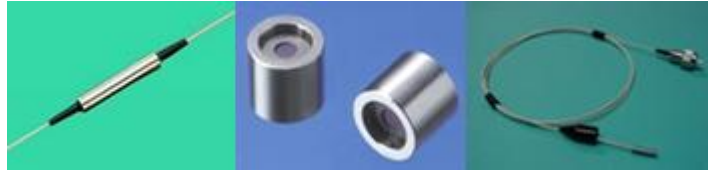


LEAD Fiber Optics PRODUCT CATALOGUE

OPTICAL ISOLATOR

Optical Isolator



The optical isolators are passive optical devices that allow light to be transmitted in only one direction. They are most often used to prevent any light from reflecting back down the fiber as this light would enter the source and cause backscattering and feedback problems. Optical feedback degrades signal-to-noise ratio and consequently bit-error rate. Ideally a optical isolator would pass all light in one direction and block all light in the reverse direction.

There are two major classifications of optical isolators: In-line optical isolators and free space optical isolators.

Inline optical isolator

Inline optical isolators are designed in pigtail fashion. That is to say that they come with built-in fiber optic cable and connectors so that they may be integrated directly into a fiber optic system.

Free space optical isolator

Free space optical isolators, by contrast, do not have an integral connection system. They must be directly mounted to the object that needs isolation.

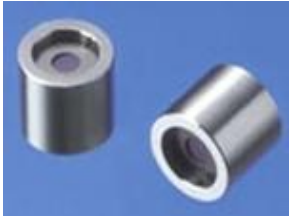
LFO Inline optical isolator series also come with your choice of single or dual stage packaging. Various types of pig tailing and connector terminations are available to meet your requirements. They include 1550nm /1310nm dual and single stage inline optical isolators, unique reflection-type mini-isolators and 2-in-1 mini-isolators, and pigtailed free-space optical isolators.

LFO Optical Isolator Series



Polarization independent optical Isolator

The Polarization Independent Optical Isolators are designed to provide ultimate isolation and exceptional low insertion loss for all applications demanding critical performance. Featuring unbeatable, PDL, PMD, and other optical characteristics. These highly reliable singlemode isolators are fabricated from reliable BIG and YVO4 crystals. Using laser-welding technology, they are optical path epoxy free.



Mini Free Space optical Isolator

The Mini Free Space Optical Isolators are designed to provide ultimate and exceptional low insertion loss for all applications demanding critical performance. Featuring unbeatable, PMD, and other optical characteristics, These highly reliable isolators are fabricated from reliable isolators are fabricated from reliable BIG and YVO4 crystals using metal-bonded technology



Optical Isolator Pigtail

The Optical Isolator Pigtail includes an isolator in Ferrule, making it easier to assemble at LD packing. LFO isolator features optical path epoxy free and has excellent performance and reliability.

Polarization Independent Optical Isolator

Features

- Ultra high isolation
- Minimum polarization dependent Loss(PDL)
- Polarization mode dispersion(PMD) free
- Optical path epoxy free
- Low insertion Loss
- Environmentally stable

Applications

- Optical amplification
- Optical transmission
- CATV
- High-bit rate optical communications
- High speed analog optical systems



Specifications

ITEM	VALUES			
Operation Wavelength, nm	1310nm or 1550nm			
Stage	Single		Dual	
Grade	S	H	S	H
Minimum Isolation, dB (over the center wavelength \pm 15nm), (at 25°C, all SOP)	30	29	45	43
Typical Insertion Loss, dB (at 25°C, all SOP)	0.4	0.5	0.5	0.7
Maximum Insertion Loss, dB (over the operating range \pm 20nm), (-20 ~ 60°C, all SOP)	0.5	0.7	0.7	0.9
Polarization dependent Loss, dB	≤ 0.1	≤ 0.15	≤ 0.1	≤ 0.15
Return Loss. dB (Input/output)	60/55	55/50	60/55	55/50
Polarization Mode dispersion, ps	≤ 0.25	≤ 0.25	≤ 0.05	≤ 0.07
Operating temperature, °C	0 ~ 60°C			
Storage temperature, °C	-40°C ~ 85°C			
Maximum output power, mW	300			
Package Size, mm	E-type			
Note:SOP= States of Polarization	ϕ 5.5x34mm for coated fiber(250um) ϕ 5.5x39mm for loose tube cable(900um)			

