

EdgeBasic™ Long / Short Wave Pass Filters



EdgeBasic long-wave-pass and short-wave-pass filters offer a superb combination of performance and value for applications in Raman spectroscopy and fluorescence imaging and measurements. This group of filters is ideal for specific Raman applications that do not require measuring the smallest possible Raman shifts, yet demand exceptional laser-line blocking and high transmission over a range of Raman lines.

- › Deep laser-line blocking – for maximum laser rejection ($OD > 6$)
- › Extended short-wavelength blocking (LWP) – for high-fidelity fluorescence imaging
- › High signal transmission – to detect the weakest signals ($> 98\%$ typical)
- › Proven no burn-out durability – for lasting and reliable performance
- › For the ultimate performance, upgrade to state-of-the-art RazorEdge® Raman filters

Long-Wave-Pass

Nominal Laser Wavelength	Laser Wavelength Range		Passband	Part Number	Price
	λ_{short}	λ_{long}			
325 nm	325.0 nm	325.0 nm	334.1 – 900.0 nm	BLP01-325R-25	\$355
355 nm	355.0 nm	355.0 nm	364.9 – 900.0 nm	BLP01-355R-25	\$355
363.8 nm	363.8 nm	363.8 nm	374.0 – 900.0 nm	BLP01-364R-25	\$355
405 nm	400.0 nm	410.0 nm	421.5 – 900.0 nm	BLP01-405R-25	\$355
441.6 nm	441.6 nm	441.6 nm	454.0 – 900.0 nm	BLP01-442R-25	\$355
457.9 nm	439.0 nm	457.9 nm	470.7 – 900.0 nm	BLP01-458R-25	\$355
473 nm	473.0 nm	473.0 nm	486.2 – 900.0 nm	BLP01-473R-25	\$355
488 nm	486.0 nm	491.0 nm	504.7 – 900.0 nm	BLP01-488R-25	\$355
514.5 nm	505.0 nm	515.0 nm	529.4 – 900.0 nm	BLP01-514R-25	\$355
532 nm	532.0 nm	532.0 nm	546.9 – 900.0 nm	BLP01-532R-25	\$355
561.4 nm	561.4 nm	561.4 nm	577.1 – 900.0 nm	BLP02-561R-25	\$355
568.2 nm	561.4 nm	568.2 nm	584.1 – 900.0 nm	BLP01-568R-25	\$355
594 nm	593.5 nm	594.3 nm	610.9 – 900.0 nm	BLP01-594R-25	\$355
632.8 nm	632.8 nm	632.8 nm	650.5 – 1200.0 nm	BLP01-633R-25	\$355
635 nm	632.8 nm	642.0 nm	660.0 – 1200.0 nm	BLP01-635R-25	\$355
647.1 nm	647.1 nm	647.1 nm	665.2 – 1200.0 nm	BLP01-647R-25	\$355
664 nm	664.0 nm	664.0 nm	682.6 – 1200.0 nm	BLP01-664R-25	\$355
785 nm	780.0 nm	790.0 nm	812.1 – 1200.0 nm	BLP01-785R-25	\$355
808 nm	808.0 nm	808.0 nm	830.6 – 1600.0 nm	BLP01-808R-25	\$355
830 nm	830.0 nm	830.0 nm	853.2 – 1600.0 nm	BLP01-830R-25	\$355
980 nm	980.0 nm	980.0 nm	1007.4 – 1600.0 nm	BLP01-980R-25	\$355
1064 nm	1064.0 nm	1064.0 nm	1093.8 – 1600.0 nm	BLP01-1064R-25	\$355
1319 nm	1319.0 nm	1319.0 nm	1355.9 – 2000.0 nm	BLP01-1319R-25	\$355
1550 nm	1550.0 nm	1550.0 nm	1593.4 – 2000.0 nm	BLP01-1550R-25	\$355

