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# Specification for a 2-Pole SMD Crystal Filter
# MtronPTI P/N: XF9411R

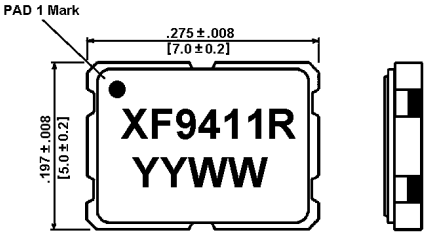
## I. General & Electrical Requirements

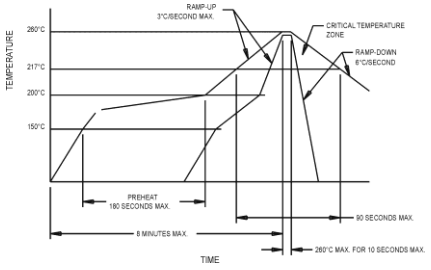
1. Center Frequency ($F_{ON}$): 21.4MHz
2. Passband @ 3dB: $F_{ON}$ ±15.0kHz minimum
3. Passband Ripple (peak-valley): ≤ 1.0dB
4. Insertion Loss (@ peak of transmission within the 3dB bandwidth): ≤ 2.0dB
5. Rejection (relative to Insertion Loss):
   $F_{ON}$ ±45.0kHz: 15dB minimum
6. IP3 Products : ≤ -128dBm
   *The test method shall be to combine two signal generators at offsets of ±50kHz and ±100kHz (High Side Test Tones $F_1=F_{ON}$ +50kHz, $F_2=F_{ON}$ +100kHz & Low Side Low Side Test Tones $F_1=F_{ON}$ -50kHz, $F_2=F_{ON}$ -100kHz) such that the signal amplitude of these generators is -36dBm at the filter input, then measure the unwanted IP3 product at the filter output which will be at 21.4MHz, these unwanted products shall be at -128dBm or less.*
7. Ultimate Rejection: 70.0dB minimum @ $F_{ON}$ -910kHz
8. Input Signal Level: ≤ 0dBm
9. $Z_{IN}/Z_{OUT}$: 2000Ω // ±0.5*pF*

## II. Environmental & Physical Requirements:

1. Temperature Range
   Operating: -30°C to +80°C
   Storage: -45°C to +85°C
2. Package [Note 1]: 5mm x 7mm x 1.35mm (ref. drawing)
3. Maximum Peak Reflow Temperature: +260˚C
4. Packaging: Tape & Reel
5. RoHS: Full RoHS Compliance

***Note 1: The filter shall be marked with a PAD 1 mark based upon the best IM screened performance measured to meet the specification requirements. This will dictate the tape & reel loading orientation. The part marking illustrated in the outline drawing reflects this. However, the model # and date code orientation can be rotated 180˚ from that illustrated.***




All Dimensions Are In Inches [mm]

Tape & Reel per EIA-481