

Specification for a Lowpass LC Filter MtronPTI P/N: LF9687

I. General & Electrical Requirements

1. Cut off Frequency : 975MHz
2. Insertion Loss (175MHz to 975MHz): $\leq 2.0\text{dB}$
3. Passband Ripple (175MHz to 975MHz, peak-peak): $\leq 0.5\text{dB}$
4. Input Return Loss (across the pass band) : 15dB minimum
5. Output Return Loss (across the pass band) : 15dB minimum
6. Max Input power : +10dBm
7. Stopband Rejection (1275MHz to 3000MHz): 60dBc minimum
8. Z_s/Z_L : $50\Omega \pm 10\%$

II. Environmental & Physical Requirements:

1. Temperature Range:
 - Operating: -40°C to $+85^\circ\text{C}$
 - Storage: -55°C to $+110^\circ\text{C}$
2. Temperature shock:
 - Operational:** Unit shall be capable of operation when exposed to temperature shock of minimum of 5 degrees C/ Min over the operating temperature
 - Non-operational:** Units shall survive without damage in non-operating condition after repeated exposure to a temperature shock of 10 degrees C/ Min over in the storage temperature range.
3. Vibration:
 - 3a.** Unit shall be capable of full performance when exposed to the vibration conditions listed in Table 1.

Table 1.

Frequency (Hz)	PSD
	X, Y , and Z-Axis(g^2/Hz)
10	0.0038
12	0.0038
17	0.02662
23	0.02662
27	0.00152
100	0.00152
150	0.00761
300	0.00761
400	0.0038
1000	0.0038
2000	0.00076

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3b. Survive without damage: Unit shall be capable of continuous full performance after 5 hour per axis exposure to the vibration conditions listed in Table 11.

Table 11.

Frequency (Hz)	PSD
	X, Y , and Z-Axis(g ² /Hz)
10	0.01521
12	0.01521
17	0.10647
23	0.10647
27	0.00608
100	0.00608
150	0.03042
300	0.03042
400	0.01521
1000	0.01521
2000	0.00304

3c. Unit when packaged for transport shall be capable of continuous full performance after repeated non-operating exposure (power off) to the transportation vibration levels listed in Table 111.

Table 111.

Frequency (Hz)	PSD
	X, Y , and Z-Axis(g ² /Hz)
5	0.015
40	0.015
121	0.003
200	0.003
500	0.00015

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4. Package:

Type: SMD (ref. figure 1)

Note 1: All specifications will be met over the full Operating Temperature Range

Note 2: Sn10 High Temperature solder (Pb₉₀Sn₁₀), or equivalent, will be utilized throughout the construction of this filter and sealing the filter.

UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES
 DECIMALS
 .XX ± .01
 .XXX ± .005