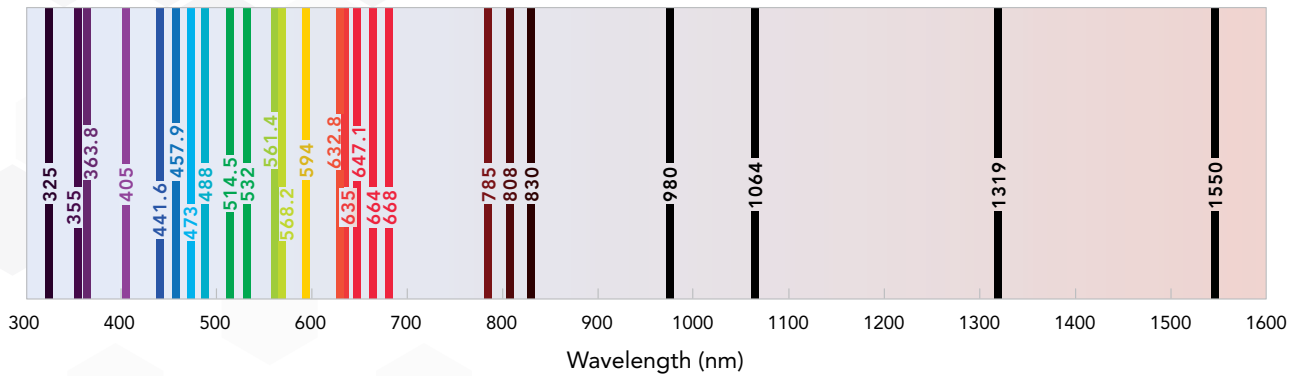
Short-Wave-Pass

Nominal Laser Wavelength	Laser Wavelength Range		Passband	Part Number	Price
	λ_{short}	λ_{long}			
532 nm	532.0 nm	532.0 nm	350.0 – 517.1 nm	BSP01-532R-25	\$355
632.8 nm	632.8 nm	647.1 nm	350.0 – 615.1 nm	BSP01-633R-25	\$355
785 nm	780.0 nm	790.0 nm	350.0 – 758.2 nm	BSP01-785R-25	\$355



See spectra graphs and ASCII data for these filter sets at www.semrock.com

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Longpass Specifications

Property	Value	Comments
Edge Steepness (typical)	1.5% of λ_{long}	Measured from OD 6 to 50%
Transition Width	< 2.5% of λ_{long}	From λ_{long} to the 50% transmission wavelength From 50% transmission wavelength to λ_{short}
Blocking at Laser Wavelengths	OD _{abs} > 6 from 80% of λ_{short} to λ_{long} OD _{avg} > 5 from 270 nm to 80% of λ_{short} ($\lambda_s \leq 1319\text{nm}$) OD _{avg} > 5 from 800 nm to 80% of λ_{short} ($\lambda_s > 1319\text{nm}$)	OD = - log ₁₀ (transmission)
Guaranteed Transmission	> 93%	Averaged over the passband
Minimum Transmission	> 90%	Over the passband

Shortpass Specifications

Property	Value	Comments
Edge Steepness (typical)	1.5% of λ_{short}	Measured from OD 6 to 50%
Transition Width	< 2.5% of λ_{short}	From λ_{long} to the 50% transmission wavelength From 50% transmission wavelength to λ_{short}
Blocking at Laser Wavelengths	OD _{abs} > 6 from λ_{short} to 120% of λ_{long} OD _{avg} > 5 from 120% of λ_{long} to 750 nm OD _{avg} > 4 from 750 nm to 925 nm OD _{avg} > 3 from 925 nm to 1200 nm	OD = - log ₁₀ (transmission)
Guaranteed Transmission	> 93%	Averaged over the passband >400nm
Minimum Transmission	> 85%	> 70% 350 – 400 nm

Common Specifications

Property	Value	Comments
Guaranteed Transmission	> 93%	Averaged over the passband For Shortpass > 80% 350 – 400nm
Typical Transmission	> 98%	Averaged over the passband
Angle of Incidence	0.0° ± 2.0°	Range for above optical specifications
Cone Half Angle	< 5°	Rays uniformly distributed about 0°
Angle Tuning Range	- 0.3% of Laser Wavelength	Wavelength “blue shift” increasing angle from 0° to 8°
Substrate Material	Low-autofluorescence optical quality glass	
Substrate Thickness	2.0 ± 0.1 mm	
Clear Aperture	> 22 mm	
Outer Diameter	25.0 + 0.0 / - 0.1 mm	Black-anodized aluminum ring
Overall Thickness	3.5 ± 0.1 mm	Black-anodized aluminum ring
Beam Deviation	< 10 arc seconds	
Surface Quality	60-40 scratch-dig	
Filter Orientation	Arrow on ring indicates preferred direction of propagation of light	