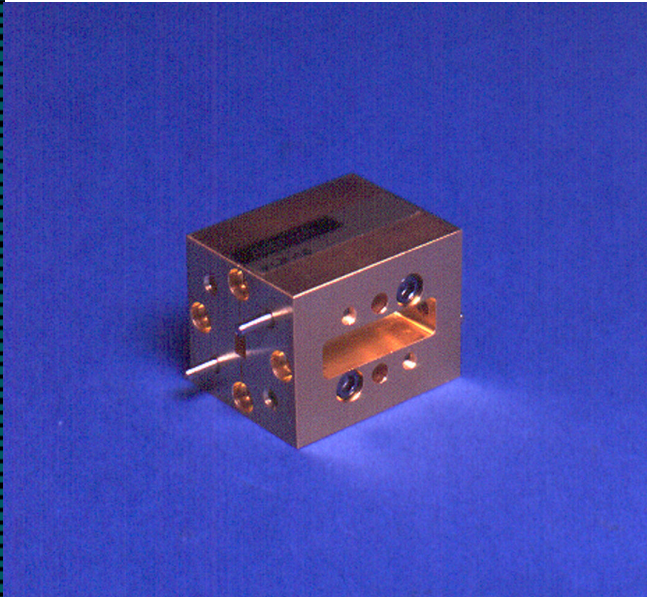


SERIES FLP

LOW PASS FILTERS



FEATURES:

- Low insertion loss
- Second harmonic rejection
- Small, rugged package

APPLICATIONS:

- Preselect filter
- Spurious and harmonic suppression
- Image rejection for receivers

DESCRIPTION

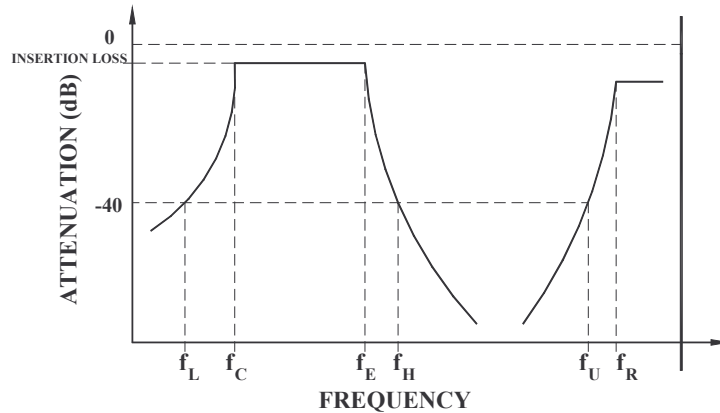
Millitech series FLP low pass filters provide a high rejection and excellent selectivity for frequencies above a corner frequency at band edge. These filters are characterized by very low loss and minimum ripple within the passband. Waveguide cut-off frequency determines the lower band edge for the standard models. This filter has a very wide stopband, rejecting up to three times the highest passband frequency.

Series FLP filters are ideally suited as preselectors for broadband receivers as they provide a high degree of selectivity and a very broad rejection band. They are particularly useful for image undesired signal rejection prior to signal downconversion, and the elimination of undesirable signals from downconverters. When used with oscillators and signal generators, these filters can strongly attenuate spurious outputs and harmonics.

In addition, they are well suited for test instruments and measurement equipment such as network analyzers, which requires a fullband operation with minimal spurious response.

The skirt selectivity characteristics can be tailored to provide the desired amount of attenuation. The passband insertion loss depends on the selectivity or attenuation at a specific high frequency. Figure 1 below and the table on the next page provide general filter characteristics of series FLP products. The lower band edge (corner frequency) of the standard models can be changed to obtain a broadband bandpass filter. See series FWP wide bandpass filters and FHP high pass filters.

Figure1 General Characteristics of Low Pass Filters



Legend
f_C = waveguide nominal cut-off frequency
f_E = upper band edge (nominal corner frequency)
f_L = lower 40 dB rejection frequency (approx. $0.85 f_C$)
f_H = upper 40 dB rejection (approx. $1.2 f_E$)
f_U = high frequency 50 dB selectivity limit ($2.3 f_E$)
f_R = high frequency response onset ($3 f_E$)

ELECTRICAL SPECIFICATIONS

Model Number	FLP-42	FLP-28	FLP-22	FLP-19	FLP-15	FLP-12	FLP-10
Frequency band and range (GHz)	K 18-26.5	Ka 26.5-40	Q 33-50	U 40-60	V 50-75	E 60-90	W 75-110
Standard Products							
Bandwidth (GHz)*	18-26.5	26.5-40	33-50	40-60	50-75	60-90	75-110
Insertion loss (dB)	1.0	1.0	1.0	1.0	1.2	1.4	1.6
Upper band edge (f_E) (typ) (corner frequency) (GHz)	28.3	41.2	52.0	62.0	77.0	93.0	114.0
Rejection band (f_H to f_U) (GHz) (typ)* ¹	34-66	49-95	62-120	74-143	92-178	111-214	139-263
Rejection at f_H (min)	40 dB	40 dB	40 dB	40 dB	40 dB	40 dB	40 dB
Waveguide cutoff frequency (f_C) (GHz)* ²	14.1	21.1	26.3	31.4	39.9	48.4	59.1
Custom Products							
Attenuation range for high frequencies (f_H to f_U) (dB)	22-55	25-5	25-45	25-40	25-40	25-40	25-40

*1 – Rejection band attenuation (f_H to f_U): greater than 40 dB

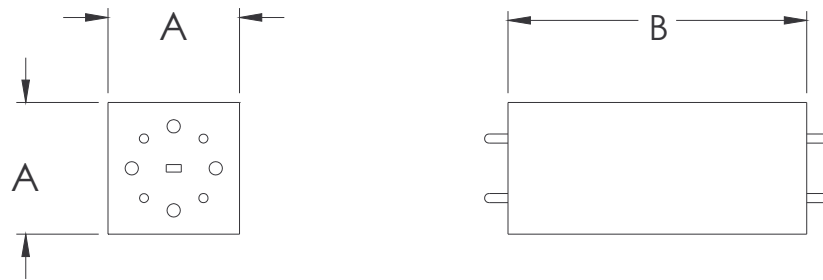
*2 – Frequencies below this waveguide cut-off frequency are significantly attenuated. Typical attenuation at 0.85 times cut-off frequency is 40 dB.

MECHANICAL SPECIFICATIONS

Model Number	FLP-42	FLP-28	FLP-22	FLP-19	FLP-15	FLP-12	FLP-10
A (in/mm)	0.88/22.4	0.75/19.1	1.13/28.7	1.13/28.7	0.75/19.1	0.75/19.1	0.75/19.1
B (in/mm)	2.92/75.2	2.00/50.8	1.40/35.6	1.40/35.6	0.96/24.4	0.85/21.6	0.75/19.1
Flange MIL.F-3922	/54-001*	*/54-003*	/67B-006	/67B-007	/67B-008	/67B-009	/67B-010

* With #4-40 threaded holes

OUTLINE DRAWINGS



HOW TO ORDER

Specify Model Number* FLP-XX-A0000
XX = Waveguide Band WR – number
A = Flange Type R – round S – square
Ø = Other Options N – nonstandard (specify requirements)

*Please specify passband and rejection band frequencies as well as square or round flange when ordering nonstandard product.