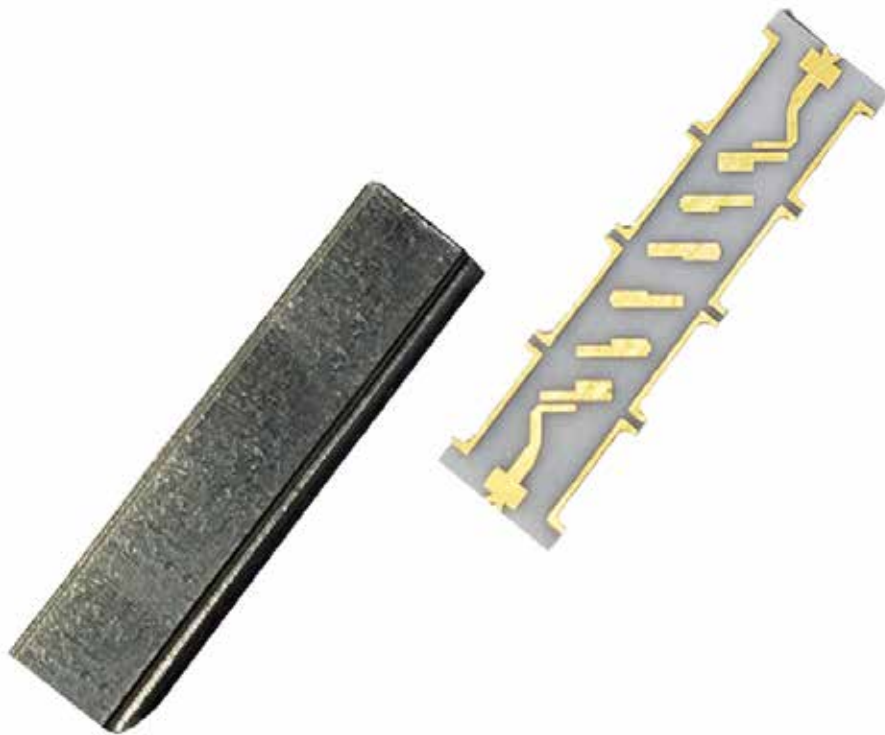


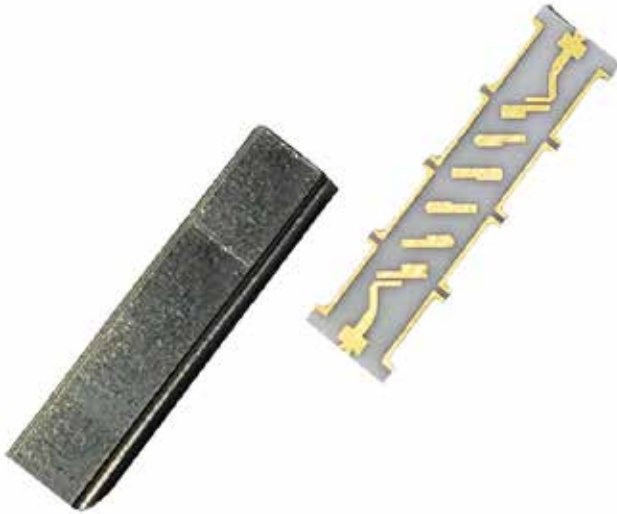
PLANAR X RF FILTER SERIES

Thin Film Bandpass and Lowpass RF Filters



Planar X Series

THIN FILM BANDPASS RF FILTERS



Planar X Series of standard bandpass filters provide system engineers with high performance, compact, light-weight solutions for critical RF filtering in X, Ku, and Ka bands. Planar X Series compliments Smiths Interconnect's broad portfolio of RF/Microwave components with an off-the-shelf product reducing the lead times of custom designs.

Planar X Standard Bandpass filters leverage thin film process technology on various dielectric substrates which are designed for use in harsh environments. The small footprint, light weight and surface mountable configuration allow for high volume pick and place applications and are ideal for SATCOM, Radar and Broadcasting industries. Smiths Interconnect can also offer value added, high-reliability test options providing assurance in mission critical defense and space applications.

In addition to the standard products, Smiths Interconnect can provide custom Planar X filter designs that are specific to the requirements of the application. Regardless of the application, our internal processes and procedures ensure that all filters are fully compliant to customers' specifications.

Best-in-class RF Filter solutions in the X, Ku and Ka Bands designed and tested to support various applications and markets.

