

MtronPTI High Power Switched Lumped Element Filter Assembly

Using over 50 years of high performance RF filter design and manufacturing experience – incorporating custom designed and tuned coils, combined with discrete and high power design expertise, MtronPTI can provide integrated switched filter assemblies that not only reduce the overall mechanical footprint, but also offer improved electrical performance and **power handling**. MtronPTI High Power Switched Lumped Element Filter Assemblies are available in multiple frequency ranges.

Features: High Power, Reduced Component Count, Better Isolation/RF Shielding, Low Insertion Loss

Applications: Avionics, Electronic Warfare, Software Defined Radio.

I. Representative Performance-Electrical :

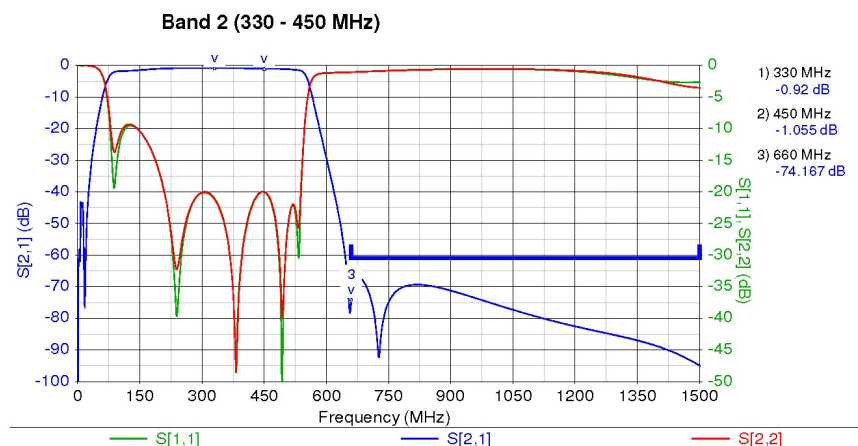
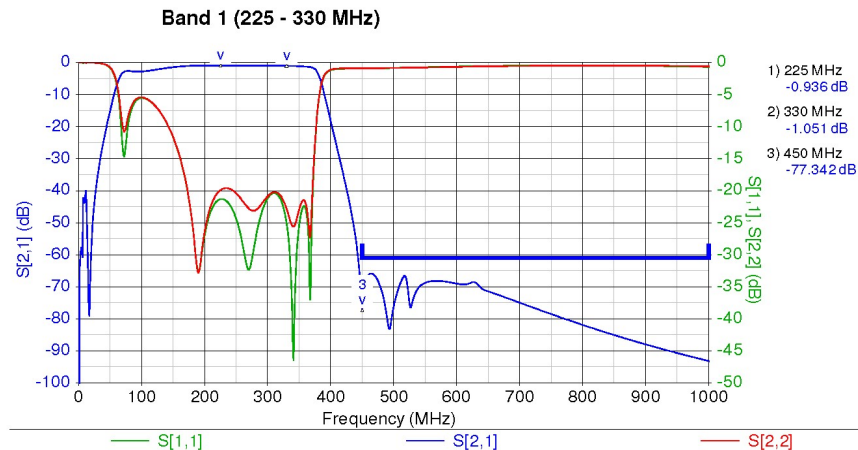
Parameter	Band 1	Band 2
Lower Passband Frequency	225MHz	330MHz
Upper Passband Frequency	330MHz	450MHz
Insertion Loss (dB)	$\leq 1.4\text{dB}$	$\leq 1.4\text{dB}$
Amplitude Ripple (dB)		
Over Any 25kHz Segment Within the Passbands	$< 0.05\text{dB}$	
Over Any 1.2MHz Segment (225MHz to 400MHz)	$< 0.1\text{dB}$	
Over Any 5MHz Segment (280MHz to 320MHz)	$< 0.1\text{dB}$	-
Over Any 5MHz Segment (400MHz to 450MHz)	-	$< 0.1\text{dB}$
Group Delay Variation (ηsec)		
Over Any 25kHz Segment Within the Passbands	$< 1 \eta\text{sec}$	
Over Any 1.2MHz Segment (225MHz to 400MHz)	$< 1\eta\text{sec}$	
Over Any 5MHz Segment (280MHz to 320MHz)	$< 1\eta\text{sec}$	-
Over Any 5MHz Segment (400MHz to 450MHz)	-	$< 1\eta\text{sec}$
Rejection 2 nd Harmonic thru 5 th Harmonic	$\geq 55\text{dBc}$	
5 th Harmonic thru 4000MHz	$\geq 35\text{dBc}$	
Peak Power (@ 25000-ft, dBm)		
Over 225MHz to 400MHz	+57dBm, 50 μsec pulse, 1% Duty Cycle	
Over 400MHz to 450MHz		+57dBm, 50 μsec pulse, 1% Duty
Average Power (@ 25000-ft, dBm)		
Over 225MHz to 400MHz	+49dBm	
Over 400MHz to 450MHz		+49dBm
Switching Time	$\leq 50\mu\text{sec}$	
Z_S/Z_L , nominal	50 Ω	

