Electrophysics Scientific Imaging A SOFRADIR EC COMPANY

Optical Filters

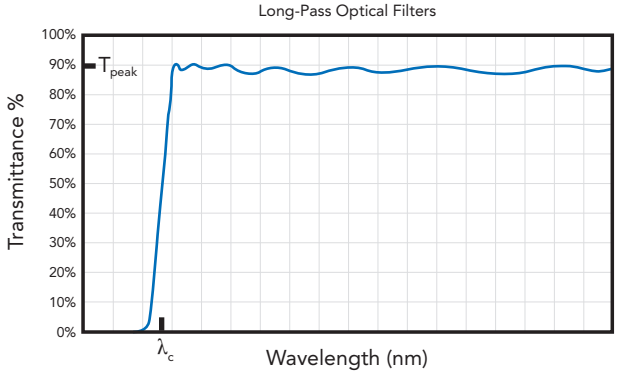
FOR INFRARED IMAGING SYSTEMS

Long Pass Filters

These optical filters are perfect for many imaging applications that benefit from blocking the transmission of short-wave electromagnetic radiation. They are normally positioned in front of a camera's objective lens or between the camera's lens and imaging sensor. When positioned as such, the LPF filters attenuate short wavelength radiation from UV up to the cut-on wavelength, and transmit longer wavelength radiation from the cut-on wavelength and longer. Custom filter wavelength characteristics and sizes are available upon request.

FEATURES

- Highly transmissive in near-infrared band
- Blocks short wavelengths from UV through visible
- Sharp cut-on with 40nm transition from 1% to first peak (typical)



SPECIFICATIONS

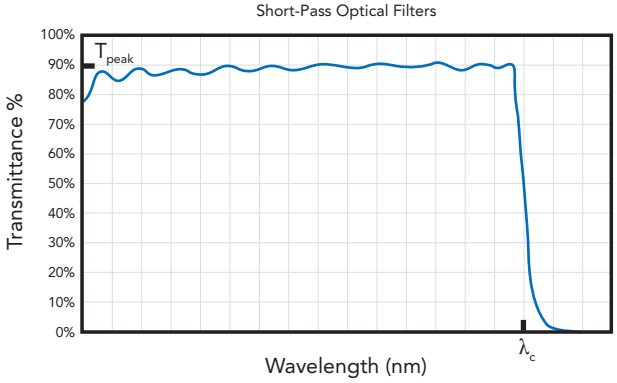
Diameter	25.4mm +0.0/-0.25mm
Clear Aperture	20mm
Thickness	3-5mm (nominal)
Surface Finish	Commercial polish
Blocking Range	B_{range} to 85% of cut-on wavelength, 0.1% transmittance
Rise from 1% T to first peak	40nm typical

Short Pass Filters

These optical filters are perfect for many imaging applications that benefit from transmitting short-wave electromagnetic radiation and blocking longer, near-infrared wavelengths. They are normally positioned in front of a camera's objective lens or between the camera's lens and imaging sensor. When positioned as such, the SPF filters transmit short wavelength radiation from UV up to the cut-off wavelength, and attenuate longer wavelength radiation from the cut-off wavelength and longer. Custom filter wavelength characteristics and sizes are available upon request.

FEATURES

- Highly transmissive up to near-infrared band
- Blocks wavelengths from near-infrared and longer
- Sharp cut-off with 40nm transition from 1% to first peak (typical)



SPECIFICATIONS

Diameter	25.4mm +0.0/-0.25mm
Clear Aperture	20mm
Thickness	3-5mm (nominal)
Surface Finish	Commercial polish
Blocking Range	120% of cut-off wavelength to B_{range}, 0.1% transmittance
Rise from 1% T to first peak	40nm typical

Definitions:

λ_c = Cut-on wavelength at which transmission is 50% of T_{peak}

T_{peak} = Typical Average Transmission in passband

P_{range} = Passband spectral range

B_{range} = Blocking spectral range

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Band Pass Filters

These optical filters are perfect for many imaging applications that benefit from blocking out-of-band electromagnetic radiation while passing a certain narrow wavelength region. These filters are normally positioned in front of a camera's objective lens or between the camera's lens and imaging sensor. When positioned as such, the filters attenuate (by reflection and absorption) out-of-band transmission and transmit the desired narrow spectral region. Custom filter wavelength characteristics and sizes are available upon request.

