

Single Mode Polarization Insensitive Optical Isolator



Description

A Single Mode Polarization Insensitive Optical Isolator is a passive fiber optic device that allows light transmission in one direction while blocking back reflections, ensuring stable operation of lasers and optical communication systems regardless of input polarization state.

Firsol offers customized isolators tailored to user requirements regarding wavelength, power, and fiber type. Our products are widely utilized in fields such as fiber lasers, fiber amplifiers, underwater laser communication, fiber sensing, and scientific research.

Features

- Low Insertion Loss
- High Isolation
- Compact Size
- High Stability and Reliability

Applications

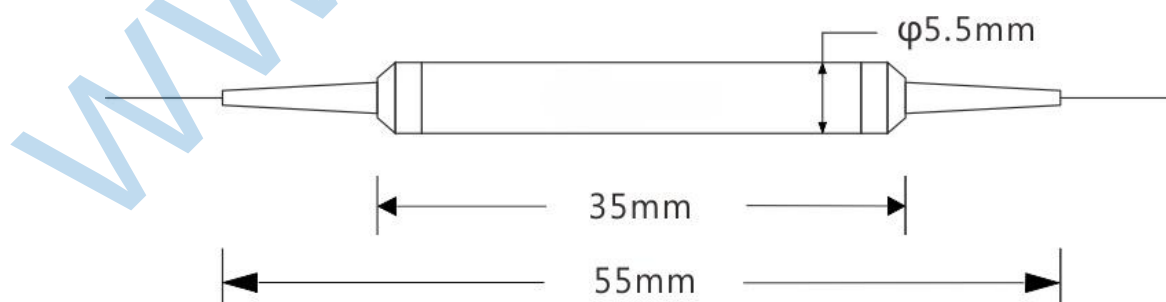
- Fiber Laser
- Fiber Optic Amplifier
- Fiber Optic Sensing
- Fiber Optic Communication

Specifications

Parameter	Unit	Value						
Center Wavelength	nm	1030	1064		1310/1480/1550		1950/2000/2050	
Operating Wavelength Range	nm	±5	±5	±5	±20	±20	±20	±20
Single/Dual Stage	-	Single Stage	Single Stage	Dual Stage	Single Stage	Dual Stage	Single Stage	Dual Stage
Peak Isolation	dB	≥26	≥40	≥55	≥45	≥55	≥20	≥40
Isolation	dB	≥23	≥32	≥45	≥32	≥45	≥16	≥35
Insertion Loss	dB	≤3.5	≤1.8	≤3.2	≤0.5	≤0.6	≤1.2	≤1.5
Return Loss	dB	≥50						
Polarization Dependent Loss	dB	≤0.1	≤0.2					
Max Optical Power (CW)	W	0.05	0.2	0.1	0.5/1/2/5			
Max Peak Power (Pulse)	KW	<1@ns pulse						
Fiber Type	-	Hi1060			SMF-28e		SM1950	
Package Dimensions	mm	Φ5.5 x L35						
Operating Temperature	°C	-5 to +70						
Storage Temperature	°C	-40 to +85						

Notes: Tested at 25 °C. Data exclude connectors; adding connectors increases insertion loss by 0.3 dB and reduces return loss by 5 dB.

Product Dimensions



Ordering Information

						
Center Wavelength	Max Optical Power (CW)	Single/Dual Stage	Fiber Type	Pigtail Length	Pigtail Diameter	Connector
1030nm	0.05W	Single Stage	Hi1060	0.5m	250μm Bare Fiber	None
1064nm	0.1W	Dual Stage	SMF-28e	1.0m	900μm Loose Tube	LC/UPC
1310nm	0.2W		SM1950	1.5m		LC/APC
1480nm	0.5W			2.0m		SC/UPC
1550nm	1W					SC/APC
1950nm	2W					FC/UPC
2000nm	5W					FC/APC
2050nm						ST/UPC
						ST/APC