

# B and E Series Crystal



- HC-49 / US Thru-Hole Crystal
- Wide Frequency Range
- RoHS Compliant Available
- Low Profile Package
- Resistance Weld



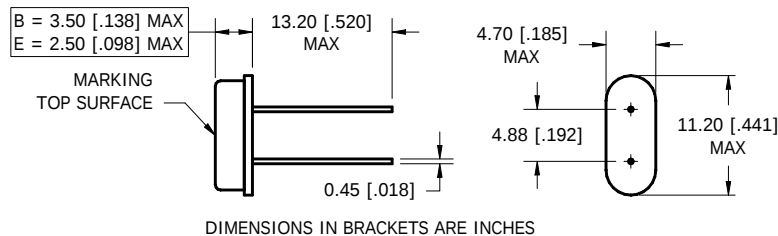
## ELECTRICAL SPECIFICATIONS:

|                                 |                                                      |
|---------------------------------|------------------------------------------------------|
| Frequency Range                 | 3.200MHz to 91.730MHz                                |
| 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<br>(See Part Number Guide for Options) |
| Equivalent Series Resistance    | See ESR Chart                                        |
| Mode of Operation               | Fundamental, or 3 <sup>rd</sup> 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 4.999MHz   | 200 Max    | Fund / AT               |
| 5.000MHz to 5.999MHz   | 150 Max    | Fund / AT               |
| 6.000MHz to 7.999MHz   | 120 Max    | Fund / AT               |
| 8.000MHz to 8.999MHz   | 90 Max     | Fund / AT               |
| 9.000MHz to 9.999MHz   | 80 Max     | Fund / AT               |
| 10.000MHz to 16.999MHz | 50 Max     | Fund / AT               |
| 17.000MHz to 24.999MHz | 40 Max     | Fund / AT               |
| 25.000MHz to 36.000MHz | 25 Max     | Fund / AT               |
| 24.000MHz to 34.999MHz | 100 Max    | 3 <sup>rd</sup> OT / AT |
| 35.000MHz to 59.999MHz | 80 Max     | 3 <sup>rd</sup> OT / AT |
| 60.000MHz to 91.730MHz | 60 Max     | 3 <sup>rd</sup> OT / AT |

## MECHANICALS DETAIL:

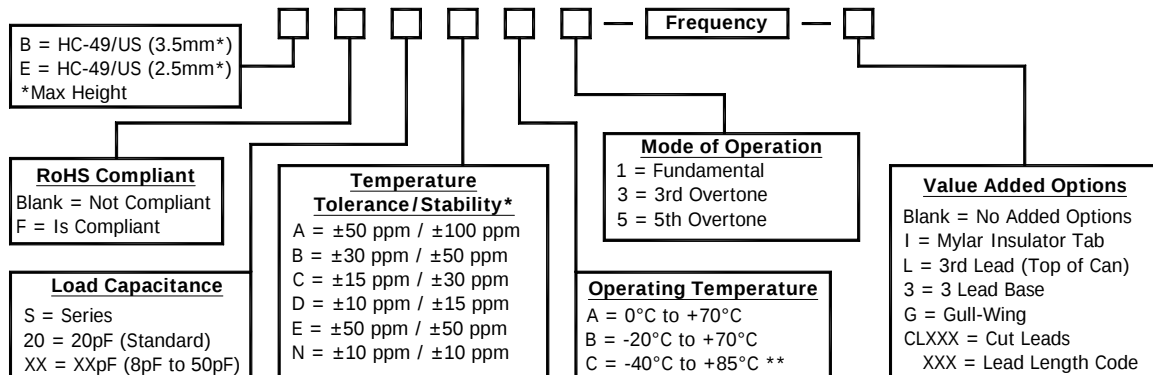


## MARKING:

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

Line 2: SYMCLL  
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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