

## Product Description

The MEMtronics PSP05 miniature band-select filter is designed to be a surface-mountable, high-performance fixed-frequency bandpass filter that supports channel selection and interference mitigation in the upper 5G bands.

The design utilizes dielectrically-loaded propagating waveguide cavities built with unibody construction for the ultimate in low loss with a small form factor. The filter is constructed from fused silica for ultra-stable operation over temperature.

This K-band filter provides a 5-pole filter function centered at 38.25 GHz with 500 MHz (1.3% bandwidth), exhibiting a nominal 2.7 dB insertion loss and a minimum 16 dB return loss over the passband. Rejection is > 25 dB at frequencies below 37.75 GHz and above 38.75 GHz, with an ultimate rejection of > 60 dB from 1 GHz past 50 GHz.

***This filter performance is provided as a demonstration of capabilities. Custom filters to meet specific user requirements are possible from 2 GHz-50 GHz, with passband bandwidths ranging from 0.5%-20%, with 2-12+ poles of filtering.***

## Primary Applications

- 5G channel selection
- Interference mitigation
- Improve frequency reuse



## Key Features and Performance

- Passband: 38.0-38.5 GHz
- Nom. mid-band loss: 2.7 dB
- Rejection: > 25 dB Fc +/- 500 MHz
- > 60 dB 1-50+ GHz
- Temp Range: -55°C to +105°C
- Chip dimensions: (< 0.006 in<sup>3</sup>)  
0.635 x 0.145 x 0.060 inches
- Weight: 0.19 grams
- Surface mount, CPW interconnect

## PSP05 Filter Performance

