/Reel

\*Consult Factory for available stability options over extended temp range.