Definitions:

λ_c = Cut-on wavelength at which transmission is 50% of T_{peak}

HW = Half-width at 50% T_{peak}

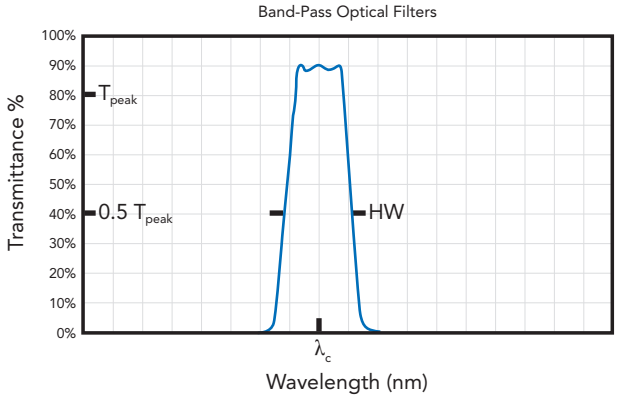
T_{peak} = Minimum Peak Transmission (%)

B_{range} = Blocking spectral range

CWL = Center Wavelength of passband

FEATURES

- Narrow bandpass in near-infrared band
- Sharp transition assures precise blocking
- Excellent in-band transmission



SPECIFICATIONS

Diameter	25.4mm +0.0/-0.25mm
Clear Aperture	20mm
Thickness	6.4mm (nominal)
Surface Finish	Commercial polish

Neutral Density Filters

These optical filters attenuate incident electromagnetic radiation by absorption and reflection over a broad spectral range. They are perfect for many imaging applications that benefit from attenuating the transmission of short-wave infrared radiation. Custom filter wavelength characteristics are available upon request.

Definitions:

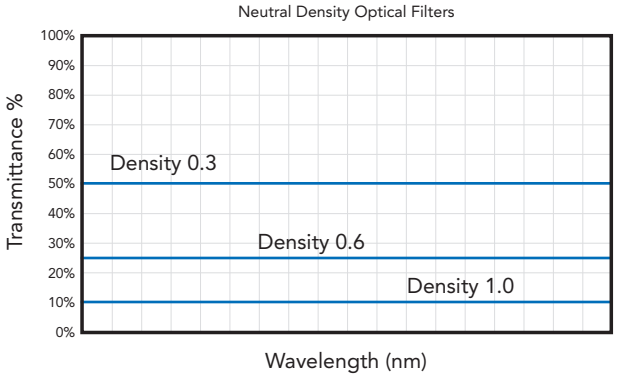
OD = Optical Density

T = Transmittance (%)

P_{range} = Operating Spectral Pass band

FEATURES

- Highly transmissive in near-infrared band
- Blocks short wavelengths from UV through visible
- Sharp cut-on with 40nm transition from 1% to first peak (typical)



SPECIFICATIONS

Diameter	25.4mm +0.0/-0.25mm
Clear Aperture	22.8mm
Thickness	< 5mm (nominal)
Surface Finish	Commercial polish

Because of ongoing product updates, specifications are subject to change without notice.

Contact us today to discuss how our Optical Filters can meet your application requirements.

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Ordering Information

SHORT PASS OPTICAL FILTERS

ITEM	PART NO.	DESCRIPTION
SPF-700	909049	λ_c=700nm ±10nm, T_{peak}=75%, P_{range} to 415nm, B_{range} to 1,200nm
SPF-750	909078	λ_c=750nm ±10nm, T_{peak}=70%, P_{range} to 415nm, B_{range} to 1,200nm
SPF-800	909080	λ_c=800nm ±10nm, T_{peak}=75%, P_{range} to 415nm, B_{range} to 1,200nm
SPF-850	909079	λ_c=850nm ±10nm, T_{peak}=75%, P_{range} to 415nm, B_{range} to 1,200nm
SPF-900	909075	λ_c=900nm ±10nm, T_{peak}=75%, P_{range} to 415nm, B_{range} to 1,200nm
SPF-950	909054	λ_c=950nm ±10nm, T_{peak}=75%, P_{range} to 415nm, B_{range} to 1,200nm
SPF-1000	909081	λ_c=1,000nm ±10nm, T_{peak}=75%, P_{range} to 415nm, B_{range} to 1,200nm
SPF-2000	909077	λ_c=2,000nm ±50nm, T_{peak}=70%, P_{range} to 1,500nm, B_{range} to 4,500nm
SPF-3000	909073	λ_c=3,000nm ±100nm, T_{peak}=70%, P_{range} to 1,700nm, B_{range} to 10,000nm
SPF-4100	909074	λ_c=4,100nm ±100nm, T_{peak}=70%, P_{range} to 2,500nm, B_{range} to 10,000nm

