

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

- OPTIONS:**
- extended temperature range
 - pullability
 - mylar spacer
 - vinyl sleeve
 - third ground lead
 - radial Tape and Reel (1,000 pcs)

FEATURES

- Cost effective
- Excellent aging
- Wide frequency range
- Tight tolerances
- Excellent reliability
- "AT" cut crystal

PART NUMBERING GUIDE *"EXAMPLE"*

ECS	FREQUENCY (16.0000 MHz)	LOAD CAPACITANCE*	PACKAGE TYPE
-	160	20	1

* Load capacitance (xx=xx pF, S= series resonance)
 Note: See Product Selection Guide for additional options.

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	MINIMUM	MAXIMUM	UNITS
FREQUENCY RANGE	f_0	1.800	200.000	MHz
FREQUENCY TOLERANCE	Ref @ +25°C	-50	+50	PPM
FREQUENCY STABILITY	Ta=20°C ~ +70°C	-50	+50	PPM
OPERATING TEMPERATURE	T _{OPR}	-20	+70	°C
STORAGE TEMPERATURE	T _{STG}	-30	+85	°C
SHUNT CAPACITANCE	C ₀		7.0	pF
LOAD CAPACITANCE	C _L (Customer Specified)	10.0	Series	pF
DRIVE LEVEL	1.800 ~ 3.000MHz, 3.000 ~ 200.000MHz		2.0, 1.0	mW
AGING (FIRST YEAR)	@ +25°C	-5.0	+5.0	PPM

EQUIVALENT SERIES RESISTANCE / MODE OF OSCILLATION

FREQUENCY RANGE (MHz)	MODE	MAX ESR Ω	FREQUENCY RANGE (MHz)	MODE	MAX ESR Ω
1.800 ~ 2.000	Fundamental	750	6.000 ~ 8.000	Fundamental	40
2.000 ~ 2.400	Fundamental	500	8.000 ~ 10.000	Fundamental	35
2.400 ~ 3.000	Fundamental	300	10.000 ~ 12.500	Fundamental	30
3.000 ~ 3.200	Fundamental	200	12.500 ~ 16.000	Fundamental	25
3.200 ~ 3.700	Fundamental	120	16.000 ~ 25.000	Fundamental	20
3.700 ~ 4.200	Fundamental	100	23.000 ~ 65.000	3rd O/T	40
4.200 ~ 4.900	Fundamental	70	60.000 ~ 110.000	5th O/T	80
4.900 ~ 5.000	Fundamental	55	110.000 ~ 200.000	7th O/T	120
5.000 ~ 6.000	Fundamental	50	180.000 ~ 200.000	9th O/T	140

PACKAGE DIMENSIONS (mm)

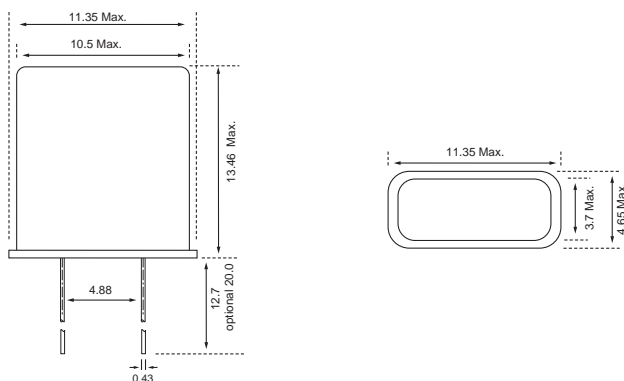


Figure 1) HC-49U - Side and Top views

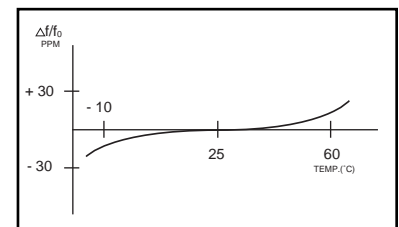


Figure 2) Frequency vs Temperature Curve