

D and F Series Crystal



- **HC-49/US Surface Mounted Crystal**
- **Wide Frequency Range**
- **RoHS Compliant Available**
- **Fundamental or 3rd OT AT Cut**



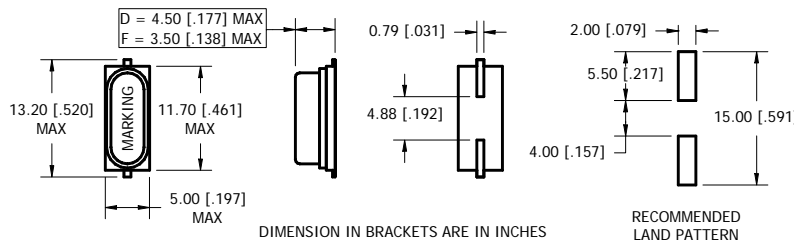
ELECTRICAL SPECIFICATIONS:

| | |
|---------------------------------|--|
| Frequency Range | 3.200MHz to 80.000MHz |
| Frequency Tolerance / Stability | (See Part Number Guide for Options) |
| Operating Temperature Range | (See Part Number Guide for Options) |
| Storage Temperature | -55°C to +125°C |
| Aging | ±5ppm / first year Max |
| Shunt Capacitance | 7pF Max |
| Load Capacitance | 20pF Standard (See Part Number Guide for Options) |
| Equivalent Series Resistance | See ESR Chart |
| Mode of Operation | Fundamental, or 3 rd OT |
| Drive Level | 1mW Max |
| Shock | MIL-STD-883, Meth 2002, Cond B |
| Solderability | MIL-STD-883, Meth 2003 |
| Solvent Resistance | MIL-STD-202, Meth 215 |
| Vibration | MIL-STD-883, Meth 2007, Cond A |
| Gross Leak Test | MIL-STD-883, Meth 1014, Cond C |
| Fine Leak Test | MIL-STD-883, Meth 1014, Cond A |

ESR CHART:

| Frequency Range | ESR (Ohms) | Mode / Cut |
|------------------------|------------|-------------------------|
| 3.200MHz to 3.999MHz | 150 Max | Fund / AT |
| 4.000MHz to 4.999MHz | 120 Max | Fund / AT |
| 5.000MHz to 5.999MHz | 100 Max | Fund / AT |
| 6.000MHz to 7.999MHz | 90 Max | Fund / AT |
| 8.000MHz to 9.999MHz | 70 Max | Fund / AT |
| 10.000MHz to 11.999MHz | 50 Max | Fund / AT |
| 12.000MHz to 14.999MHz | 50 Max | Fund / AT |
| 15.000MHz to 19.999MHz | 40 Max | Fund / AT |
| 20.000MHz to 33.000MHz | 30 Max | Fund / AT |
| 24.576MHz to 29.999MHz | 100 Max | 3 rd OT / AT |
| 30.000MHz to 80.000MHz | 80 Max | 3 rd OT / AT |

MECHANICALS DETAIL:

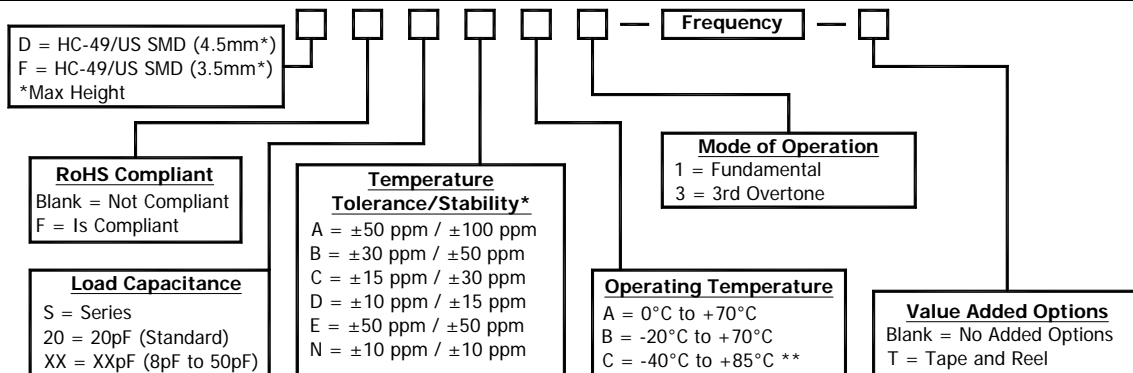


MARKING:

Line 1: MXX.XXX
XX.XXX = Frequency in MHz

Line 2: SYMCL
S = Internal Code
YM = Date Code (Year/Month)
CC = Crystal Parameters Code
L = Denotes RoHS Compliant

PART NUMBER GUIDE:



* Please consult with MMD sales department for any other parameters or options.
 ** Not all Frequency Tolerance/Stability options available at this temperature range.

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