



Infrared Wide Bandpass Filters

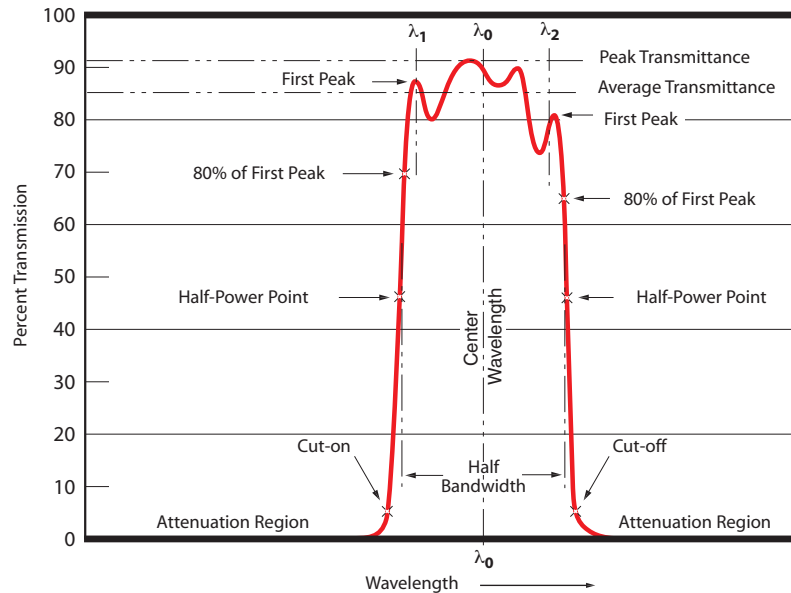


- Key Features**
- Excellent coating uniformity
 - Tightly toleranced precision filter expertise
 - Flat spectral profile
 - High peak transmission value
 - Excellent blocking
 - Wide range of filters and assemblies for the infrared sensing and imaging instrumentation market
 - High volume capability
 - Expert application engineering support

Infrared Wide Bandpass filters developed by JDS Uniphase provide high transmission in specified wavelength regions and extremely high rejection outside the band, and can be deposited on a variety of infrared transmitting substrates. Bandpass center wavelengths can be located anywhere in the region from 1 μm to 16 μm .

Applications

- Gas Monitoring
- Temperature Sensing
- Thermal Imaging



Filter Substrate

- Available substrates are: Si, Ge, Glass, Sapphire, Quartz, Fused Silica, ZnS, ZnSe

Standards

- Temperature, Humidity, Mild Abrasion, Adherence: MIL-F-48616

Notes

- (1) AOI: Angle Of Incidence.
- (2) Cut-on/Cut-off slopes $\geq 4\%$ are for standard design and consistent with standard production yields.

Spectral Characteristics

Parameter	Symbol	Conditions	Min	Max	Units
Wavelength Range (1)	λ_1, λ_2	At 25% C, 0° AOI	1	16	μm
Nominal Bandwidth (1)	HBW	At 25° C, 0° AOI	10	90	%
Cut-on/cut-off Slope (1) (2)		At 25° C, 0° AOI	3	6	%
Absolute Center Wavelength Drift Vs Temperature			0.002	0.01	%/°C



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Minimum Average Peak Transmission

Center Wavelength Range	Nominal Bandwidth 10% to 20%	Nominal Bandwidth 20% to 60%	Nominal Bandwidth 60% to 90%
1 to 1.25 μm	40%	45%	45%
1.25 to 2 μm	45%	55%	55%
2 to 5.5 μm	70%	80%	70%
5.5 to 10.5 μm	75%	80%	80%
10.5 to 11.5 μm	75%	75%	80%
11.5 to 12.5 μm	75%	70%	70%
12.5 to 13.5 μm	70%	65%	65%
13.5 to 14.5 μm	65%	60%	65%
14.5 to 15.5 μm	55%	35%	55%

Notes

- (1) All peak transmission values are average and minimal and consistent with standard production yields.
- (2) Higher transmission values can be offered upon request if filters do not have to be completely attenuated outside the bandpass.
- (3) All transmission values for filters attenuated above and below bandpass to $T \leq 0.1\%$ average.

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Filter Size

Type	Min	Max	Units
Square or Rectangle	2	100	mm
Diameter	2	150	mm
Thickness	0.3		mm
Thickness Tolerance (1)	± 0.025		mm

Notes

- (1) Thickness tolerance for standard design is ± 0.1 mm.

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