



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!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



- ▶ Cost effective
- ▶ Low profile
- ▶ Pb Free/RoHS Compliant

HC-49USX Quartz Crystal

The HC-49USX is the low profile resistance weld type Thru Hole quartz crystal.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	HC-49USX			UNITS
		MIN	TYP	MAX	
Frequency Range	f_0	3.57		70.000	MHz
Frequency Tolerance	at +25°C			± 30	ppm
Frequency Stability ref @ 25°C	Standard -10 to +70°C			± 50	ppm
Shunt Capacitance	C_0			7	pF
Load Capacitance (CL)	Specify in P/N	10	20	Series	pF
Drive Level				500	μW
Operating Temperature	Standard	-10		+70	°C
Storage Temperature		-55		+125	°C
Aging (First 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
3.57 ~ 3.999	Fundamental	200	9.000 ~ 12.999	Fundamental	60
4.000 ~ 4.999	Fundamental	150	13.000 ~ 19.999	Fundamental	40
5.000 ~ 5.999	Fundamental	120	20.000 ~ 30.000	Fundamental	30
6.000 ~ 6.999	Fundamental	100	27.000 ~ 70.000	3rd Overtone	100
7.000 ~ 8.999	Fundamental	80			

PACKAGE DIMENSIONS (mm)

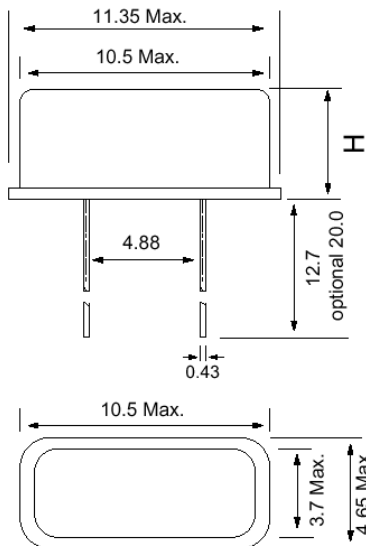


Figure 1) Side and Top views

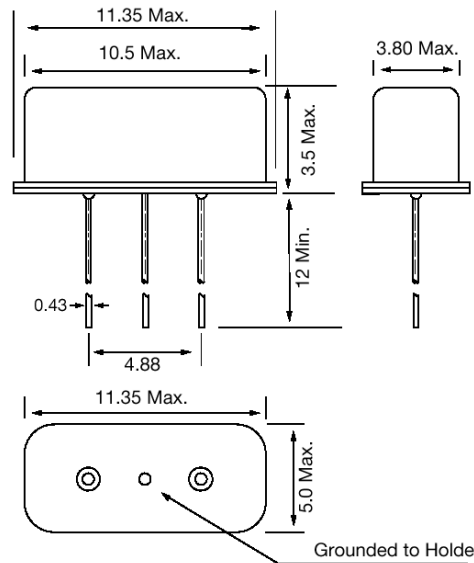


Figure 2) HC-49USX (-4X-3IL) 3rd In Line Lead Base Side, Bottom and End View.

PART NUMBERING GUIDE: Example ECS-200-20-4X

ECS - Frequency Abbreviation - Load Capacitance - Package

200 = 20.000 MHz
See P/N Guide

20 = 20 pF
S=Series

4X = 3.5 mm
4LX = 2.5 mm
4X-3IL = 3rd
In Line Lead Base

Custom Options

Tolerance

A= ±25 ppm
C= ±10 ppm

Stability

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

Temp Range

L= -10 ~ +70°C
M= -20 ~ +70°C
N= -40 ~ +85°C
P= -40 ~ +105°C
S= -40 ~ +125°C
U= -55 ~ +125°C