

Standard Switched Filter Banks

20-7500 MHz, 2 to 7 Channels



Key Features

- Passband Frequency 20-7500 MHz
- Up to 7 Customizable Channels
- Single +5.0 Volt Supply
- TTL Selectable
- Low Insertion Loss of < 5.0 dB
- Fast Switching Speed of < 500 ns
- High Rejection > 60 dB typical
- Small Form Factor

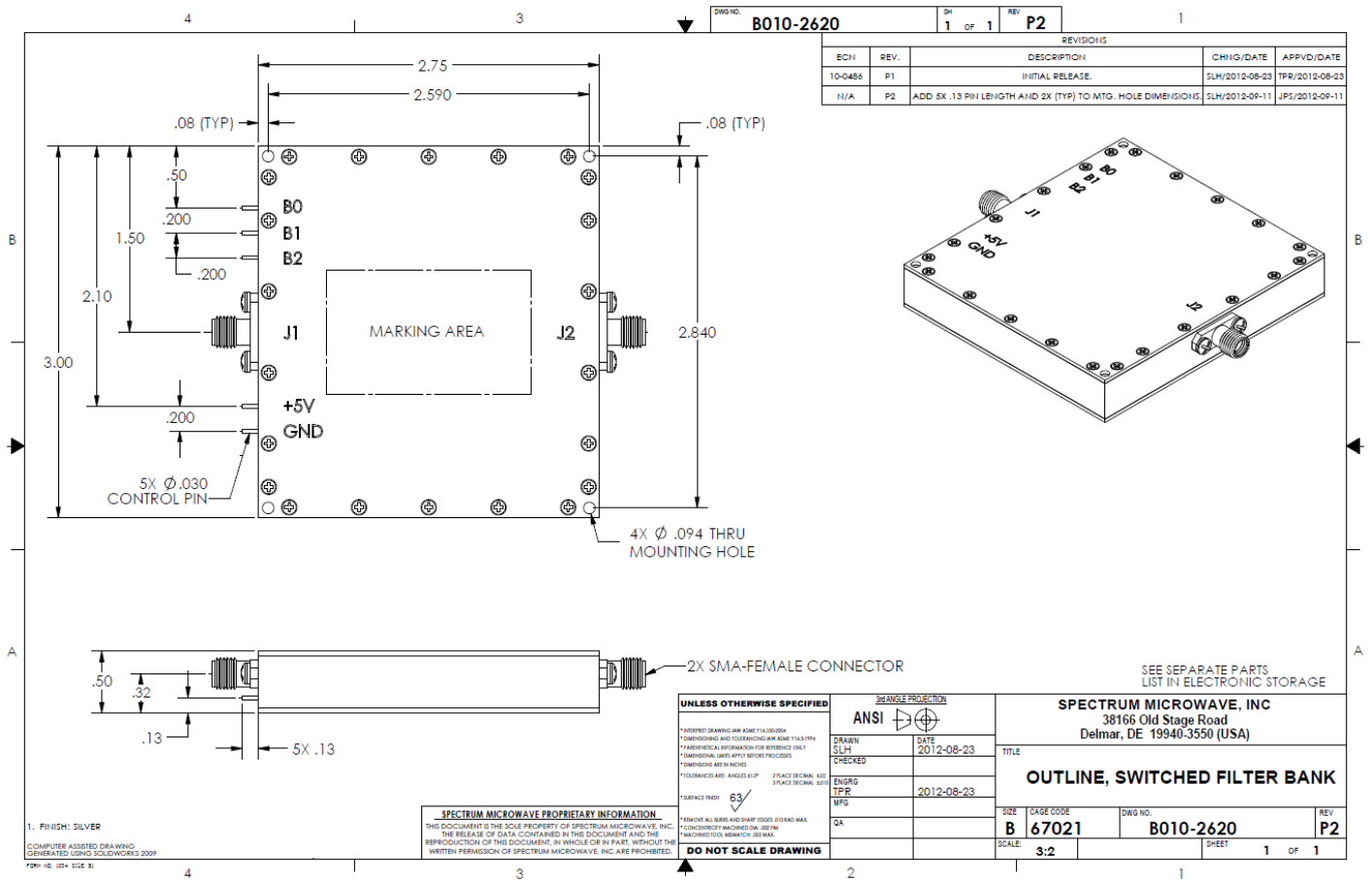
API Technologies' standard switched filter banks (310-020050-XXX series) offer customer-defined passband frequencies from 20 MHz to 7500 MHz with 2-7 channels. This series features the same high performance of a custom designed switched filter at a reduced cost. This cost reduction is achieved by using common switch manifolds and machined parts that are populated with custom filters. The filter banks are ideal for a wide range of applications where low cost and high performance is required.

Electrical Specifications

Parameter	Min	Typ	Max	Units	Notes
Frequency Range	20	-	7500	MHz	
Insertion Loss ($\geq 35\%$ bandwidth)	-	5.0	6.5	dB	Narrower bandwidth filters will have more loss
Input / Output VSWR (Across Passband)	-	1.8:1	2.0:1	Ratio	
Passband Flatness	-	1.0	1.2	dB	Dependent on filter bandwidth
Rejection (3.6:1 Shape Factor)	55	60	-	dBc	Rejection level decreases with lower shape factor
Switching Speed	-	200	500	ns	50% TTL to 90%/10% RF
Supply Voltage	+4.5	+5.0	+5.5	VDC	
+5.0 (± 0.5) Volt Supply Current		50	75	mA	

Example of 500-6000 MHz Harmonic Rejection Filter Bank

Channel	Passband Frequency (MHz)	Center Frequency (MHz)	Bandwidth (MHz)	Relative Bandwidth (%)	50 dBc Rejection Sub-Harmonic (MHz)	50 dBc Rejection Sub-Harmonic (MHz)	TTL Selection Code		
							b2	b1	b0
1	500-715	607.5	210	35.4	10-357	1000-1430	0	0	1
2	715-1015	865	300	34.7	10-507	1430-2030	0	1	0
3	1015-1450	1232.5	435	35.3	10-725	2030-2900	0	1	1
4	1450-2070	1760	620	35.2	10-1035	2900-4140	1	0	0
5	2070-2950	2510	880	35.1	10-1475	4140-5900	1	0	1
6	2950-4210	3580	1260	35.2	10-2105	5900-8420	1	1	0
7	4210-6000	5105	1790	35.1	10-3000	8420-12000	1	1	1
All Off	50 dB Isolation From 10 MHz to 8420 MHz						0	0	0



Specification Table

(Fill in the table below to your required specifications)

Channel	Passband Frequency		Low-Side Rejection Level		High-Side Rejection Level	
	Low-Side (MHz)	High-Side (MHz)	dBc		dBc	
	to		Low-Side Rejection Frequency Range (MHz)	to	High-Side Rejection Frequency Range (MHz)	to
1						
2						
3						
4						
5						
6						
7						