NEUTRAL DENSITY OPTICAL FILTERS

ITEM	PART NO.	DESCRIPTION
NDF-0.1	909048	OD=0.1, T=79.4%, P_{range} = 400 to 2,500nm
NDF-0.2	909050	OD=0.2, T=63.1%, P_{range} = 400 to 2,500nm
NDF-0.3	909051	OD=0.3, T=50.1%, P_{range} = 400 to 2,500nm
NDF-0.4	909052	OD=0.4, T=39.8%, P_{range} = 400 to 2,500nm
NDF-0.5	909053	OD=0.5, T=31.6%, P_{range} = 400 to 2,500nm
NDF-0.6	909076	OD=0.6, T=25.1%, P_{range} = 400 to 2,500nm
NDF-0.7	909055	OD=0.7, T=19.9%, P_{range} = 400 to 2,500nm
NDF-0.8	909056	OD=0.8, T=15.8%, P_{range} = 400 to 2,500nm
NDF-0.9	909057	OD=0.9, T=12.6%, P_{range} = 400 to 2,500nm
NDF-1.0	909058	OD=1.0, T=10.0%, P_{range} = 400 to 2,500nm
NDF-1.5	909059	OD=1.5, T=3.2%, P_{range} = 400 to 2,500nm
NDF-2.0	909060	OD=2.0, T=1.0%, P_{range} = 400 to 2,500nm
NDF-3.0	909061	OD=3.0, T=0.1%, P_{range} = 400 to 2,500nm
NDF-4.0	909062	OD=4.0, T=0.01%, P_{range} = 400 to 2,500nm
NDFL-0.3	909067	OD=0.3, T=50.1%, P_{range} = 2,000 to 14,000nm
NDFL-0.6	909068	OD=0.6, T=25.1%, P_{range} = 2,000 to 14,000nm
NDFL-1.0	909069	OD=1.0, T=10.0%, P_{range} = 2,000 to 14,000nm
NDFL-2.0	909070	OD=2.0, T=1.0%, P_{range} = 2,000 to 14,000nm
NDFL-3.0	909071	OD=3.0, T=0.1%, P_{range} = 2,000 to 14,000nm
NDFL-4.0	909072	OD=4.0, T=0.01%, P_{range} = 2,000 to 14,000nm

LONG-PASS OPTICAL FILTERS

ITEM	PART NO.	DESCRIPTION
LPF-700	909042	λ_c=700nm ±10nm, T_{peak}=75%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-750	909043	λ_c=750nm ±10nm, T_{peak}=75%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-800	909044	λ_c=800nm ±10nm, T_{peak}=75%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-850	909045	λ_c=850nm ±10nm, T_{peak}=75%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-900	909046	λ_c=900nm ±10nm, T_{peak}=75%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-950	909064	λ_c=950nm ±10nm, T_{peak}=75%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-1000	909047	λ_c=1,000nm ±10nm, T_{peak}=75%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-1100	914820	λ_c=1,100nm ±10nm, T_{peak}=65%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-1200	914821	λ_c=1,200nm ±10nm, T_{peak}=65%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-1300	914822	λ_c=1,300nm ±10nm, T_{peak}=65%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-1400	914823	λ_c=1,400nm ±10nm, T_{peak}=65%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-1500	914824	λ_c=1,500nm ±10nm, T_{peak}=65%, P_{range} to 2,500nm, B_{range} to 100nm
LPF-2000	909063	λ_c=2,000nm ±50nm, T_{peak}=70%, P_{range} to 4,000nm, B_{range} to 100nm
LPF-3000	909065	λ_c=3,000nm ±50nm, T_{peak}=70%, P_{range} to 6,000nm, B_{range} to 100nm
LPF-4000	909066	λ_c=4,000nm ±100nm, T_{peak}=70%, P_{range} to 5,000nm, B_{range} to 100nm

Ordering Information

BAND PASS OPTICAL FILTERS

ITEM	PART NO.	DESCRIPTION
IF-700	909011	λ_c=700nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-710	909012	λ_c=710nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-720	909013	λ_c=720nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-730	909014	λ_c=730nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-740	909015	λ_c=740nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-750	909016	λ_c=750nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-760	909017	λ_c=760nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-770	909018	λ_c=770nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-780	909019	λ_c=780nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-790	909020	λ_c=790nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-800	909021	λ_c=800nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-810	909022	λ_c=810nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-820	909023	λ_c=820nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-830	909024	λ_c=830nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-840	909025	λ_c=840nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-850	909026	λ_c=850nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-860	909027	λ_c=860nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-870	909028	λ_c=870nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-880	909029	λ_c=880nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-890	909030	λ_c=890nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-900	909031	λ_c=900nm ±2nm, HW=10nm ±2nm, T_{peak}=50%, B_{range} 300-1,200nm, 0.01% blocking
IF-910	909032	λ_c=910nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-920	909033	λ_c=920nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-930	909034	λ_c=930nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-940	909035	λ_c=940nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-950	909036	λ_c=950nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-960	909037	λ_c=960nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-970	909038	λ_c=970nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-980	909039	λ_c=980nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-990	909040	λ_c=990nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-1000	909002	λ_c=1,000nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-1010	909003	λ_c=1,010nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-1020	909004	λ_c=1,020nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-1030	909005	λ_c=1,030nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-1040	909006	λ_c=1,040nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-1050	909007	λ_c=1,050nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-1060	909008	λ_c=1,060nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-1064	914819	λ_c=1,064nm ±2nm, HW=10nm ±2nm, T_{peak}=45%, B_{range} 300-1,200nm, 0.01% blocking
IF-1300	909009	λ_c=1,300nm ±2nm, HW=10nm ±2nm, T_{peak}=40%, B_{range} UV-Far-IR, 0.01% blocking
IF-1550	909010	λ_c=1,550nm ±2nm, HW=10nm ±2nm, T_{peak}=35%, B_{range} UV-Far-IR, 0.1% blocking

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Distribution in the UK & Ireland

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