



This product represents our selection of low profile resistance weld type quartz crystals.

- OPTIONS:
- extended temperature range
  - tighter tolerances
  - mylar spacer
  - 3rd in line lead base
  - radial tape and reel (1,000 pcs)

## FEATURES

- Cost effective
- Excellent aging
- Wide frequency range
- Low profile
- Excellent reliability
- "AT strip" blank technology

## PART NUMBERING GUIDE "EXAMPLE"

ECS	FREQUENCY (16.0000 MHz)	LOAD CAPACITANCE*	PACKAGE TYPE**
-	160	20	4

\* Load capacitance (xx=xx pF, S= series resonance), \*\* Package Type examples (4= 3.5mm max. height, 4L= 2.5mm max. height)  
 For extended temp range of -40 to +85°C ad -DN suffix for example ECS-160-20-4-DN  
 Note: See Product Selection Guide for additional options.

## OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	MINIMUM	MAXIMUM	UNITS
FREQUENCY RANGE	$f_0$	3.57	70.000	MHz
FREQUENCY TOLERANCE	@ +25°C		±30	PPM
FREQUENCY STABILITY, ref @ 25°C	Standard -10 ~ +70°C		±50	PPM
	"DN" Option -40 ~ +85°C		±100	PPM
OPERATING TEMPERATURE	Standard	-10	+70	°C
	DN option	-40	+85	°C
STORAGE TEMPERATURE		-40	+105	°C
SHUNT CAPACITANCE	$C_0$		7.0	pF
LOAD CAPACITANCE	$C_L$ (Customer Specified)	10.0	Series	pF
DRIVE LEVEL	3.57 ~ 70.000MHz		0.5	mW
AGING (FIRST YEAR)	@ +25°C		±5.0	PPM

## EQUIVALENT SERIES RESISTANCE / MODE OF OSCILLATION

FREQUENCY RANGE (MHz)	MODE	MAX ESR $\Omega$	FREQUENCY RANGE (MHz)	MODE	MAX ESR $\Omega$
3.570 ~ 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 O/T	100
7.000 ~ 8.999	Fundamental	80			

## PACKAGE DIMENSIONS (mm)



Height "H" (max.)	
-4	3.5 mm
-4L	2.5 mm



Figure 3) Frequency vs Temperature Curve

Figure 1) HC-49US - Top and Side views

Figure 2) HC-49US - 3rd In Line Lead Base - Side & Bottom View

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Crystals category](#):*

*Click to view products by [ECS Inc manufacturer](#):*

Other Similar products are found below :

[MC405 32.0000K-R3:PURE SN](#) [7B-27.000MBBK-T](#) [MP1-8.0 99-BU](#) [9B-15.360MBBK-B](#) [PTX-A2JM-10.000M](#) [9C-7.680MBBK-T](#) [H10S-12.000-18-EXT-TR](#) [ABLS-18.432MHZ-20-D-4-T](#) [R38-32.768-12.5-5PPM-NPB](#) [BTD1062E05A-513](#) [21U15A-21.4MHZ](#) [RTX-781DF1-S-20.950](#) [LFXTAL066198Cutt](#) [9C-14.31818MBBK-T](#) [A-11.000MHZ-27](#) [ABM3B1-25.000MHZ-D2Y-T](#) [SPT2A-.032768B](#) [SPT2A.032768G](#) [SSPT7F-9PF20-R](#) [FX325BS-38.88EEM1201](#) [MP-1-25.000MHZ-3L](#) [MP-1-6.000MHZ](#) [LFXTAL065253Cutt](#) [LFXTAL066431Cutt](#) [XT9S20ANA14M7456](#) [XT9SNLANA16M](#) [646G-24-2](#) [7B-30.000MBBK-T](#) [9B-14.31818MBBK-B](#) [6504-202-1501](#) [6526-202-1501](#) [FA-118T](#) [27.1200MB50P-K0](#) [ABLS-12.000MHZ-B2Y-T](#) [BTJ120E02C](#) [SG636PCE-20.000MC](#) [3404](#) [CX3225SB48000Z0DZNC1](#) [CM315D32768EZFT](#) [C1E-24.000-7-2020-R](#) [C1E-19.200-12-1530-X-R](#) [C1E-16.000-12-1530-X-R](#) [FL5000014](#) [EUCA18-3.1872M](#) [425F35E027M0000](#) [FP0800018](#) [17196](#) [MS3V-T1R-32.768kHz-7pF-20PPM-TA-QC-Au](#) [VXM7-1C1-16M000](#) [MS1V-T1K-32.768kHz-10pF-20PPM-TA-QC-Au](#)