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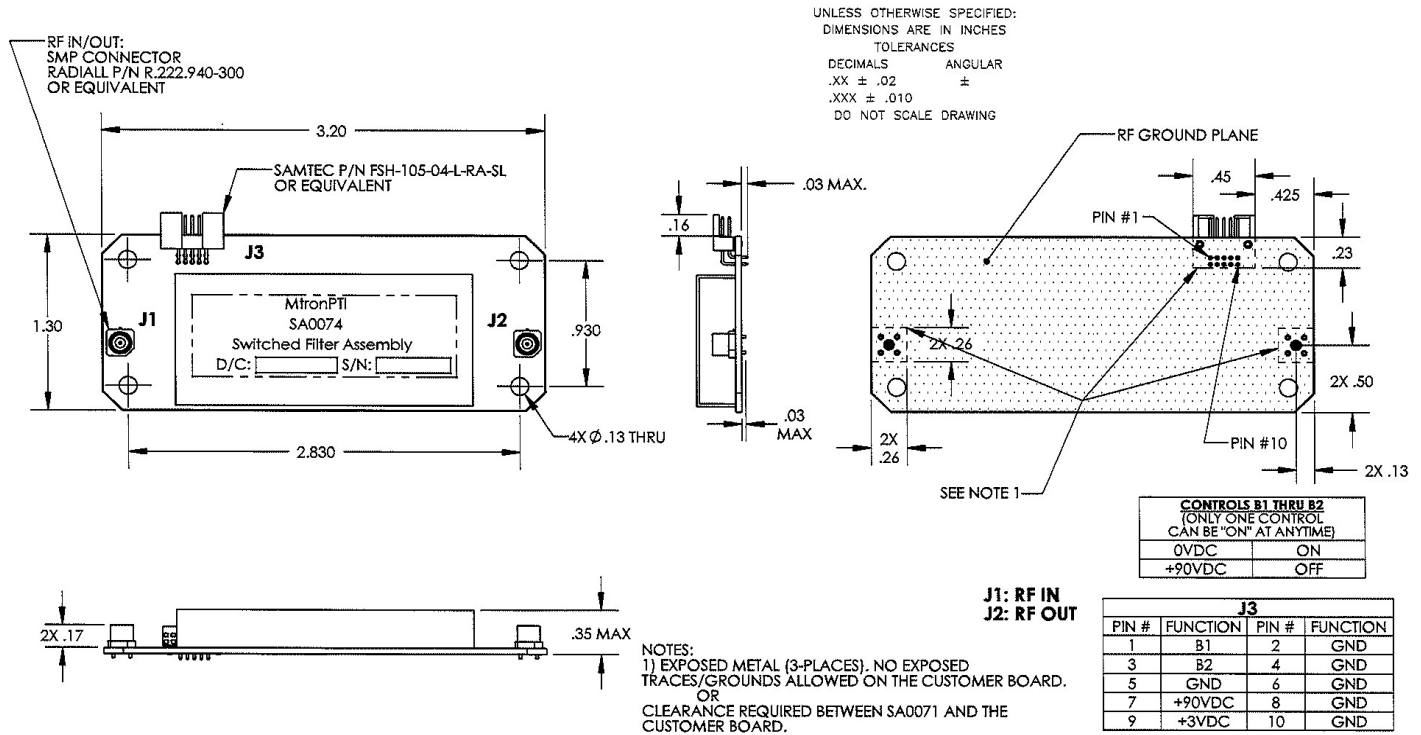
II. Environmental & Physical Requirements:

1. Temperature Range
Operating: -40°C to +105°C
Storage: -55°C to +125°C
2. Altitude: ≤ 25,000-ft
3. Power:
+90V_{DC} @ 15mA maximum
+3V_{DC} @ 200mA maximum
4. Package:
Size: 3.20" (L) x 1.30" (W) x 0.35" (H) excluding connectors *See page three for outline drawing*
Type: Chassis Mount
5. Control Interface: Two (2) control lines, only one (1) can be on (0V) at any one time.
On: 0V @ 200mA maximum
Off: +90V @ 10mA maximum

III. Design Simulation Plots:



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IV. Datasheet Revision Table:

Date	Rev.	Orig.	Details of Revision
05-04-18	A	DPD	Original Draft