

# Free Space Isolator

## Round Encapsulation

### Overview

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 back scattering and feedback problems. Optical feedback degrades signal-to-noise ratio and consequently bit-error rate. Ideally an optical isolator would pass all light in one direction and block all light in the reverse direction.

The Reliable free space isolator series are designed for integration within laser diode package to prevent back reflection. The high isolation, low insertion and large aperture features make it flexible to fit with different diode laser packaging requirements. Reliable provides customized design to meet special applications.

### Features

High Isolation  
Polarization Dependent  
Compact size  
RoHS compliant  
Telcordia compliant

### Applications

Optical Instrument  
Laser Diode Packaging  
TOSA/BOSA



Parameter	Standard		Customized	
Packaging	Nickel Plating Magnet Housing		Stainless Steel Housing	
Holding	For Epoxy Bonding		For Laser Soldering	
Advantage	No Gap, Cleanness		For Laser Soldering	
Sizes (mm)	Φ2.5*1.1		Φ1.8~Φ3.0 Customized	
Clear Aperture (mm)	Φ0.6/0.7/0.8/0.9/1.0		Φ0.5~Φ1.5 Customized	
Center Wavelength (nm)	1310/1490/1550		1270 -1610 CWDM wavelength	
Insertion Loss (dB)	Max 0.25	Typ 0.18	Dual. Max 0.45	Dual. Typ 0.3
Isolation (dB @ 23 °C )	Min 35	Typ 40	Dual. Min 55	Dual. Typ 60
Isolation (dB @ -40~85 °C )	Min 22	Typ 30	Dual. Min 40	Dual. Typ 50
Power Handling (mW)	> 300		> 300	
Work Temperature ( °C )	-40~85		250°C/Intermittent	
Storage Temperature ( °C )	-40~85		100°C /Continuous	
Quality( hrs)	Telcordia Compliant > 2000hrs		Telcordia Compliant > 3000hrs	

### Ordering Information

FSI	XX	X	X	XX	X
	Wavelength	Stage	Clear Aperture	Size	Packaging
FSI	31=1310 49=1490 55=1550	S=Single D=Dual W=With Waveplate	7=Φ0.7 8=Φ0.85 9=Φ0.95	01=Φ2.5*1.1mm 02=Φ2.2*1.1mm 03=Φ1.8*1.1mm	N=Nickel Housing S=Stainless Steel Housing

# Free Space Isolator

## Square Encapsulation

### Features

High Isolation  
Polarization Dependent  
Compact size  
RoHS compliant

### Applications

Optical Instrument  
Laser Diode Packaging  
TOSA/BOSA



Parameters	Type1	Type2	Type3	Type4
Packaging	Square	U Shape	Diamond Shape	No Housing
Sizes (mm)	1.5*1.5-3.0*3.0, or Customized			Φ0.5-Φ1.5
Clear Aperture (mm)	Φ0.5/0.6/0.7/0.8/0.9/1.0 or Customized			
Type	Standard		Customized	
Center Wavelength (nm)	1310/1490/1550		1270-1610 CWDM Wavelength	
Insertion Loss (dB)	Max 0.25	Typ 0.18	Dual. Max 0.45	Dual. Typ 0.3
Isolation (dB @ 23°C)	Min 35	Typ 40	Dual. Min 55	Dual. Typ 60
Isolation (dB @ -40~85°C)	Min 22	Typ 30	Dual. Min 40	Dual. Typ 50
Power Handling (mW)	> 300		> 300	
Work Temperature (°C)	-40~85		250°C /Intermittent	
Storage Temperature (°C)	-40~85		100°C /Continuous	
Quality(hrs)	Telcordia Compliant > 2000hrs		Telcordia Compliant > 3000hrs	

### Ordering Information

FSI	XX	X	X	X	X
	Wavelength	Stage	Clear Aperture	Size	Packaging
FSI	31=1310 49=1490 55=1550	S=Single D=Dual W=With Waveplate	7=Φ0.7 8=Φ0.85 9=Φ0.95	1=1.5*1.5 2=3.0*3.0 Customized	S=Square U=U Shape D=Diamond Shape