

**PART NUMBERING GUIDE**

**Environmental/Mechanical Specifications on page F5**

|                                                                             |  |          |          |           |          |          |                    |                                                                                           |
|-----------------------------------------------------------------------------|--|----------|----------|-----------|----------|----------|--------------------|-------------------------------------------------------------------------------------------|
| <b>Package</b><br>M= 1.6mm max. ht. / 2 Pad Ceramic SMD                     |  | <b>M</b> | <b>A</b> | <b>32</b> | <b>C</b> | <b>1</b> | <b>- 30.000MHz</b> | <b>Mode of Operation</b><br>1=Fundamental<br>3=Third Overtone                             |
| <b>Tolerance/Stability</b><br>A=±50/100<br>B=±50/50<br>C=±30/50<br>D=±30/30 |  |          |          |           |          |          |                    | <b>Operating Temperature Range</b><br>C=0°C to 70°C<br>E=-20°C to 70°C<br>F=-40°C to 85°C |
|                                                                             |  |          |          |           |          |          |                    | <b>Load Capacitance</b><br>S=Series, XX=XXpF (Pico Farads)                                |

**ELECTRICAL SPECIFICATIONS**

Revision: 1995-B

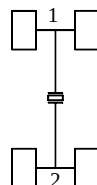
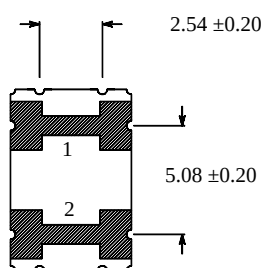
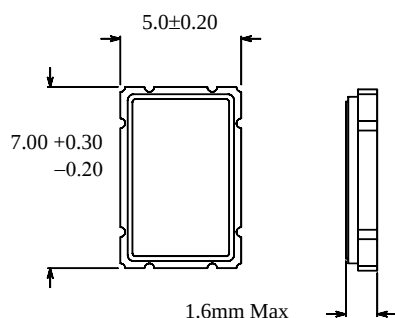
|                                                                          |                                                                                                    |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Frequency Range</b>                                                   | 3.500MHz to 30.000MHz                                                                              |
| <b>Frequency Tolerance/Stability</b><br>A, B, C, D                       | See above for details!<br>Other Combinations Available. Contact Factory for Custom Specifications. |
| <b>Operating Temperature Range</b><br>"C" Option, "E" Option, "F" Option | -30°C to 70°C                                                                                      |
| <b>Aging @ 25°C</b>                                                      | ±5ppm / year Maximum                                                                               |
| <b>Storage Temperature Range</b>                                         | -55°C to 125°C                                                                                     |
| <b>Load Capacitance</b><br>"S" Option<br>"XX" Option                     | Series<br>8pF to 50pF                                                                              |
| <b>Shunt Capacitance</b>                                                 | 7pF Maximum                                                                                        |
| <b>Insulation Resistance</b>                                             | 500 Megaohms Minimum at 100Vdc                                                                     |
| <b>Drive Level</b>                                                       | 500uW Maximum, 100uW correlation                                                                   |

**EQUIVALENT SERIES RESISTANCE (ESR)**

| Frequency Range (MHz) | ESR (ohms) | Mode / Cut       |
|-----------------------|------------|------------------|
| 3.500 to 3.000        | 300        | Fundamental / AT |
| 4.000 to 7.999        | 200        | Fundamental / AT |
| 8.000 to 9.999        | 100        | Fundamental / AT |
| 20.000 to 30.000      | 80         | Fundamental / AT |

**MECHANICAL DIMENSIONS**

**Marking Guide**



**Pad Connection**  
1 Crystal In  
2 Crystal Out

16.000M  
CEIYM

16.000M= Frequency

CEI = Caliber Electronis Inc.

YM = Date Code (Yr./Mth)