

# TF310 Series Crystal



- 3mm X 10mm Cylindrical
- AT Strip Cylindrical Crystal
- RoHS Compliant
- Thru-Hole Device



Frequency Range	3.579545MHz to 65.000MHz
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	±5ppm per first year max
Shunt Capacitance	5pF Max
Load Capacitance	12.5pF Standard (See Part Number Guide for Options)
Equivalent Series Resistance (ESR)	See ESR Chart
Mode of Operation	Fundamental or 3 <sup>rd</sup> OT
Drive Level	10µW to 100µW recommended, 2mW Max
Insulation Resistance	500 Megaohms Min at 100VDC ±15VDC
Hermeticity of Seal	1 x 10 <sup>-2</sup> mPa (m <sup>3</sup> /s) Max
Shock Resistance	±5ppm max (drop test onto a hard wooden board from 75cm)

## Environmental & Mechanical Detail

Shock	MIL-STD-883, Method 2002 Cond B
Solderability	MIL-STD-883, Method 2003
Solvent Resistance	MIL-STD-202, Method 215
Vibration	MIL-STD-883, Method 2007, Cond A
Gross Leak Test	MIL-STD-883, Method 1014, Cond C
Fine Leak Test	MIL-STD-883, Method 1014, Cond A2
MSL	Level 1 per IPC/JEDEC J-STD 20

## Marking Detail

Line 1 = Frequency



**MMD Monitor/Quartztek**  
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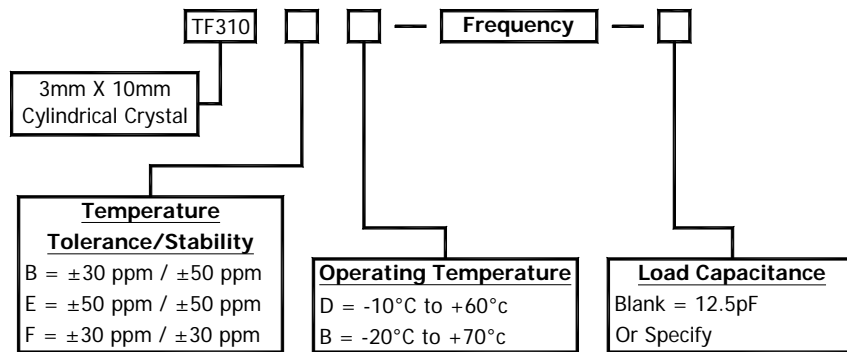


Revision: TF310091310D

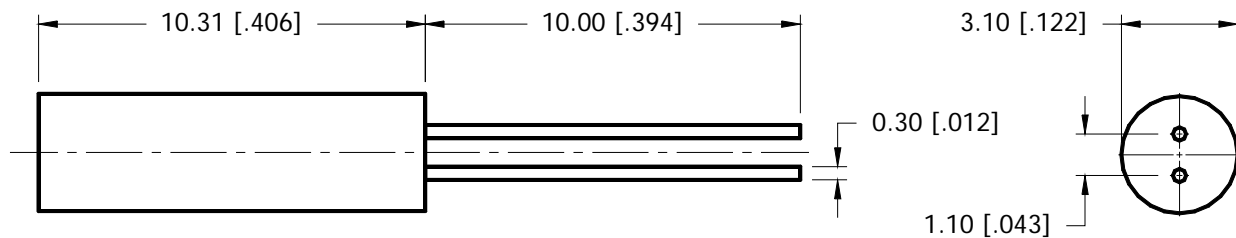
## ESR Chart

Frequency Range	ESR (Ohms)	Mode / Cut
3.57954MHz to 5.299MHz	150 Max	Fund / AT
5.500MHz to 5.999MHz	100 Max	Fund / AT
6.000MHz to 9.999MHz	80 Max	Fund / AT
10.000MHz to 11.999MHz	60 Max	Fund / AT
12.000MHz to 15.999MHz	50 Max	Fund / AT
16.000MHz to 36.000MHz	40 Max	Fund / AT
26.000MHz to 36.000MHz	100 Max	3 <sup>rd</sup> OT/AT
36.000MHz to 65.000MHz	80 Max	3 <sup>rd</sup> OT/AT

## Part Number Guide



## Mechanical Details



DIMENSION IN BRACKETS ARE IN INCHES



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