Polarization Independent Optical Isolator Ordering information

IS-PI

XX/XX

XX

XX

X

X

X

XXX(cm)

Connector (in/out)

11-ST
21-FC/PC
22-FC/APC
31-SC/PC
32-SC/APC
41-LC/PC
51-MU/PC
00-None
XX-Others

Pigtail length(for each end)

050- 50cm
100- 100cm
150- 150cm
200- 200cm
XXX-Others

Wavelength

31-1310 nm
55-1550 nm
XX-Other

Packaging Dimension

E- E type
X-Others

Pigtail type (in/out)

01-coated SMF fiber (250um)
02-loose tube cable (900um)
03- cable (3.0mm)
XX-Others

Stage type

S- Single
D- Dual

Grade

S- Super
H- High

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Lfo

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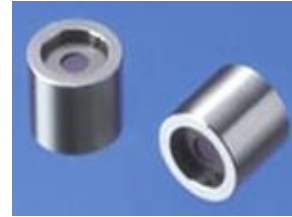
Mini Free Space Optical isolator

Features

- Ultra high isolation
- High extinction ration
- Low insertion Loss
- Large aperture
- Small size

Applications

- Coherent communications
- Optical transmissions
- CATV
- Laser diode packaging
- Optical sensor



Specifications

ITEM	VALUES	
Operation Wavelength, nm	1310nm or 1550nm	
Stage	Single	Dual
Grade		
Minimum Isolation, dB (at 25°C, all SOP)	30	45
Typical Insertion Loss, dB (over the center wavelength±20nm), (at 25°C, all SOP)	0.1	0.15
Maximum Insertion Loss, dB (over the center wavelength±20nm), (-20 ~ 60°C, all SOP)	0.2	0.3
Operating temperature, °C	0 ~ 60°C	
Aperture Size, mm	0.8	
Storage temperature, °C	-40°C ~ 85 °C	
Maximum output power, W/cm ²	50	

Note:SOP= States of Polarization

Mini Free Space Optical isolator Ordering information

IS-MI

XX

X

X

Wavelength

31-1310 nm
55-1550 nm
xX-Other

Package type

1- ϕ 3.0 * 2.5
2- ϕ 2.0 * 2.0
3- ϕ 2.0 * 1.3 (for single stage only)
X-Others

Stage type

S- Single
D- Dual

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Optical Isolator Pigtail

Features

- Ultra high isolation
- Minimum polarization dependent Loss(PDL)
- Optical path epoxy free
- Low insertion Loss
- Environmentally stable

Applications

- Optical amplification
- Optical transmission
- CATV
- High-bit rate optical communications
- High speed analog optical systems

