1310/1550 Single Mode Dual Stage Optical Isolator

DATASHEET

BUY NOW

The OISM Series 1310/1550 dual stage optical Isolator is a passive device that guides light at 1310/1550 nm in the normal direction while minimizing back reflection and back scattering in the reverse direction for any state of polarization. Employing Agiltron's proven advanced micro optics design, it features low insertion loss, extremely high isolation, compact structure, and high stability. These Telcordia qualified components have excellent characteristics, making them an ideal choice for application in fiber amplifier systems, pump laser diodes and optical fiber sensors.

Features

- Low Insertion Loss
- High Isolation
- Low PDL
- High Reliability
- Low Cost

Specifications

Parameter		Min	Typical	Max	Unit
Operation Wavelength (λo)	1310			1310 ± 15	nm
	C Band			1550 ± 15	nm
	L Band			1585 ± 15	nm
Typical Insertion Loss (λc, 23°C, no connector)		0.4		0.45	dB
Maximum Insertion Loss (Over λo, 23°C, no connector)		0.5		0.6	dB
Minimum Isolation (Over λo, 23°C)		40		45	dB
Typical Peak Isolation (λc, 23°C)		50		55	dB
Polarization Dependent Loss				0.1	dB
Polarization Mode Dispersion				0.05	ps
Return Loss (Minimum, Input/Output)		55		60	dB
Operating Temperature		-5		70	°C
Storage Temperature		-40		+85	°C
Optical Power Handling				≤ 400	mW

Applications

- Optical Fiber Amplifier
- Pump Laser Source
- Fiber Optic Sensor
- Instrumentation

Note: For a polarized input light version, the isolation is optimized to block the light reflection of the same polarization. Although lights of other polarizations may also be blocked, the extinction may be poor. PM isolators can be specially made to block backward propagating lights of all polarizations. PM isolators can also be made with a light polarizing function.

Warning: **This is an OEM module designed for system integration. Do not touch the PCB by hand. The electrical static can kill the chips even without a power plug-in. Unpleasant electrical shock may also be felt. For laboratory use, please buy a Turnkey system.**

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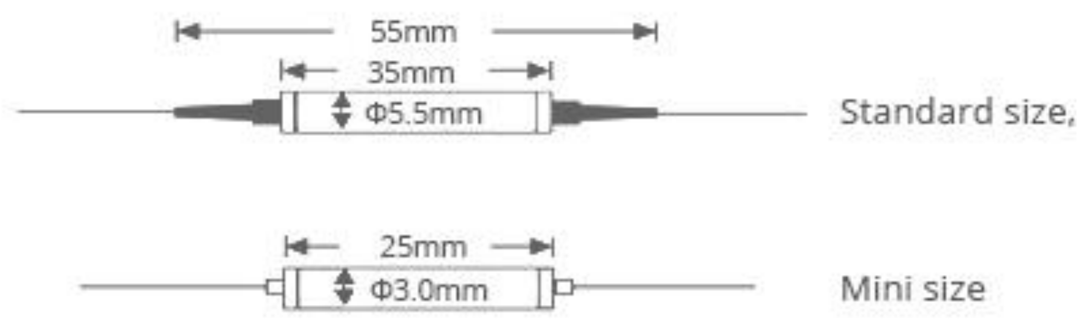
Mechanical Dimension



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information

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Prefix	**Type**	**Wavelength**	**Grade**	**Package**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector**
OISM-	Dual stage = 20	1310 = 3 C Band = C L Band = L Special = 0	Standard = 1 Special = 0	Ø5.5x35 = 1 Ø3.0x30 = 2 Ø3.0x25 = 3 Special = 0	SMF-28 = 1 Special = 0	Bare Fiber = 1 900µm Loose Tube = 3 Special = 0	0.25m = 1 0.5m = 2 1.0m = 3 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 LC/APC = A LC/UPC = U Special = 0

Application Notes

Fiber Core Alignment
Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness
Fibers with smaller core diameters (<5 µm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power
Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the how handling by expanding the core side at the fiber ends.

