



- ▶ Cost effective
- ▶ Excellent Aging
- ▶ "AT" cut crystal
- ▶ Wide frequency range
- ▶ Pb Free/RoHS Compliant

HC-49UX Quartz Crystal

The HC-49UX is an "AT" cut resistance weld type Thru Hole quartz crystal.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	HC-49UX			UNITS
		MIN	TYP	MAX	
Frequency Range	f_0	1.800		100.00	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				1.0	mW
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
1.800 ~ 1.999	Fundamental	750	5.000 ~ 5.999	Fundamental	50
2.000 ~ 2.399	Fundamental	500	6.000 ~ 7.999	Fundamental	40
2.400 ~ 2.999	Fundamental	300	8.000 ~ 9.999	Fundamental	35
3.000 ~ 3.199	Fundamental	200	10.000 ~ 12.499	Fundamental	30
3.200 ~ 3.699	Fundamental	120	12.500 ~ 15.999	Fundamental	25
3.700 ~ 4.199	Fundamental	100	16.000 ~ 30.000	Fundamental	20
4.200 ~ 4.899	Fundamental	70	30.000 ~ 100.000	3rd Overtone	40
4.900 ~ 4.999	Fundamental	55			

PACKAGE DIMENSIONS (mm)



Figure 1) Side and Bottom views

PART NUMBERING GUIDE: Example ECS-200-20-1X

ECS - Frequency Abbreviation - Load Capacitance - Package

200 = 20.000 MHz
See P/N Guide

20 = 20 pF
S = Series

1X = HC-49UX

Custom Options

Tolerance Stability Temp Range

A = ±25 ppm
C = ±10 ppm

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

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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ECS:

[ECS-480-S-1X](#) [ECS-92.1-20-1X](#) [ECS-480-20-1X](#) [ECS-180-20-1X](#) [ECS-65-12-1X](#) [ECS-160.003-18-1X](#) [ECS-240.0001-18-1X](#) [ECS-80-32-1X](#) [ECS-20.48-12-1X](#) [ECS-135.6-20-1X](#) [ECS-122.8-20-1X](#) [ECS-110.5-32-1X](#) [ECS-380.005-18-1X](#) [ECS-115.2-S-1X](#) [ECS-189.89-20-1X](#) [ECS-160-20-1X](#) [ECS-391.45-S-1X-3OT](#) [ECS-196.6-20-1X](#) [ECS-147.4-20-1X](#) [ECS-352.5-18-1X](#) [ECS-184-20-1X](#) [ECS-73-20-1X](#) [ECS-39-17-1X](#) [ECS-50-20-1X](#) [ECS-80-20-1X](#) [ECS-146-S-1X](#) [ECS-35-17-1X](#) [ECS-92.1-S-1X](#) [ECS-32-17-1X](#) [ECS-18-13-1X](#) [ECS-122.8-S-1X](#) [ECS-40-S-1X](#) [ECS-76.8-20-1X](#) [ECS-51-20-1X](#) [ECS-36-18-1X](#) [ECS-121-S-1X](#) [ECS-135-S-1X](#) [ECS-44-20-1X](#) [ECS-180-S-1X](#) [ECS-30-S-1X](#) [ECS-120-S-1X](#) [ECS-110.5-20-1X](#) [ECS-107-S-1X](#) [ECS-49-S-1X](#) [ECS-143-S-1X](#) [ECS-49-20-1X](#) [ECS-240-20-1X](#) [ECS-240-S-1X](#) [ECS-51-S-1X](#) [ECS-35-S-1X](#) [ECS-61-32-1X](#) [ECS-59-S-1X](#) [ECS-24-32-1X](#) [ECS-112.2-S-1X](#) [ECS-80-S-1X](#) [ECS-184-S-1X](#) [ECS-150-S-1X](#) [ECS-221-S-1X](#) [ECS-40.3-20-1X](#) [ECS-73-S-1X](#) [ECS-20-20-1X](#) [ECS-42-12-1X](#) [ECS-41-20-1X](#) [ECS-98.3-S-1X](#) [ECS-50-S-1X](#) [ECS-25-S-1X](#) [ECS-98.3-20-1X](#) [ECS-119.8-S-1X](#) [ECS-196.6-S-1X](#) [ECS-52-S-1X](#) [ECS-147.4-S-1X](#) [ECS-110.5-S-1X](#) [ECS-498.6-20-1X](#) [ECS-60-S-1X](#) [ECS-60-32-1X](#) [ECS-36-S-1X](#) [ECS-59-20-1X](#) [ECS-18-S-1X](#) [ECS-110.4-S-1X](#) [ECS-120-32-1X](#) [ECS-200-S-1X](#) [ECS-20-S-1X](#) [ECS-52-32-1X](#) [ECS-10-13-1X](#) [ECS-200-20-1X](#) [ECS-160-S-1X](#) [ECS-100-S-1X](#) [ECS-42-12-1X-3L](#) [ECS-076-20-1X](#) [ECS-210-20-1X](#) [ECS-180-13-1X-3L](#) [ECS-40-20-1X](#) [ECS-184-18-1X](#) [ECS-40.3-S-1X](#) [ECS-080-18-1X](#) [ECS-110-S-1X](#) [ECS-120-20-1X](#) [ECS-018-13-1X-3L](#) [ECS-18-13-1X-3L](#)