

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

HC-49USX-DN QUARTZ CRYSTAL

Request a Sample

HC-49USX-DN QUARTZ CRYSTAL

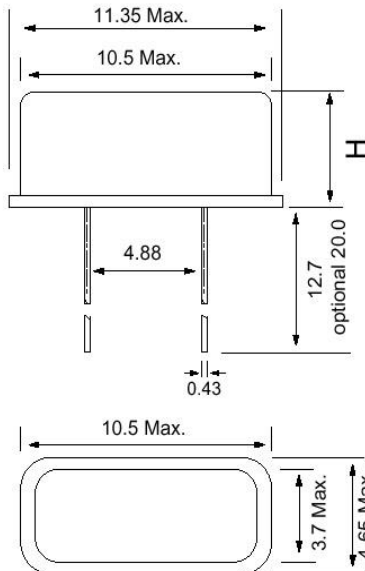


- -40 to +85°C Temp. Range
- Industry Standard Footprint
- Pb Free/RoHS Compliant

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 | 3 rd Overtone |

Figure 1) Side and Bottom

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

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

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

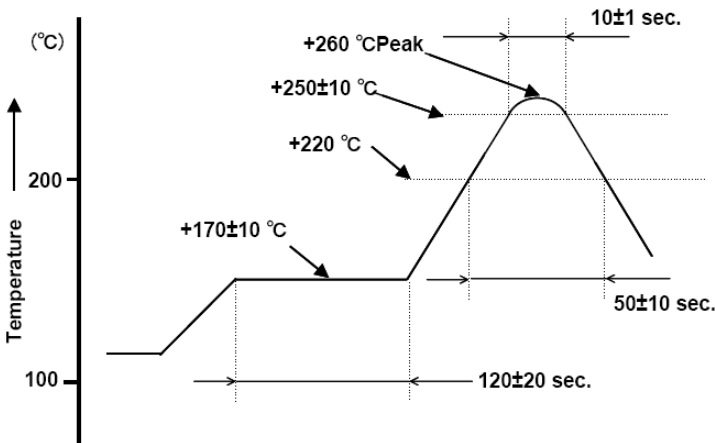


Figure 1) Suggested Solder Profile

| 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 |