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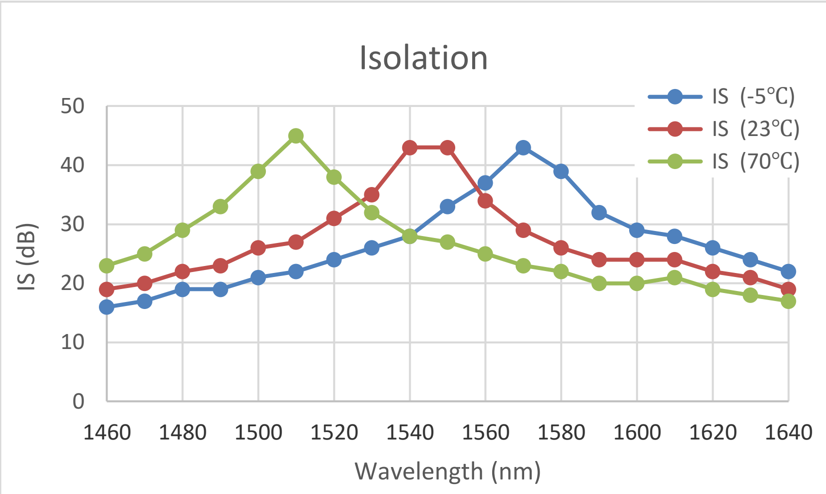
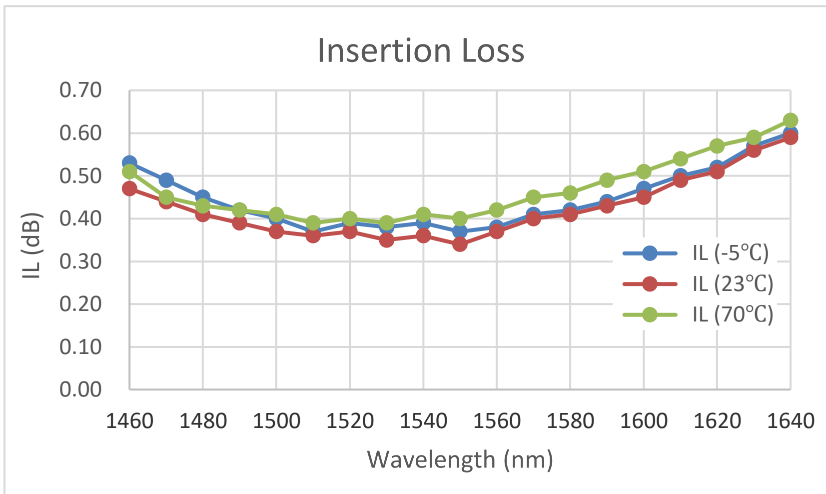
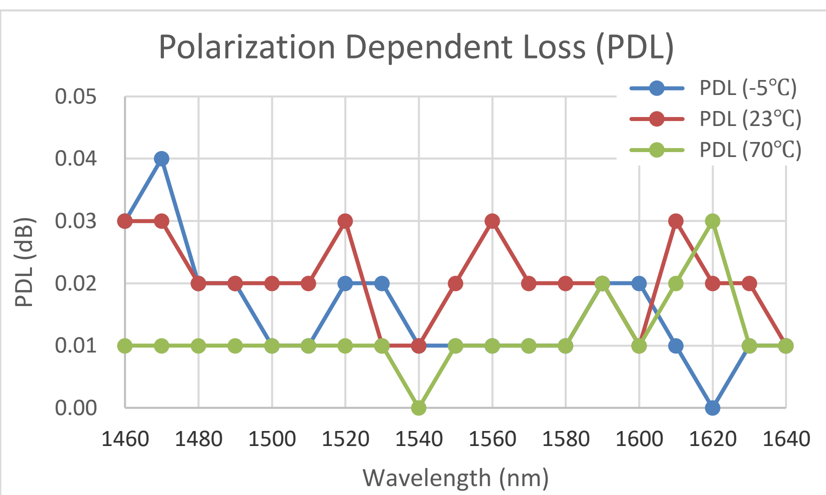
Typical Wavelength Dependence for Single Stage







