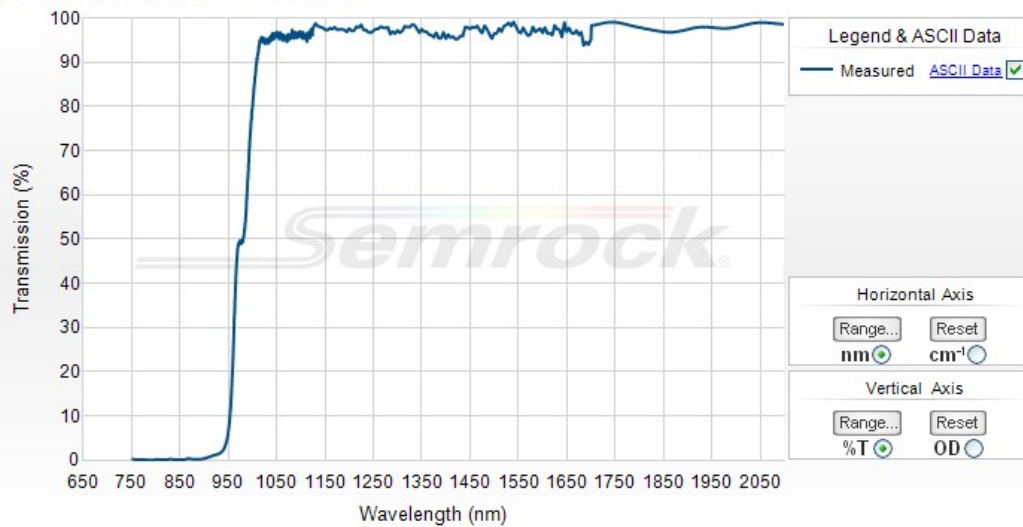


980 nm BrightLine® Multiphoton LaserMUX™ Beam Combiner

Part Number: FF980-Di01-t1-25x36



Semrock, Inc

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(within US and Canada)

Your filter spectrum may differ slightly from the typical spectrum above, but is certified to meet the optical specifications noted below.



980 nm BrightLine® Multiphoton LaserMUX™ Beam Combiner

Multiphoton LaserMUX™ beam combiners enable deeper tissue imaging and improved contrast in multi-color and multi-modal fluorescence microscopy. The filters set new performance standards by simultaneously achieving high transmission, high reflection, and low GDD over both reflection & transmission, while maintaining minimal wavefront distortion. Ideal for combining two femtosecond pulsed laser beams, they are perfect for optogenetics and other life science applications.

Combine two or more femtosecond pulsed lasers such as Ti:Sapphire (& OPO coupled), neodymium and ytterbium-doped fiber and glass lasers, and Cr:forsterite lasers.

- < 1λ P-V RWE on 1 mm
- < λ/10 P-V Transmitted Wavefront Error
- < ± 100 fs² Group Delay Dispersion over popular femtosecond laser wavelengths

| Part Number | Size | Price ¹ | Stock Status |
|---------------------|---|--------------------|--------------|
| FF980-Di01-t1-25x36 | New Product 25.2 mm x 35.6 mm x 1.1 mm (unmounted) | \$745 | 2nd Day Ship |

This part is not available for custom sizing - [contact us](mailto:semrock@idexcorp.com) (semrock@idexcorp.com) for 50.8mm sizes

1) US domestic pricing only. If you are ordering from outside the US, please contact your nearest [regional distributor](#) for the correct list price.

Optical Specifications

| Specification | Value |
|-----------------------------|---|
| Reflection Band 1 | R _{avg} > 95% 770 – 938 nm over any 10 nm window |
| Reflection Band 1 (p-pol) | R _{avg} > 90% 770 – 930 nm |
| Reflection Band 1 (s-pol) | R _{avg} > 98% 770 – 968 nm |
| Edge Wavelength 1 | 980 nm |
| Transmission Band 1 | T _{avg} > 93% 1022 – 2100 nm over any 10 nm window |
| Transmission Band 1 (p-pol) | T _{avg} > 95% 992 – 2100 nm |
| Transmission Band 1 (s-pol) | T _{avg} > 90% 1022 – 2100 nm |
| Laser Wavelengths 1 | |

General Filter Specifications

| Specification | Value |
|---|---|
| Angle of Incidence | 45 ± 1.5 degrees |
| Cone Half-angle | 1.5 degrees |
| Optical Damage Rating | 50 mJ/cm ² @ 800 nm (50 fs pulse width); test pending; specification based on FS01 Mirror test results |
| Flatness (1 mm thickness) | 1λ P-V RWE @ 632.8 nm |
| Flatness (3 mm thickness) | λ/5 P-V RWE @ 632.8 nm |
| Transmitted Wavefront Error | λ/10 PV over CA @ 632.8 nm |
| Steepness | Standard |
| Effective Index | 1.77 |
| Group Delay Dispersion Reflection (p-pol) | ± 100 fs ² over 771 - 911 nm |

| | |
|---|--|
| Group Delay Dispersion Reflection (p-pol) | ± 500 fs ² over 757 - 933 nm |
| Group Delay Dispersion Reflection (s-pol) | ± 100 fs ² over 753 - 949 nm ± 500 fs ² over 751 - 970 nm |
| Group Delay Dispersion Transmission (p-pol) | ± 100 fs ² over 1020 - 2050 nm (excluding substrate, by design) ± 500 fs ² over 1000 - 2100 nm (excluding substrate, by design) |
| Group Delay Dispersion Transmission (s-pol) | ± 100 fs ² over 1065 - 2050 nm (excluding substrate, by design) ± 500 fs ² over 1038 - 2100 nm (excluding substrate, by design) |

Physical Filter Specifications (applies to standard sized parts; contact us regarding other sizes)

| Specification | Value |
|---|--|
| Transverse Dimensions (L x W) | 25.2 mm x 35.6 mm |
| Transverse Tolerance | ± 0.1 mm |
| Filter Thickness (1 mm, unmounted) | 1.05 mm |
| Filter Thickness Tolerance (1 mm, unmounted) | ± 0.05 mm |
| Filter Thickness (3 mm, unmounted) | 3.0 mm |
| Filter Thickness Tolerance (3 mm, unmounted) | ± 0.1 mm |
| Clear Aperture | ≥ 85% (elliptical) |
| Scratch-Dig | 60-40 |
| Substrate Type | Fused Silica |
| Substrate Thickness (1 mm, unmounted) | 1.05 mm |
| Substrate Thickness Tolerance (1 mm, unmounted) | ± 0.05 mm |
| Substrate Thickness (3 mm, unmounted) | 3.0 mm |
| Substrate Thickness Tolerance (3 mm, unmounted) | ± 0.1 mm |
| Orientation | Reflective surface marked with laser dot - Orient in direction of incoming light |