LASER COMPONENTS®

Singlemode GRIN-Lens Collimator

The manufactured singlemode GRIN lens collimators consist of a GRIN lens (gradient index lens) attached to a 9/125 µm SMF 28 singlemode fiber. The collimator is mounted in a FC connector with a metal ferrule, the lens end face is planar with the ferrule end face. The combination of the collimator with a standard FC connector simplifies the use of the collimator assembly and leads to a distinct protection against external environmental influences. The coupling into the singlemode fiber is realized by a FC connector with PC, alternatively APC ground.

Due to the singlemode fiber, the beam profile is assumed to be Gaussian and the measured beam diameters are given by the power drop to $1/e^2$.

The fiber collimator is designed for telecom wavelengths of 1310 nm and 1550 nm. To minimize back reflections the lens can be provided with an anti-reflective coating.

Specifications

	0.5 NA	0.2 NA
Divergence	5.5 mrad (@1550 nm) 5.0 mrad (@1310 nm)	1.9 mrad (@1550 nm) 1.7 mrad (@1310 nm)
Decoupling diameter (@ 1 mm distance to lens)	Typical 170 µm (@ 1550 nm) Typical 160 µm (@ 1310 nm)	Typical 490 µm (@ 1550 nm) Typical 470 µm (@ 1310 nm)
Operating temperature	0 – 80 °C	0 – 80 °C
Reflectivity endface GRIN lens	Typical <1% with AR-coating* Typical 6% without AR-coating *	Typical <1% with AR-coating* Typical 5% without AR-coating *

* for design wavelength (1310 nm /1550 nm) and incidence angles of 8° and 20° on reference substrate

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

France
Laser Components S.A.S.
Tel: +33 1 39 59 52 25
Fax: +33 1 39 59 53 50
info@lasercomponents.fr
www.lasercomponents.fr

United Kingdom
Laser Components (UK) Ltd.
Tel: +44 1245 491 499
Fax: +44 1245 491 801
info@lasercomponents.co.uk
www.lasercomponents.co.uk

Nordic Countries
Laser Components Nordic AB
Tel: +46 31 703 71 73
Fax: +46 31 703 71 01
info@lasercomponents.se
www.lasercomponents.se

USA
Laser Components USA, Inc.
Tel: +1 603 821–7040
Fax: +1 603 821–7041
info@laser-components.com
www.laser-components.com

Side A - Fiber Connector

Connector (Narrow Key)	FC/PC (blue boot) FC/APC (green boot)
Max. tensile load	30 N
Insertion loss	FC/PC; FC/APC: typical 0,12 dB, max. 0,25 dB
Return loss	FC/PC: typical -50 dB, min. -45 dB FC/APC: typical -70 dB, min. -65 dB
Core diameter	8.2 µm
Cladding diameter	125 ± 0,7 µm
Coating diameter	242 ± 5 µm
Jacket diameter (Hytrel)	900 µm (other diameter on request)
NA	Typical 0.14
Wavelength	1260 – 1625 nm
Modefield diameter	9.2 ± 0.4 µm @ 1310 nm 10.4 ± 0.5 µm @ 1550 nm
Cutoff wavelength	<= 1260 nm

Side B - GRIN Lens Collimator

Connector (Narrow Key)	FC plug (metal ferrule and black boot)
Max. tensile load	10 N
Lens NA	0.5 and 0.2
Lens diameter	1 mm
Lens pitch	0.25
Lens focal length	0.9 mm (0.5 NA) / 2.6 mm (0.2 NA)

The wavelength 650 nm und 870 nm are available on request.
The delivery time and and specs are available on request.

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

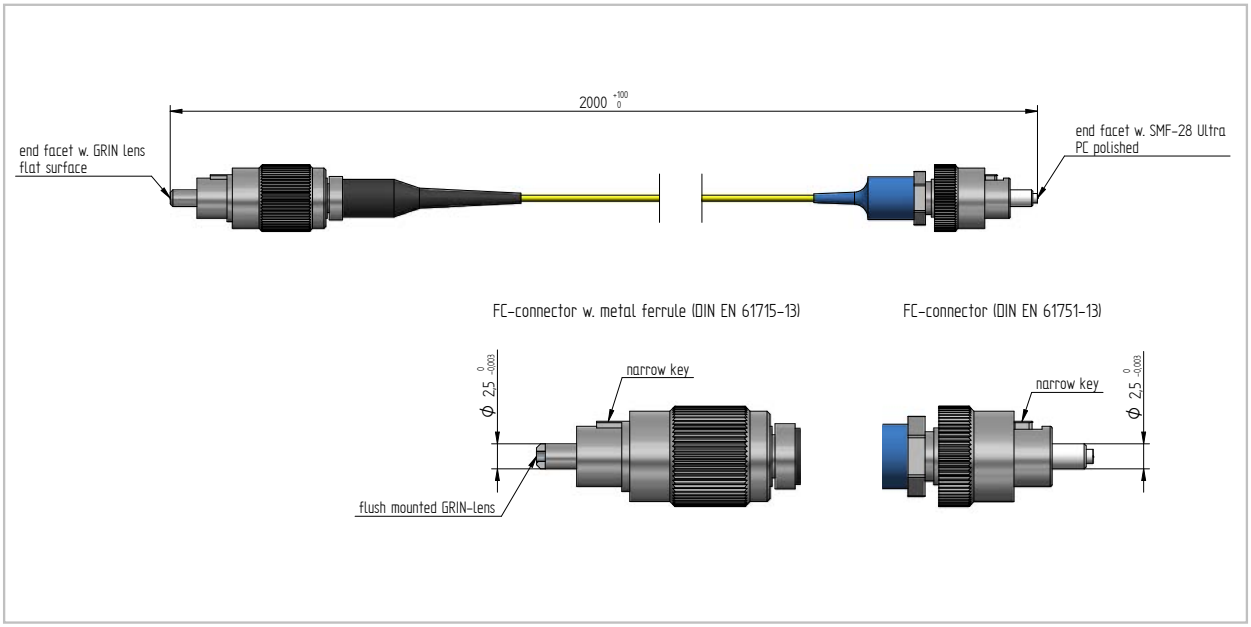
France
Laser Components S.A.S.
Tel: +33 1 39 59 52 25
Fax: +33 1 39 59 53 50
info@lasercomponents.fr
www.lasercomponents.fr

United Kingdom
Laser Components (UK) Ltd.
Tel: +44 1245 491 499
Fax: +44 1245 491 801
info@lasercomponents.co.uk
www.lasercomponents.co.uk

Nordic Countries
Laser Components Nordic AB
Tel: +46 31 703 71 73
Fax: +46 31 703 71 01
info@lasercomponents.se
www.lasercomponents.se

USA
Laser Components USA, Inc.
Tel: +1 603 821–7040
Fax: +1 603 821–7041
info@laser-components.com
www.laser-components.com

Technical Note



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

France
Laser Components S.A.S.
Tel: +33 1 39 59 52 25
Fax: +33 1 39 59 53 50
info@lasercomponents.fr
www.lasercomponents.fr

United Kingdom
Laser Components (UK) Ltd.
Tel: +44 1245 491 499
Fax: +44 1245 491 801
info@lasercomponents.co.uk
www.lasercomponents.co.uk

Nordic Countries
Laser Components Nordic AB
Tel: +46 31 703 71 73
Fax: +46 31 703 71 01
info@lasercomponents.se
www.lasercomponents.se

USA
Laser Components USA, Inc.
Tel: +1 603 821-7040
Fax: +1 603 821-7041
info@laser-components.com
www.laser-components.com