Features and Benefits

- Compact size – reduced PCB footprint
- Light weight – reducing overall system mass in critical space and defense applications
- Excellent rejection characteristics – best-in-class RF performance
- Low insertion loss – enhanced system performance
- Surface mountable – ideal for pick-and-place applications
- Robust materials – suitable for harsh environments
- Standard frequency bands – X band, Ku band and Ka band

Applications

- Radar
- EW/SIGINT
- SATCOM
- Communications
- LEO constellation

Technical Characteristics

Filter Specifications

Electrical	11PFX-10000/R4000-M	6PFX-15000/R6000-M	6PFX-28000/R1000-M
Characteristic Impedance	50 ohms	50 ohms	50 ohms
Operating Frequency	8 – 12 GHz	12 – 18 GHz	27.5 – 28.5 GHz
Low Side Rejection	40 dB DC to 6 GHz	30 dB DC to 8 GHz	30 dB DC to 26.1 GHz
High Side Rejection	40 dB 14 to 18 GHz	40 dB 22.75 to 25 GHz	30 dB 30 to 37 GHz
Size	0.400 x 0.180 x 0.100 in	0.550 x 0.150 x 0.098 in	0.550 x 0.140 x 0.083 in
Environmental			
Operating Temperature	-40°C to +85°C		
Storage Temperature	-65°C to +150°C		
Moisture Sensitivity Level	1 – Unlimited		

Mechanical

Configuration	Surface Mount
Substrate Materials	Alumina
Conductor Material	Thin Film Gold - 25 microns nominal
Shielding Material	Nickel Silver

Quality Assurance

Sample visual and mechanical inspection - 1.0 AQL per mechanical drawing requirements Periodic electrical inspection performed for commercial grade products High reliability tested products are available

Packaging

Standard Packaging	Waffle Pack or Tape and Reel
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Planar X Series

THIN FILM LOWPASS RF FILTERS



Planar X Series of standard lowpass filters provide system engineers with high performance, compact, light-weight solutions for critical RF filtering in X band. Planar X Series compliments Smiths Interconnect's broad portfolio of RF/Microwave components with an off-the-shelf product reducing the lead times of custom designs.

Planar X Standard lowpass filters leverage thin film process technology on various dielectric substrates which are designed for use in harsh environments. The lowpass filter response passband extends from DC to a specified cutoff frequency, at which point the filter transitions to the stopband. The passband of a bandpass filter is defined by the center frequency and bandwidth. The passband filter response has the stopband below and above the passband frequencies.

The Planar X small footprint, light weight and surface mountable configuration allow for high volume pick and place applications and are ideal for SATCOM, Radar and Broadcasting industries. Smiths Interconnect can also offer value added, high-reliability test options providing assurance in mission critical defense and space applications.

In addition to the standard products, Smiths Interconnect can provide custom Planar X filter designs that are specific to the requirements of the application. Regardless of the application, our internal processes and procedures ensure that all filters are fully compliant to customers' specifications.

Best-in-class RF Filter solutions in the X Band designed and tested to support various applications and markets.

Features and Benefits

- Compact size – reduced PCB footprint
- Light weight – reducing overall system mass in critical space and defense applications
- Excellent rejection characteristics - best-in-class RF performance
- Low insertion loss – enhanced system performance
- Surface mountable – ideal for pick-and-place applications
- Robust materials – suitable for harsh environments

Applications

- Radar
- EW/SIGINT
- SATCOM
- Communications
- LEO constellation

Technical Characteristics

Filter Specifications

Electrical		3LPFX-12800-M	
Characteristic Impedance	50 ohms		
Passband Insertion Loss	1.5 dB, max DC to 12.5 GHz		
Passband Return Loss	17 dB, typ DC to 12.5 GHz		
Stopband Attenuation	40 dB, min 18.8 to 31.2 GHz		
Size	0.220 x 0.140 x 0.103 in		
Environmental			
Operating Temperature	-40°C to +85°C		
Storage Temperature	-65°C to +150°C		
Moisture Sensitivity Level	1 - Unlimited		

Mechanical

Configuration	Surface Mount
Substrate Materials	Alumina
Conductor Material	Thin Film Gold - 25 microns nominal
Shielding Material	Nickel Silver

Quality Assurance

	<p>Sample visual and mechanical inspection - 1.0 AQL per mechanical drawing requirements</p> <p>Periodic electrical inspection performed for commercial grade products</p> <p>High reliability tested products are available</p>
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Packaging

Standard Packaging	Waffle Pack or Tape and Reel
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How To Order

Specify Model Number: **XPFX-XXXXX/RXXXX-M**

	X P F X 1	X X X X X 2	X X X X 3	M 4
1 Series Name	X P F X	X - Number of Sections	PFX - Printed Filter	
2 Frequency	X X X X X	- Center Frequency in MHz		
3 Bandwidth	R X X X X	- Equiripple Bandwidth in MHz		
4 Options	M	Surface Mount		

How To Order

Specify Model Number: **LXPFX-XXXXX-M**

	X P F X 1	X X X X X 2	M 3
1 Series Name	X P F X	X - Number of Sections	LPFX - Lowpass Printed Filter
2 Cutoff Frequency	X X X X X	- C Frequency in MHz	
3 Options	M	- Surface Mount	

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