X Series Crystal

- **2mm X 2.5mm 4 Pads Ceramic Package**
- **Ultra-miniature Profile**
- **RoHS Compliant**
- **Tape and Reel Packaging**

ELECTRICAL SPECIFICATIONS:

Frequency Range	16.000MHZ to 60.000MHZ
Frequency Tolerance / Stability	(See Part Number Guide for Options)
Operating Temperature Range	(See Part Number Guide for Options)
Storage Temperature	-40°C to +85°C
Aging	±2ppm / per year
Shunt Capacitance	3pF Max
Load Capacitance	10pF Standard (See Part Number Guide for Options)
Equivalent Series Resistance	See ESR Chart
Drive Level	100µW Max
Insulation Resistance	500 Megaohms Min at 100VDC
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:

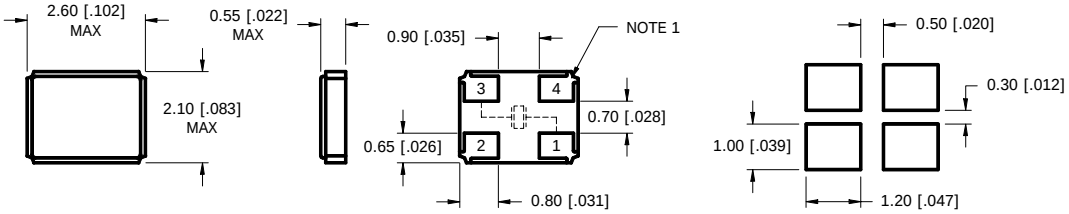
Frequency Range	ESR (Ohms)	Mode / Cut
16.000MHZ to 19.999MHZ	120 Max	Fund / AT
20.000MHZ to 29.999MHZ	80 Max	Fund / AT
30.000MHZ to 60.000MHZ	50 Max	Fund / AT

MARKING:

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

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

MECHANICALS DETAIL:

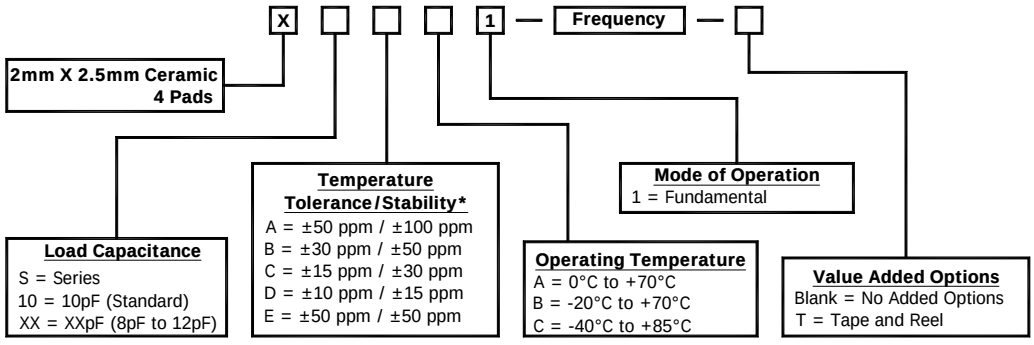


DIMENSIONS IN BRACKETS ARE IN INCHES

RECOMMENDED LAND PATTERN

NOTE 1: PIN 2 AND PIN 4 ARE INTERNALLY CONNECTED AND SHOULD NOT BE CONNECTED TO EXTERNAL SOURCES FOR PROPER FUNCTION.

PART NUMBER GUIDE:



* Please consult with MMD sales department for any other parameters or options.

MMD Components, 30400 Esperanza, Rancho Santa Margarita, CA, 92688
Phone: (949) 709-5075, Fax: (949) 709-3536, www.mmdcomp.com
Sales@mmdcomp.com