RoHS COMPLIANT

The HC-49USX-DN is the industrial temperature range version of our standard HC-49USX crystal.

HC-49USX-DN QUARTZ CRYSTAL

Request a Sample

ECS INC INTERNATIONAL®

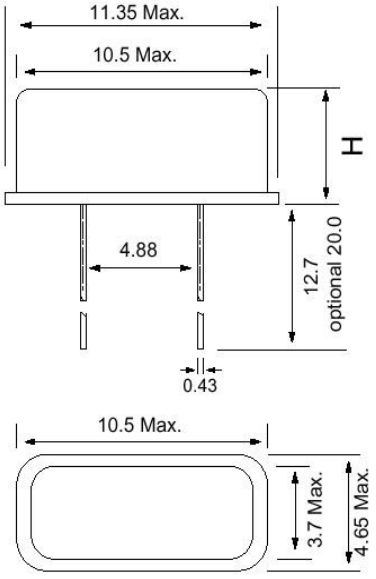
HC-49USX-DN QUARTZ CRYSTAL

- -40 to +85°C Temp. Range
- Industry Standard Footprint
- Pb Free/RoHS Compliant

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	HC-49USX-DN			UNITS
		MIN	TYP	MAX	
Frequency	Fo	3.570		70.000	MHz
Frequency Tolerance*	@ +25°C			± 30	ppm
Frequency Stability*	-40 ~ +85°C			± 100	ppm
Shunt Capacitance	Co			7	pF
Load Capacitance	Specify in P/N	10	20	Series	pF
Drive Level	DL			500	µW
Operating Temperature*	Topr	-40		+85	°C
Storage Temperature	Tstg	-55		+125	°C
Aging (First Year)	@ +25°C ±3°C			±5	ppm

DIMENSIONS (mm)



Height "H" MAX	
-4X	3.5 mm
-4LX	2.5 mm

Frequency (MHz)	ESR Ω Max.	Mode of Osc.
3.570 ~ 3.999	200	Fundamental
4.000 ~ 4.999	150	Fundamental
5.000 ~ 5.999	120	Fundamental
6.000 ~ 6.999	100	Fundamental
7.000 ~ 8.999	80	Fundamental
9.000 ~ 12.999	60	Fundamental
13.000 ~ 19.999	40	Fundamental
20.000 ~ 30.000	30	Fundamental
27.000 ~ 70.000	100	3rd Overtone

Figure 1) *Side and Bottom*

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

ECS -	FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	STABILITY	TEMPERATURE	PACKAGING
ECS	200 = 20.000 MHz See P/N Guide	20 = 20 pF S = Series	4X = HC-49USX	D= ±100 ppm	N = -40 ~ +85°C	Bulk

Rev.2017

HC-49USX-DN
QUARTZ CRYSTAL

SOLDER PROFILE
Peak solder Temp +260°C Max 10 sec Max.
2 Cycles Max.
MSL 1, Lead Finish Sn/Cu Matte

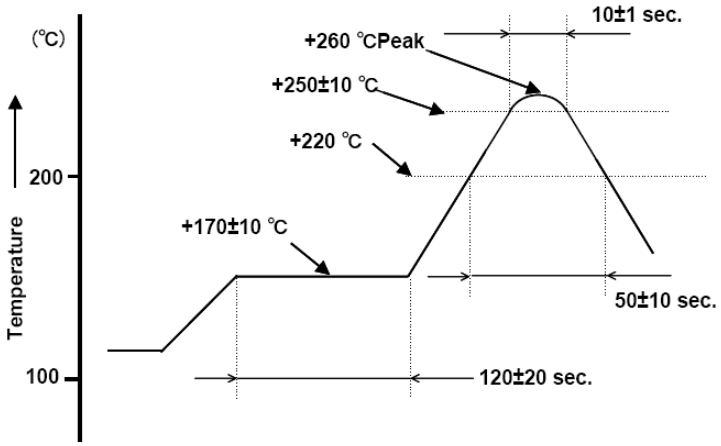


Figure 1) *Suggested Solder Profile*

DEVELOPED FREQUENCIES	
Abbreviation	Frequency (MHZ)
035	3.579545
036	3.6864
040	4.000
060	6.000
073	7.3728
080	8.000
110.5	11.0592
120	12.000
143	14.31818
147.4	14.7456
160	16.000
184	18.432
196	19.6608
200	20.000
240	24.000
245.7	24.576
250	25.000