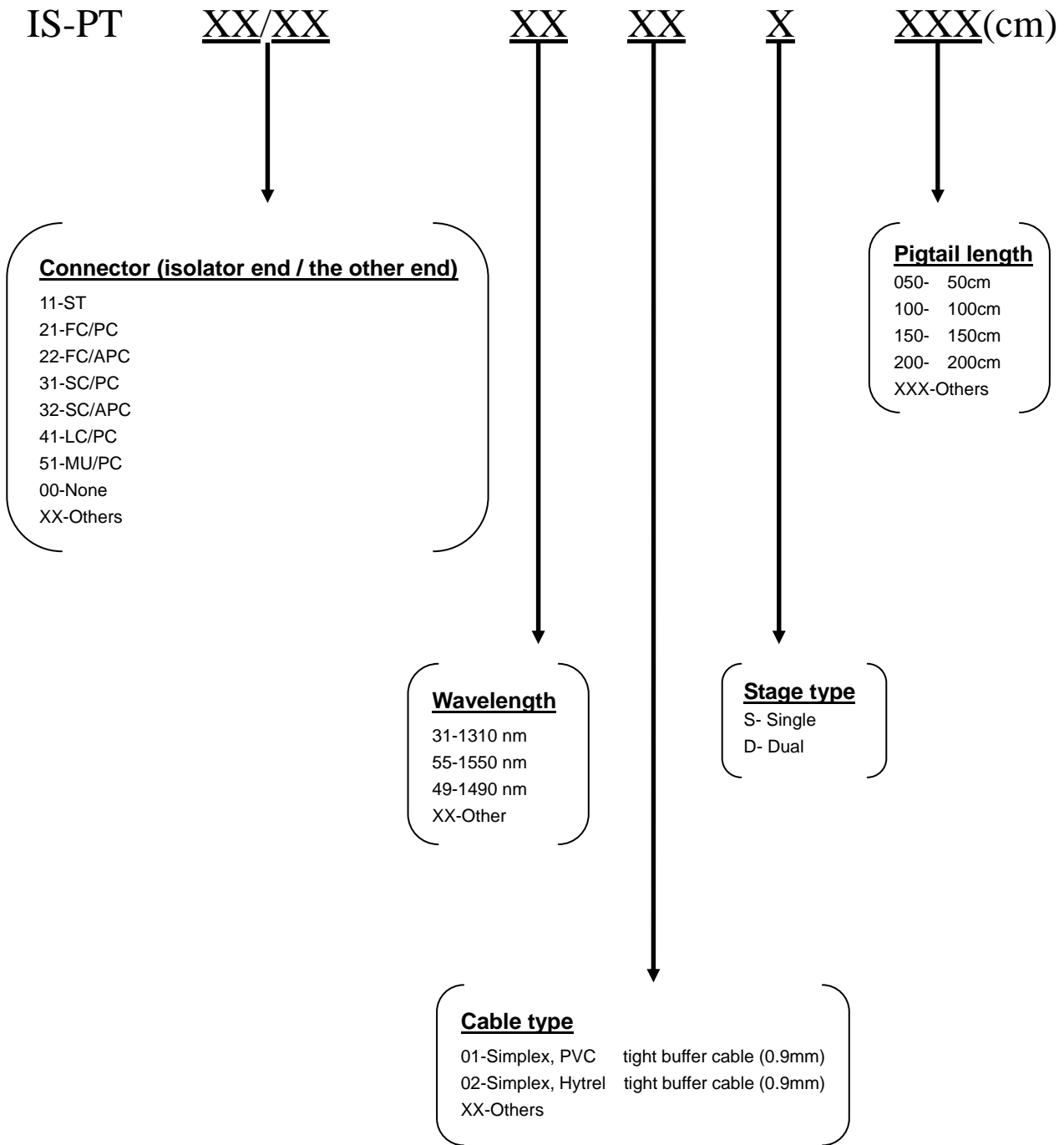


Specifications

ITEM	VALUES	
Operation Wavelength, nm	1310nm or 1550nm	
Stage	Single	Dual
Minimum Isolation, dB (over the center wavelength \pm 15nm) (at 25°C, all SOP)	≥ 30	≥ 45
Typical Insertion Loss, dB (at 25°C, all SOP)	0.4	0.45
Maximum Insertion Loss, dB (over the operating range \pm 20nm) (-20 ~ 60°C, all SOP)	0.5	0.7
Operating temperature, °C	0 ~ 60°C	
Aperture Size, mm	0.8	
Storage temperature, °C	-40°C ~ 85°C	
Maximum output power, W/cm ²	50	

Note:SOP= States of Polarization

Optical Isolator Pigtail Ordering information



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