IS3500 Series
Polarization Independent
Two-Stage Isolators

Description

The IS3500 Series of miniature two-stage optical isolators are fully qualified, high-performance polarization insensitive components. They are designed to provide very high isolation in combination with low insertion loss, polarization dependent loss (PDL), and polarization mode dispersion (PMD) over full temperature and wavelength ranges. Their excellent characteristics make them highly suitable for field applications and laboratory use.

Isolators optimized for operation around 1310 nm, 1480 nm, and L-band or pigtailed with polarization maintaining fiber are also available.

Key Features

- Compact size
- Low insertion loss, PDL, and PMD over entire temperature and wavelength ranges
- Very high isolation and return loss
- Designed for stable and highly reliable performance

Applications

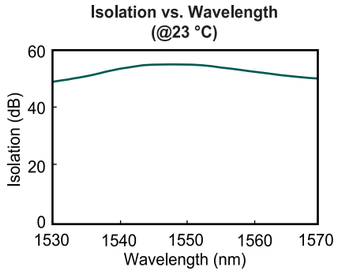
- Optical amplifiers
- Cable television systems
- Fiber ring lasers
- Testing of light sources and components

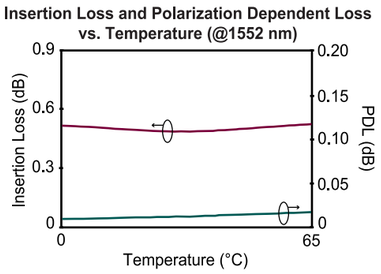
MKT-DS-0034 Rev. C 02/99 Printed in Canada

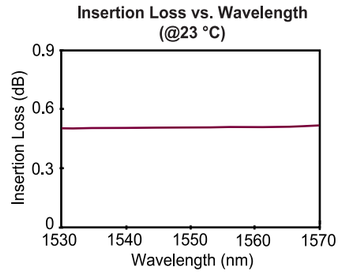
JDS FITEL Inc.
570 West Hunt Club Rd.
Nepean (Ottawa), Ontario
K2G 5W8 CANADA

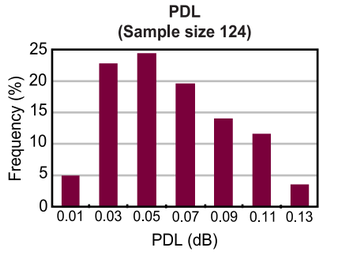
Tel. (613) 727-1303
Fax. (613) 727-8284
sales@jdsfitel.com
www.jdsfitel.com

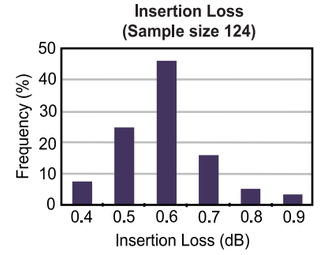
Typical Performance

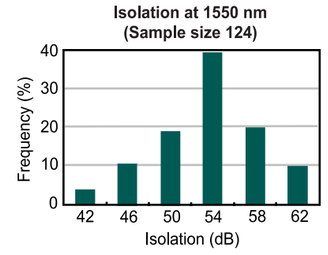












Specifications

Parameter		Premium Grade	Standard Grade
Model		IS3500+1P	IS3500+1S
Operating wavelength (λ)		1530 to 1570 nm	
Typical insertion loss[1]		0.5 dB	0.7 dB
Maximum insertion loss[1]	over λ, 0 to 60 °C over all states of polarization	0.7 dB	0.9 dB
Typical peak isolation		55 dB	50 dB
Minimum isolation	over λ, @23 °C	45 dB	40 dB
Typical polarization dependent loss		0.04 dB	0.08 dB
Maximum polarization dependent loss	over λ, 0 to 60 °C	0.1 dB	0.15 dB
Maximum polarization mode dispersion	over λ, 0 to 60 °C	0.05 ps	0.05 ps
Minimum return loss		55 dB	50 dB
Maximum optical power		300 mW	
Operating temperature		0 to 60 °C	
Storage temperature		-40 to 85 °C	
Dimensions (cylindrical DxL)		5.5 x 34.0 mm	

Isolators optimized for operation around 1310 nm, 1480 nm, and L-band or pigtailed with polarization maintaining fibers are also available.

1. Measured without connectors.

Qualification and Reliability Tests

Type of Test	Conditions	Duration
Damp heat	85 °C and 85% RH	336 hours
Temperature humidity cycling	-40 to 75 °C, 80% RH at 32 °C, 1 hour dwell	42 cycles
Water immersion	43 °C, pH 5 to 6	168 hours
Vibration	10-55-10 Hz in 4 minutes, amplitude 0.06 in	30 cycles x 3 axis
Impact	500 G, 8 impacts x 3 axis	1 cycle
Cable retention	0.45 kg for 1 minute	3 pulls/fiber

Two-stage isolators are qualified to GR-1221-CORE by similarity with fully qualified single-stage isolators and hybrid components.

Ordering Information

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form your part number. For more information on this or other products and their availability, please contact your local JDS FITEL sales representative or JDS FITEL directly at (613)727-1303, by fax at (613)727-8284, or via e-mail at sales@jdsfitel.com.

Sample: IS3500+1SA1.5NC

IS3500 +1 □ □ □ . □ □ □

Code	Fiber Type (all ports)
A	9/125/250 µm Corning SMF-28[1]
E	9/125/900 µm tight buffer[2]
D	9/125/900 µm clear Hytrel loose tube[2]

Code	Typical Fiber Length (all ports)
0.5	0.5 meters
1.0	1.0 meter[1]
1.5	1.5 meters
2.0	2.0 meters

Code	Connector Type (all ports)
NC	No connector[1]
FP	FC/PC
FA	FC/APC
SC	SC/PC
SU	SC/APC
SP	ST/PC

Code	Grade
S	Standard
P	Premium

1. Standard
2. Recommended with connectorized devices.