

**Positive Train Control (PTC) Band Pass Filter,  
 450 MHz to 460 MHz, Type N Female to Male, 100W  
 CW, IP67, 10nJ, 10kA with Surge Protection**

Fairview's FMSP1047 band pass filter is designed for 450 MHz wayside rail applications with a Pass Band of 450 MHz to 460 MHz and Insertion loss and VSWR are at optimum levels to allow signal strength to remain high. With excellent integrated surge protection, the band pass filter is specifically designed for railroad PTC (Positive Train Control) systems and engineered to reduce interference issues by blocking unwanted signals due to co-location. The package is IP67 rated, has N type female to N type male connectors, and supports panel mounting.



**Electrical Specifications**

Description	Min	Typ	Max	Units
Passband Frequency	450		460	MHz
Impedance		50		Ohms
Insertion Loss		1.5		dB
Passband VSWR			1.22:1	
Rejection at 250 MHz	60			dB
Rejection at 650 MHz	60			dB
Surge Current IEC 61000-4-5 8/20µs WAVEFORM			10	kA
Turn On Voltage		90 ±20 %		Volts
Throughput Voltage			0.5	Volts
Throughput Energy 3kA, 8/20 µs Waveform		0.01		nJ
Input Power, CW			100	Watts

Electrical Specification Notes:  
 Values at 25°C, sea level.

**Mechanical Specifications**

<b>Size</b>	
Weight	1.5896 lbs [721.03 g]
<b>Configuration</b>	
Design	Bidirectional
Number of Sections	
Package Style	Connectorized
Connector 1	N Female
Connector 2	N Male

**Environmental Specifications**

<b>Temperature</b>	
Operating Range	-40 to +85 deg C
Storage Range	-40 to +85 deg C
Ingress Protection (IP) Rating	IP 67

**Features:**

- Passband frequency range from 217MHz to 223MHz
- /Band Pass Filter with integrated Surge Protection
- Max Power 100W (CW)
- Max surge current 10kA
- VSWR: 1.2:1
- Waterproof IP67 rated
- N-type female to N-type male connectors
- DC Block
- Bi-directional
- Low insertion loss
- Panel mounting

**Applications:**

- PTC (Positive Train Control) Class1 Railroads with co-locating 160MHz, 220MHz & 450MHz communication systems

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**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

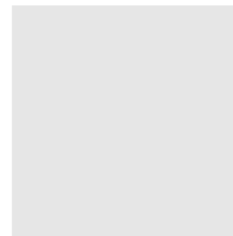
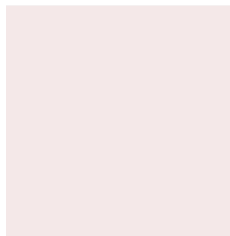
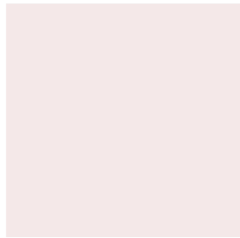
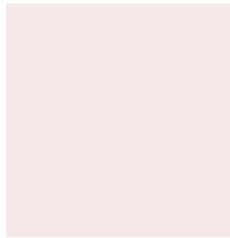
- Values at 25°C, sea level.

