# K Series Crystal

- **Plastic SMD Package**
- **Wide Frequency Range**
- **RoHS Compliant Available**
- **Tape and Reel Packaging**

## ELECTRICAL SPECIFICATIONS:

| | |
|---|---|
| Frequency Range | 3.500MHz to 70.000MHz |
| Frequency Tolerance/ Stability | ±50ppm / ±100ppm Standard<br>(See Part Number Guide for Options) |
| Operating Temperature Range | -10°C to +60°C |
| Storage Temperature | -55°C to +125°C |
| Aging | ±5ppm per year max |
| Shunt Capacitance | 7pF Max |
| Load Capacitance | 16pF Standard<br>(See Part Number Guide for Options) |
| Equivalent Series Resistance | See ESR Chart |
| Mode of Operation | Fundamental or 3rd OT |
| Drive Level | 50µW to 100µW |
| Insulation Resistance | 500 M ohms Min at 100VDC ±15VDC |
| Hermeticity of Seal | 1 x $10^{-2}$ mPa ($m^3$/s) Max |
| Shock Resistance | ±5ppm max (drop test onto a hard wooden board from 75cm) |

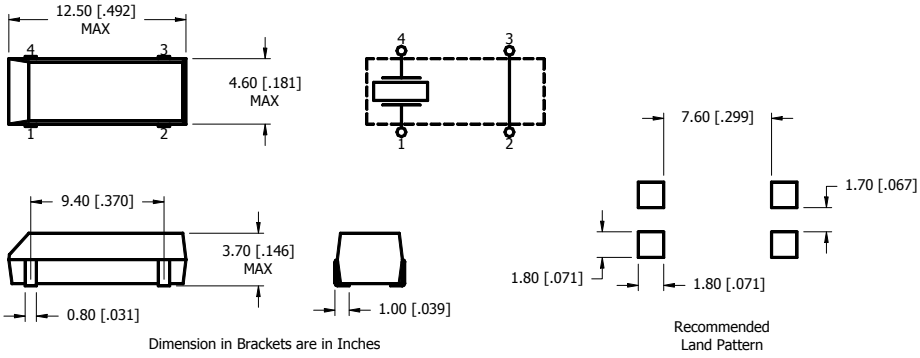
## ESR CHART:

| Frequency Range | ESR (Ohms) | Mode / Cut |
|---|---|---|
| 3.500MHz to 3.999MHz | 200 Max | Fund / AT |
| 4.000MHz to 5.999MHz | 150 Max | Fund / AT |
| 6.000MHz to 9.999MHz | 100 Max | Fund / AT |
| 10.000MHz to 30.000MHz | 50 Max | Fund / AT |
| 30.000MHz to 35.999MHz | 100 Max | 3rd OT/AT |
| 36.000MHz to 70.000MHz | 80 max | 3rd OT/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

## MECHANICAL DETAILS:

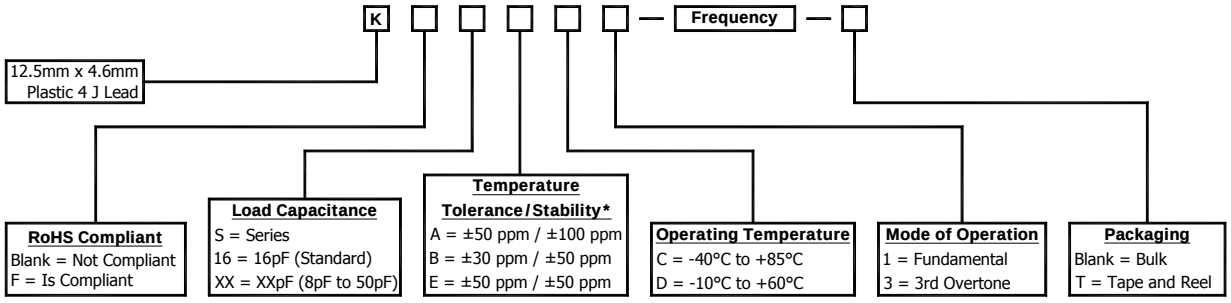



Dimension in Brackets are in Inches

## MOISTURE SENSITIVITY LEVEL:

| Level | Floor Life | | Standard | | Accelerated Equivalent | |
|---|---|---|---|---|---|---|
| | Time | Conditions | Time | Conditions | Time | Conditions |
| 3 | 168 Hours | ≤30ºC/60% R.H. | 192 +5/-0 Hours | 30ºC/60% R.H. | 40 +1/-0 Hours | 60ºC/60% R.H. |

## PART NUMBER GUIDE:




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