F, F11, FMT, FMT11 Series

1.3mm /1.1mm Ceramic Surface Mount Crystals

Lead-Free
RoHS Compliant

CALIBER
Electronics Inc.

PART NUMBERING GUIDE

Environmental/Mechanical Specifications on page F5

FMT11 D 20 C 1 29.4912MHz

Package
F = 1.3mm max. ht. / Ceramic Glass Sealed Package
F11 = 1.1mm max. ht. / Ceramic Glass Sealed Package
FMT = 1.3mm max. ht. / Seam Weld "Metal Lid" Package
FMT11 = 1.1mm max. ht./ Seam Weld "Metal Lid" Package

Tolerance/Stability
A=±50/100
B=±50/50
C=±30/50
D=±20/30
E=±15/30
F=±10/50
G=±20/10
H=±10/10
J =±10/20

Mode of Operation
1=Fundamental
3=Third Overtone
5=Fifth Overtone

Operating Temperature Range
C=0°C to 70°C
E=-20°C to 70°C
F=-40°C to 85°C

Load Capacitance
S=Series, XX=XXpF (Pico Farads)

ELECTRICAL SPECIFICATIONS

Revision: 1996-D

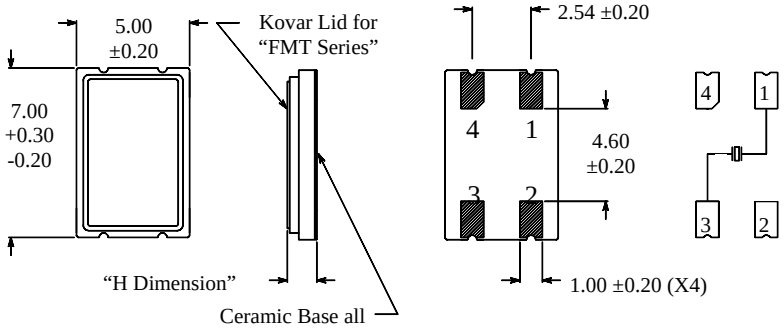
Frequency Range	8.000MHz to 150.000MHz
Frequency Tolerance/Stability A, B, C, D, E, F	See above for details! Other Combinations Available. Contact Factory for Custom Specifications.
Operating Temperature Range "C" Option, "E" Option, "F" Option	0°C to 70°C, -20°C to 70°C, -40°C to 85°C
Aging @ 25°C	±3ppm / year Maximum
Storage Temperature Range	-55°C to 125°C
Load Capacitance "S" Option "XX" Option	Series 8pF to 50pF
Shunt Capacitance	7pF Maximum
Insulation Resistance	500 Megaohms Minimum at 100Vdc
Drive Level	1mW Maximum, 100uW correlation

EQUIVALENT SERIES RESISTANCE (ESR)

Frequency (MHz)	ESR (ohms)	Frequency (MHz)	ESR (ohms)
9.000 to 10.999	60	35.000 to 39.990 (3rd OT)	60
11.000 to 13.999	50	40.000 to 49.990 (3rd OT)	60
14.000 to 15.999	40	50.000 to 89.999 (3rd OT)	60
16.000 to 40.000	30	90.000 to 150.000	100

MECHANICAL DIMENSIONS

All Dimensions in mm.



Marking Guide

Line 1: Frequency
Line 2: CEI YM
CEI = Caliber Electronics
YM = Date Code (year/month)

Pad Connection
1 Crystal In/OUt
2 Ground
3 Crystal in/Out
4 Ground

NOTE: Dimensions for Specific Packages
H = 1.3 Maximum for "F Series"
H = 1.3 Maximum for "FMT Series" / "Metal Lid"
H = 1.1 Maximum for "F11 Series"
H = 1.1 Maximum for "FMT11 Series" / "Metal Lid"