

Optics

Optical Systems

Free Space Isolators

E-O Devices

Spherical Singlets

Multi-Element Lenses

Cylindrical Lenses

Aspheric Lenses

Mirrors

Diffusers & Lens Arrays

Windows

Prisms

Gratings

Polarization Optics

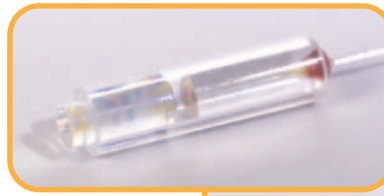
Beamsplitters

Filters & Attenuators

Gas Cells

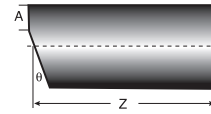
GRIN Lenses

Thorlabs offers a selection of graded index (GRIN) lenses for applications at 1300nm and 1560nm. GRIN lenses are typically used in fiber-based, passive and active components to couple laser light from one fiber through a free-space optical system (such as an optical isolator) and back into another fiber to propagate through the rest of the system. GRIN lenses can also be used for coupling the output of laser diodes into fibers, coupling laser light onto a detector, and collimating laser light.

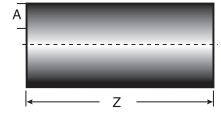


Specifications

- **Pitch:** 0.23 and 0.29
- **Lens Diameter:** 1.8mm
- **Operating Wavelength Windows:** 1.30 μ m and 1.56 μ m
- **On-Axis NA:** 0.46
- **Transmittance:** >89%, 380-2000nm
- **Polarization Preservation:** 99%
- **Material:** Oxide Glass
- **Operating Temperature:** <350°C



The 0.23 pitch lenses include an 8° angled facet to minimize back reflection and compensate for the angular beam deviation from angled fiber ferrules.



The 0.29 pitch lenses include 0° end faces with AR coatings to minimize back reflection.

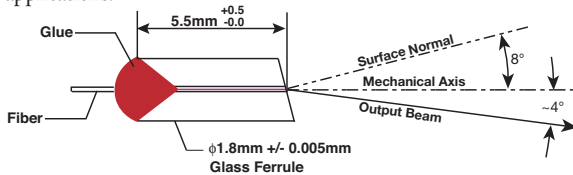
ITEM#	PITCH	NA	DIAMETER	DESIGN WAVELENGTH	INDEX (n _o)	LENGTH (Z)	EFFECTIVE FOCAL LENGTH	GLASS MATERIAL
GRIN2313A	0.23	0.46	Ø1.8mm	1300nm	1.5916	4.42mm	1.94mm	Oxide Glass
GRIN2315A	0.23	0.46	Ø1.8mm	1560nm	1.5901	4.43mm	1.94mm	Oxide Glass
GRIN2913	0.29	0.46	Ø1.8mm	1300nm	1.5916	5.57mm	1.98mm	Oxide Glass
GRIN2915	0.29	0.46	Ø1.8mm	1560nm	1.5906	5.59mm	1.99mm	Oxide Glass

GRIN Lenses

ITEM#	\$	£	€	RMB	DESCRIPTION
GRIN2313A	\$ 28.00	£ 17.60	€ 26.00	¥ 267.40	GRIN Lens, Ø1.8mm, 0.23 Pitch, 1300nm, AR Coated
GRIN2315A	\$ 28.00	£ 17.60	€ 26.00	¥ 267.40	GRIN Lens, Ø1.8mm, 0.23 Pitch, 1560nm, AR Coated
GRIN2913	\$ 26.00	£ 16.40	€ 24.20	¥ 248.30	GRIN Lens, Ø1.8mm, 0.29 Pitch, 1300nm, AR Coated
GRIN2915	\$ 26.00	£ 16.40	€ 24.20	¥ 248.30	GRIN Lens, Ø1.8mm, 0.29 Pitch, 1560nm, AR Coated

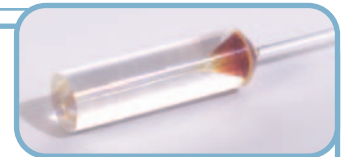
Pigtailed Ferrules

These pigtailed glass ferrules include 1.5 meters of SMF-28e fiber and a 0° or 8° angled face, which is AR coated to minimize back-reflection (return-loss). These features make them ideal for numerous applications.



Pigtail Specifications

- **Ferrule Diameter:** 1.800mm \pm 5 μ m
- **Ferrule Length:** 5.5mm +0.5/-0.0mm
- **Wedge Angles:** 0.0°, 8.0°
- **Wedge Tolerance:** \pm 0.2°
- **Fiber Type:** SMF-28e
- **AR Coating:** R<0.25%, 1310nm \pm 40nm or 1550nm \pm 40nm
- **Fiber Length:** 1.5m

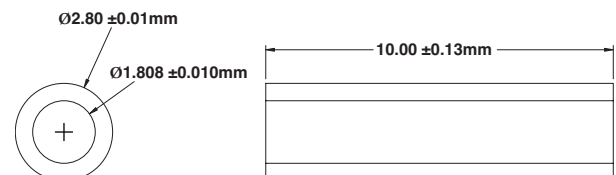


Pigtailed Ferrules

ITEM#	\$	£	€	RMB	DESCRIPTION
SMPF0213	\$ 14.80	£ 9.30	€ 13.80	¥ 141.30	Pigtailed Ferrule, Ø1.8mm, 0°, 1310nm, AR Coated
SMPF0215	\$ 14.80	£ 9.30	€ 13.80	¥ 141.30	Pigtailed Ferrule, Ø1.8mm, 0°, 1550nm, AR Coated
SMPF0113	\$ 14.80	£ 9.30	€ 13.80	¥ 141.30	Pigtailed Ferrule, Ø1.8mm, 8°, 1310nm, AR Coated
SMPF0115	\$ 14.80	£ 9.30	€ 13.80	¥ 141.30	Pigtailed Ferrule, Ø1.8mm, 8°, 1550nm, AR Coated

GRIN to Ferrule Sleeves

The 51-2800-1800 sleeve allows a GRIN lens to be integrated easily with one of the pigtailed ferrules above. The glass material is transparent in the UV region for curing UV adhesives.



GRIN to Ferrule Sleeve

ITEM#	\$	£	€	RMB	DESCRIPTION
51-2800-1800	\$ 4.75	£ 2.99	€ 4.40	¥ 45.40	Sleeve for GRIN Lens & Ferrules, 1.8mm I.D., 10mm Long, Borosilicate Glass