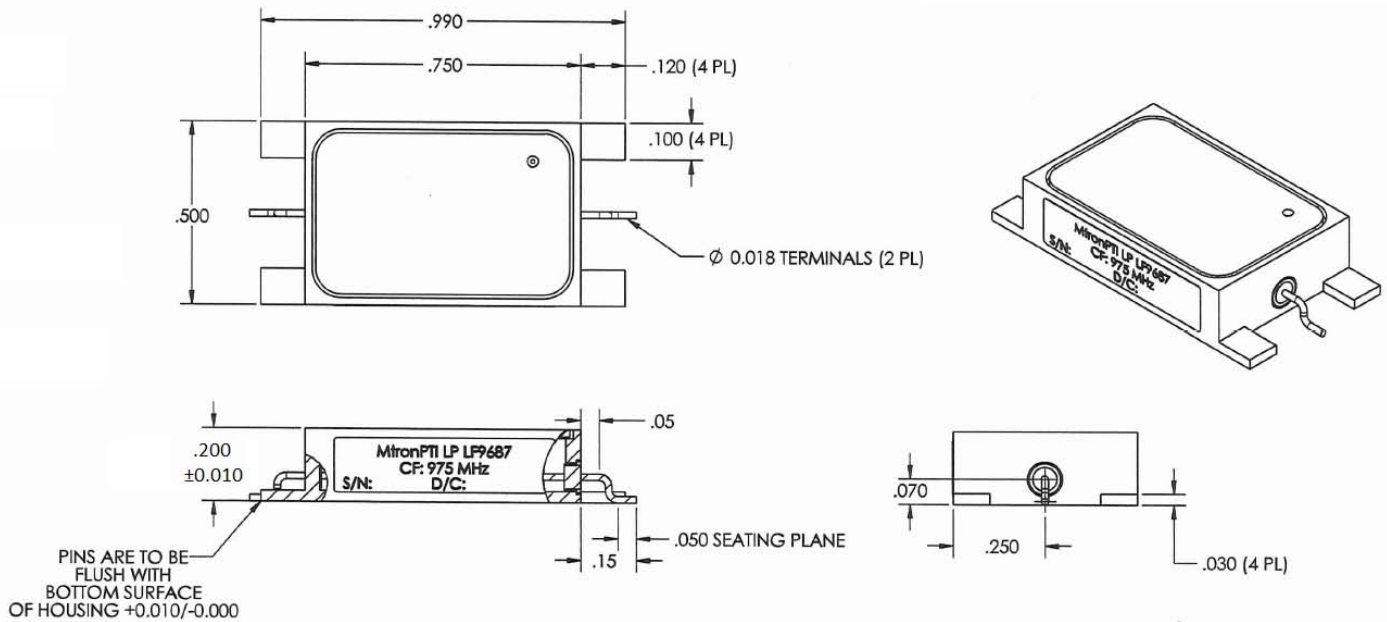


Figure 1: Package Outline Drawing

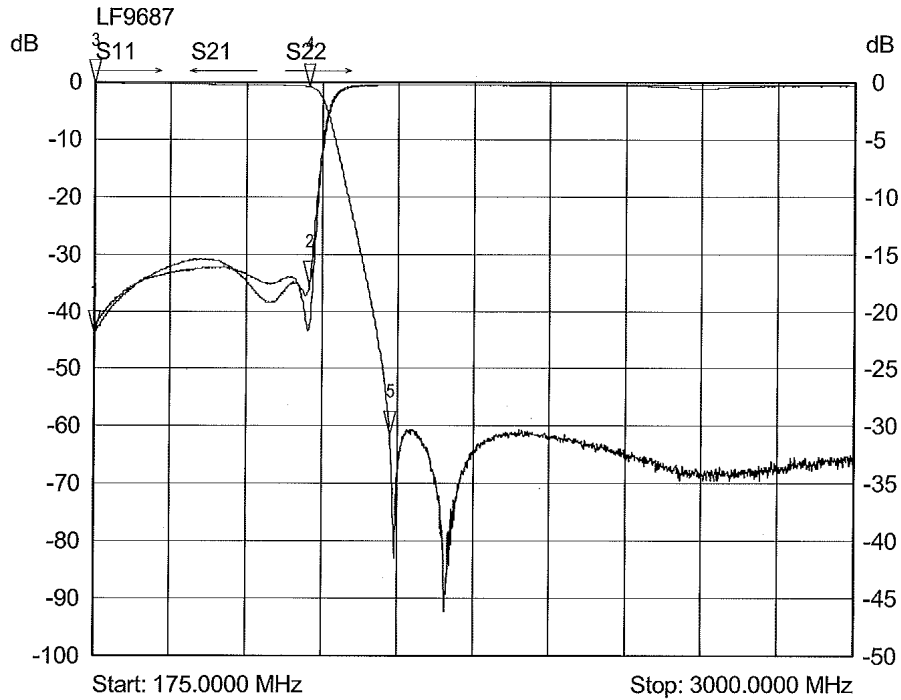
Housing material: 6061 Aluminum Alloy, plated per primary military/federal specification ASTM B 700- MIL-C-26074 with 0.2 to 0.3mil electroless Ni undercoat and Silver plate 0.3mil minimum final coat.

Sn10 with Silver Type 1 and Grade S with under High Temperature solder (Pb₉₀Sn₁₀), or equivalent, will be utilized throughout the construction of this filter.

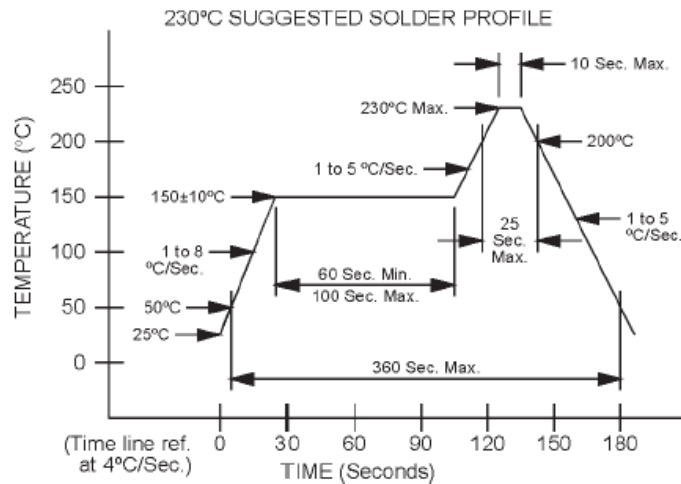
5. Gross Leak: Tested per MIL-STD-202 Test Method 112, Test condition D.

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III. Simulation



1V. Recommended Reflow Profile:



Data Sheet Revision Table:

Date	Rev.	Author	Details of Revision
09/06/18	D	MM	Update outline drawing.
09/05/18	C	MM	Update outline drawing, stopband rejection.
08/30/18	B	MM	Update outline drawing.
09/14/16	A	DPD	Original Release.