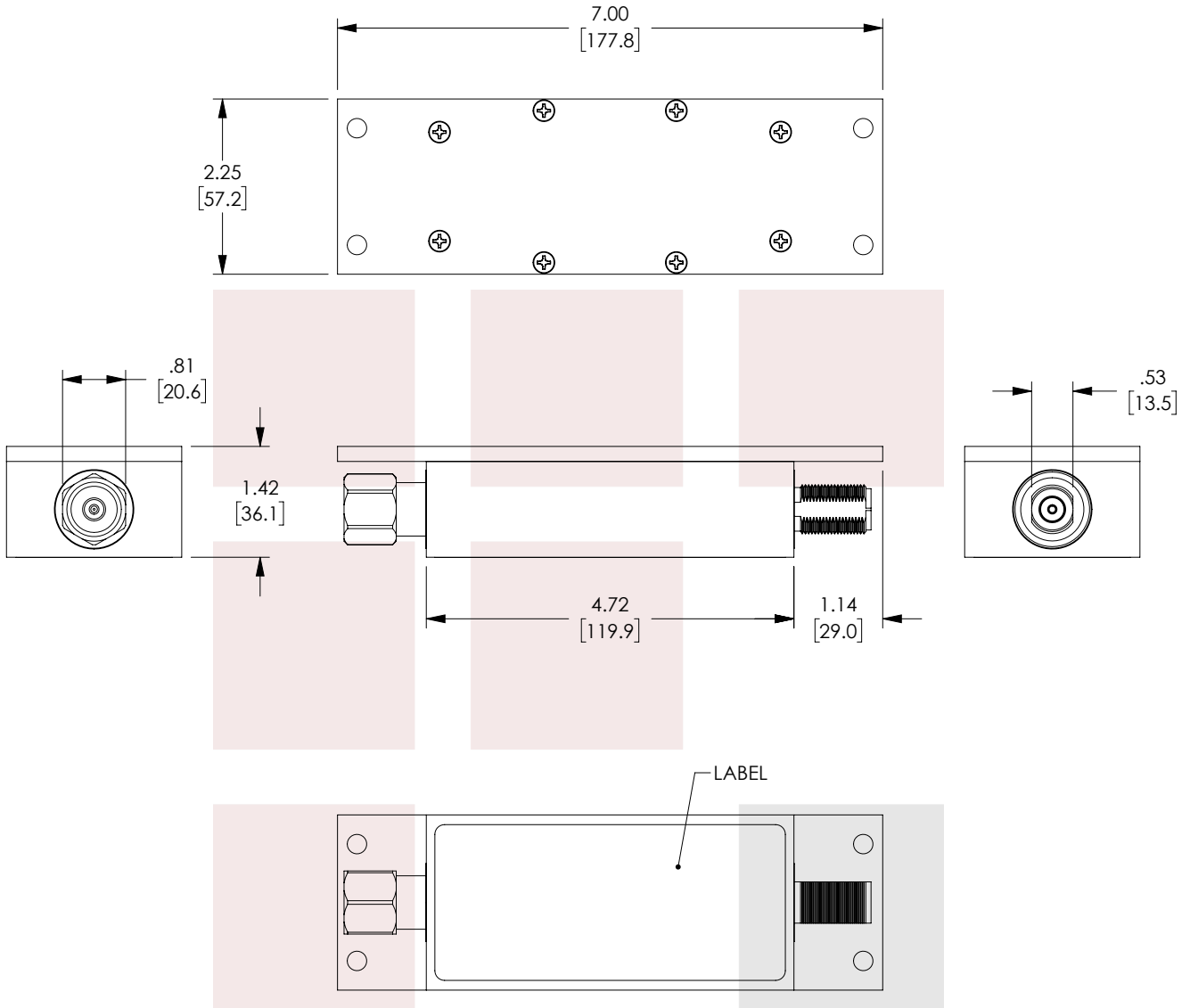
Positive Train Control (PTC) Band Pass Filter, 450 MHz to 460 MHz, Type N Female to Male, 100W CW, IP67, 10nJ, 10kA with Surge Protection from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Positive Train Control \(PTC\) Band Pass Filter, 450 MHz to 460 MHz, Type N Female to Male, 100W CW, IP67, 10nJ, 10kA with Surge Protection FMSP1047](#)

URL: <https://www.fairviewmicrowave.com/bandpass-cavity-filter-450-460-mhz-n-female-connectors-fmsp1047-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.





**STANDARD TOLERANCES**

.X ±0.2  
 .XX ±0.01  
 .XXX ±0.005

NOTE:

HARDWARE INCLUDED.

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

<p><b>Fairview Microwave</b>          RF COMPONENTS ON DEMAND. <i>Done!</i></p>		NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].				
		DWG NO <b>FMSP1047</b>	CAGE CODE <b>3FKR5</b>			
TITLE <b>Positive Train Control (PTC) Band Pass Filter, 450 MHz to 460 MHz, Type N Female to Male, 100W CW, IP67, 10nJ, 10kA with Surge Protection</b>		CAD FILE 3/2/18	SHEET 1 OF 1	SCALE N/A	SIZE A	XXXX