

## Specification for a 4-Pole 3<sup>rd</sup> Overtone Mode SMD Crystal Filter MtronPTI P/N: XF9347R

### I. GENERAL & ELECTRICAL REQUIREMENTS

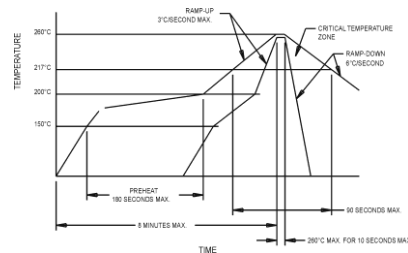
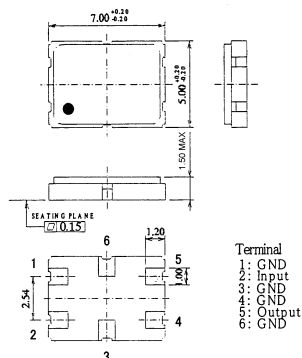
1. Center Frequency ( $F_{ON}$ ): 70.2MHz
2. 3dB Passband:
  - @  $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ :  $\geq F_{ON} \pm 6.0\text{kHz}$  &  $\leq F_{ON} \pm 9.0\text{kHz}$
  - $-30^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$ :  $\leq F_{ON} \pm 5.5\text{kHz}$  &  $\leq F_{ON} \pm 10.0\text{kHz}$
3. Insertion Loss (@ peak of transmission within the 3dB passband):  $\leq 4.0\text{dB}$
4. Passband Ripple (peak-valley,  $F_{ON} \pm 3.5\text{kHz}$ ):  $\leq 0.5\text{dB}$
5. Coupling Capacitance: T.B.D. (**Vendor to Advise After Prototype Build**)
6. Group Delay Distortion (peak-peak over  $F_{ON} \pm 3.0\text{kHz}$ )
  - @  $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ :  $\leq 20\mu\text{sec}$
  - $-30^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$ :  $\leq 30\mu\text{sec}$

*The group delay distortion value shall be the difference between the maximum and minimum values over the specified frequency range.*
7. Rejection (Minimum, Relative to Insertion Loss):
  - 35dB:  $F_{ON} \pm 25\text{kHz}$  to  $F_{ON} \pm 500\text{kHz}$
  - 80dB:  $F_{ON} - 910\text{kHz}$
8. 3<sup>rd</sup> Order Input Intercept Point (IIP3): +26dBm
  - The IIP3 shall be first tested with tones at fc -50kHz and -100kHz and then tested with tones at fc +50 kHz and +100kHz, , the tone level shall be -20dBm/tone at the filter input.*
9. Input Signal Level:  $\leq 0\text{dBm}$
10.  $Z_{IN}/Z_{OUT}$ : T.B.D. ( $\Omega // \text{pF}$ ) nominal (**Vendor to Advise After Prototype Build**)

*Note 1: All electrical performance specifications, unless otherwise noted, are over the full operating temperature range.  
 Note 2: All performance parameters are to be validated at the prototype build stage and are subject to adjustment.*

### II. ENVIRONMENTAL & PHYSICAL REQUIREMENTS:

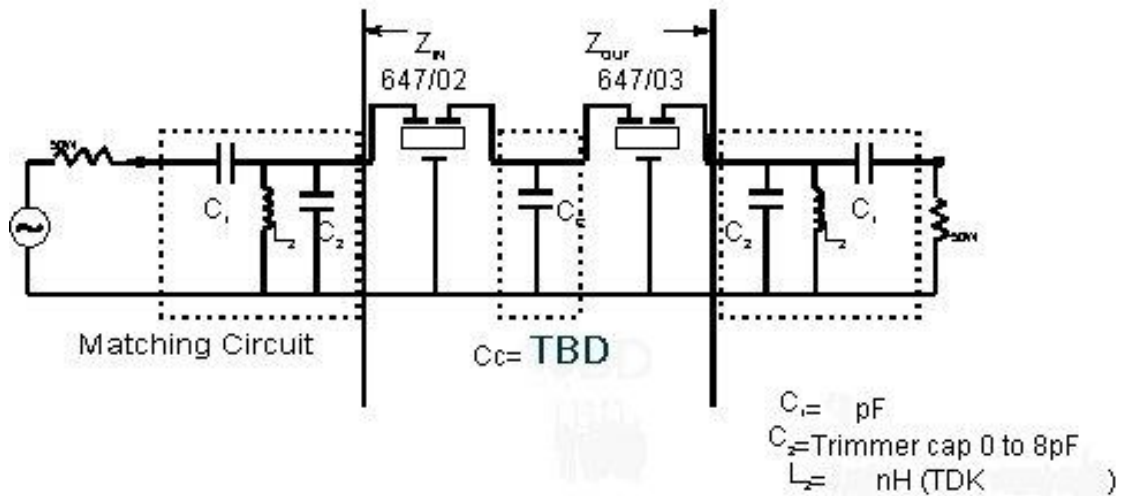
1. Temperature Range
  - Operating:  $-30^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$
  - Storage:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
2. Solderability: Per EIAJ-STD-002
3. Package: 5x7mm Matched Pair Tandem Set SMD (ref drawing Figure 1)
4. Full RoHS Compliance





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Test Circuit:



\* $C_c$  value does not include parasitics.