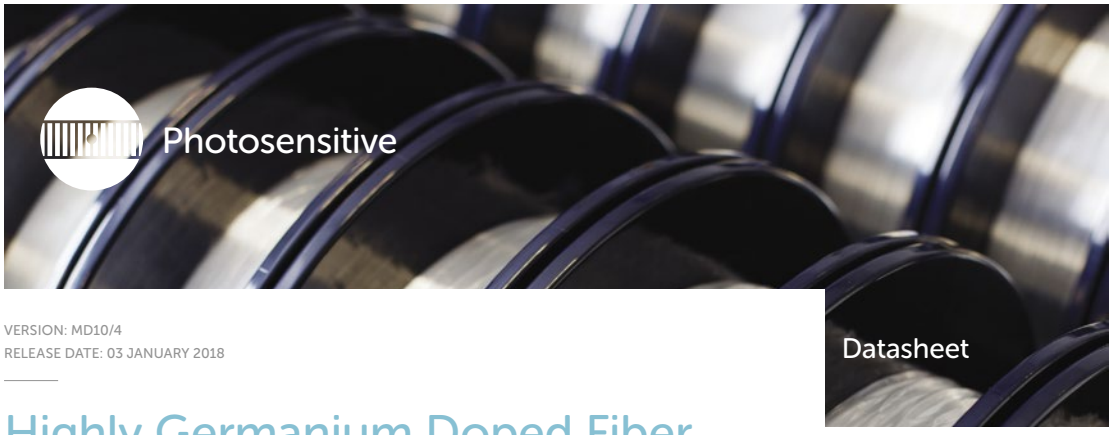
Fiber Optics

FIBERCORE

LASER COMPONENTS



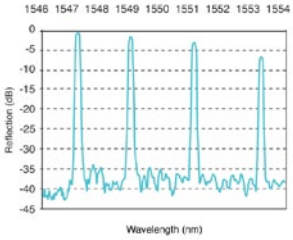
VERSION: MD10/4
RELEASE DATE: 03 JANUARY 2018

Highly Germanium Doped Fiber

For the fabrication of bend insensitive Fiber Bragg Grating (FBG) arrays, Fibercore offer three, high germania fibers: SM1500(4.2/125), SM1500(4.2/80) and SM1500(4.2/50). These fibers have cores with more than 5X the germania content of a telecoms fiber, enabling FBGs to be written with or without hydrogen loading.

The high Numerical Aperture (NA) of these fibers gives exceptional resistance to bend induced loss. Optional 'low-profile' 50µm or 80µm cladding diameters are available along with increased proof test levels make these fibers ideal for high reliability, coiled and tightly packaged applications, including fiber optic hydrophones and geophones.

Special coating variants are available upon request for the 'Cold Writing' technique where FBGs are inscribed through the coating, without the need to remove the coating.



Advantages:

- High NA variants for extremely low macro and micro bend losses
- Reduced cladding options for high reliability coils and reduced package volume
- Highly photosensitive core design for high reflectivity
- FBGs

Typical applications:

- Temperature Sensors
- Strain Sensors
- Biomedical sensors
- Hydrophones
- Geophones
- FBGs

Related Products:

- SM Fiber for Visible RGB Through to Near IR (SM)
- High Temperature Acrylate Coated SM Fiber (SM-HT)
- Polyimide Coated SM Fiber (SM-P)
- Pure Silica Core SM Fiber (SM-SC)

Product Variants:

• **SM1500(4.2/50)**	Reduced cladding highly photosensitive fiber for FBGs in embedded sensors and very tightly coiled applications
• **SM1500(4.2/80)**	Reduced cladding highly photosensitive fiber for FBGs in embedded sensors and coiled applications
• **SM1500(4.2/125)**	Highly photosensitive and bend insensitive fiber for FBGs around 1550nm

Germany & Other Countries
Laser Components GmbH
Tel: +49 8142 2864 – 0
Fax: +49 8142 2864 – 11
info@lasercomponents.com
www.lasercomponents.com

Specifications

	SM1500(4.2/50)	SM1500(4.2/80)	SM1500(4.2/125)
Operating Wavelength (nm)	1520 - 1650		
Cut-Off Wavelength (nm)	1350 - 1500		
Numerical Aperture	0.29 - 0.31		
Mode Field Diameter (µm)	4.0 - 4.5 @1550nm		
Attenuation (dB/km)	≤2.0 @1550nm	≤1.5 @1550nm	
Proof Test (%)	1, 2 or 3 (100, 200 or 300 kpsi)		
Cladding Diameter (µm)	50 ± 1	80 ± 1	125 ± 1
Core Cladding Concentricity (µm)	≤0.5		
Coating Diameter (µm)	110 ± 6	170 ± 5	245 ± 7
Coating Type	Single Acrylate	Dual Acrylate (Single by Special Order)	
Operating Temperature (°C)	-55 to +85		

Germany & Other Countries
Laser Components GmbH
Tel: +49 8142 2864 – 0
Fax: +49 8142 2864 – 11
info@lasercomponents.com
www.lasercomponents.com