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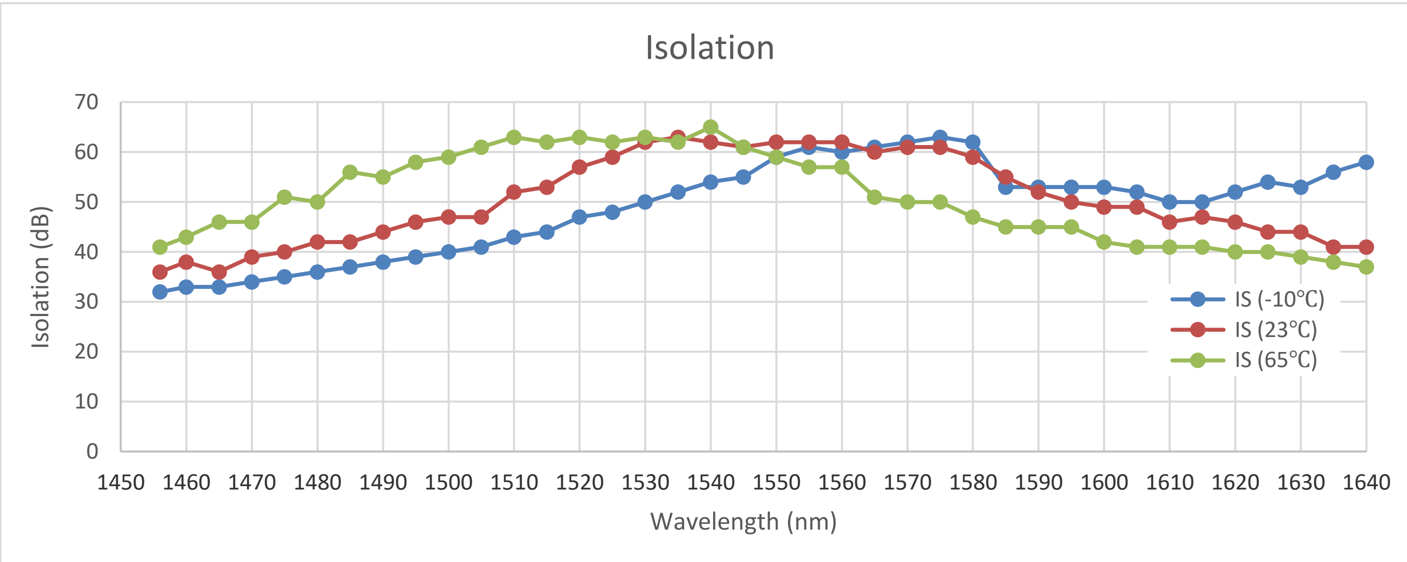
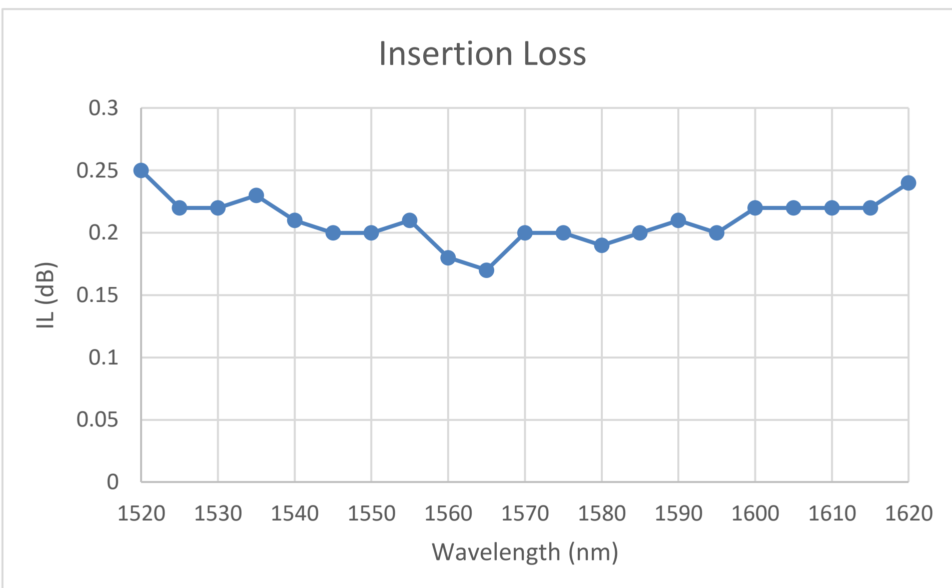
Typical Wavelength Dependence for Dual Stage





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Typical Wavelength and Temperature Dependence