



## Proposed Specification for a Crystal Filter MtronPTI P/N: XF8572-002

### I. General & Electrical Requirements:

1. Passband Center Frequency ( $F_{ON}$ ): 140.400MHz
2. 3dB Passband (ref. to Center Frequency) : 140.380MHz to 140.420MHz, minimum
3. Insertion Loss (@ Center Frequency) :  $\leq 4.5$ dB
4. Passband Ripple (peak-peak) :  $\leq 1.0$ dB
5. Input/Output Return Loss (140.395MHz to 140.405MHz): -10dB minimum
6. Absolute Group Delay (within the 40kHz bandwidth):  $\leq 30\mu sec$
7. Stopband Attenuation (Relative to Insertion Loss) : 60dB minimum over a maximum bandwidth of 160kHz
8. Ultimate Attenuation : 60dB minimum,  $\leq 140.320$ MHz to  $\geq 140.480$ MHz
9. Spurious Attenuation: 50dB minimum,  $\leq 140.340$ MHz to  $\geq 140.460$ MHz
10. Group Delay:
  - Absolute Delay:  $\leq 40\mu sec$  from 140.380MHz to  $\geq 140.420$ MHz
  - Differential Delay:  $\leq 12\mu sec$ , from 140.385MHz to  $\geq 140.415$ MHz
  - Delay Slope:  $\leq 5\mu sec$  for any 5kHz increment over the frequency range 140.390MHz to  $\geq 140.410$ MHz
11. Intermodulation Distortion:
  - 3<sup>rd</sup> order IMD products shall be 40dB down from either of two (2) -8dBm Input Tones at  $F_1 = 140.405$ MHz and  $F_2 = 140.395$ MHz as referenced to the Input
12. Input Power Level: -120dBm minimum, +15dBm maximum
13.  $Z_S/Z_L$ : 50 $\Omega$  nominal
14. DC Blocking: No

### II. Environmental & Physical Requirements:

1. Temperature Range
  - Operating: -40°C to +85°C
  - Storage: -45°C to +105°C
2. Shock: Per MIL-STD-202, Method 213, Test Condition A
3. Solderability: Per MIL-STD-202, Method 208, With the following Exceptions
  - The Steam Aging Requirement is Reduced to 2-hours
  - The Minimum Coverage is Reduced to 85%
4. Package:
  - Type: True SMD
  - Coplanarity: The Device shall be coplanar to  $\leq 0.004$ " as measured by 6C5-1400
  - Dimensions: 2.000" (L) x .500" (W) x 0.375" (H) (excluding grounding finger stock on filter top surface)
  - Reference Drawing Figure 1
  - Materials:
    - Construction & Finish:
      - No Pure Tin Components or Termination Finishes Shall be Utilized in the Construction of This Filter
    - Termination Finish: Tin/Lead Solder
    - Upper Housing: Silver Plated Brass Per ASTM B700, Type 1, Grade A
5. Packaging: Tape & Reel, Per EIA-481-A

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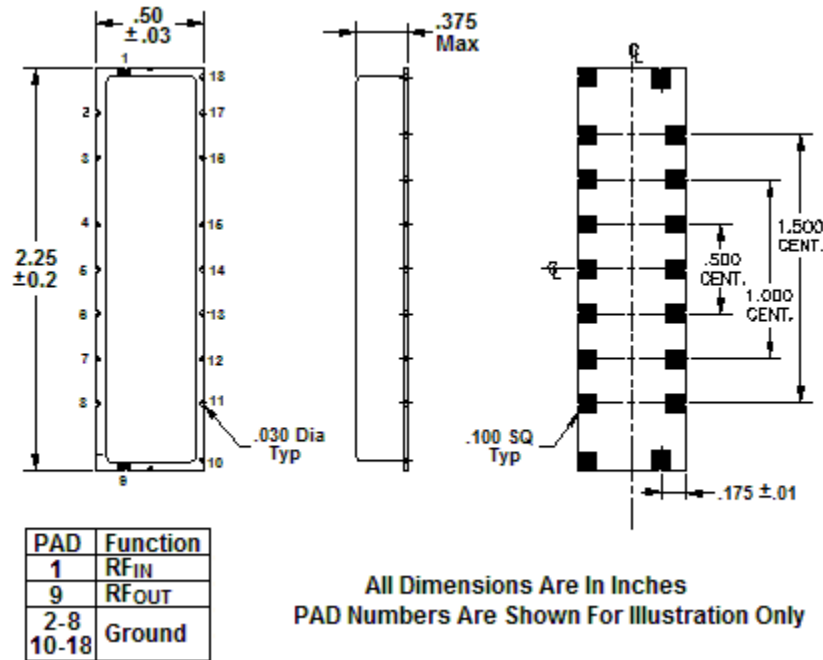


Figure 1 – Filter Package Outline Drawing

III. Maximum Solder Reflow Profile:

