

# High Power 850/980/1060 Fiberoptic Isolator

(up to 10W CW)

(patents pending)



DATASHEET

BUY NOW



The OI Series High Power Optical Isolator is designed for high power applications by guiding light in the normal direction while block back reflection the reverse direction. With Agiltron's proprietary in-fiber beam expansion technology that scale down the power density, these components can intrinsic handle optical power beyond 20W. With our proprietary magnetic-optics technology and proven advanced micro optics design, it features low insertion loss, high isolation, compact structure, and high stability. They are tested under high power before shipping. This product has leading industrial performance. The OI isolator can be made using a variety of fibers including HI980, HI1060, LMA and other double cladding fibers. Customized designs are available to meet special applications.

## Features

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

## Applications

- Optical Fiber Amplifier
- Pump Laser Source
- Fiber Optic Sensor
- Test and Measurement
- Instrumentation

## Specifications

Parameter	Min	Typical	Max	Unit
Operation Wavelength	840	850	860	nm
	970	980	990	
	1050	1060	1070	
Insertion Loss <sup>[3]</sup>		0.8	1.2	dB
Wavelength Dependent Loss			0.2	dB
Isolation <sup>[2]</sup>	25	30		
Polarization Dependent Loss (PI only)		0.1	0.2	dB
Polarization Mode Dispersion (PI only)			0.2	ps
Extinction Ratio (PM only)	20	25		dB
Return Loss	50			dB
Optical Power Handling		Up to 5		W <sup>[1]</sup>
Storage Temperature	-10		60	°C
Fiber Type	See order information			

### Notes:

- [1]. Continue power level. For pulse application, please call.
- [2]. Back Reflect <10%. For >10% application, please call us.
- [3]. Excluding connectors.

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Rev 01/20/24

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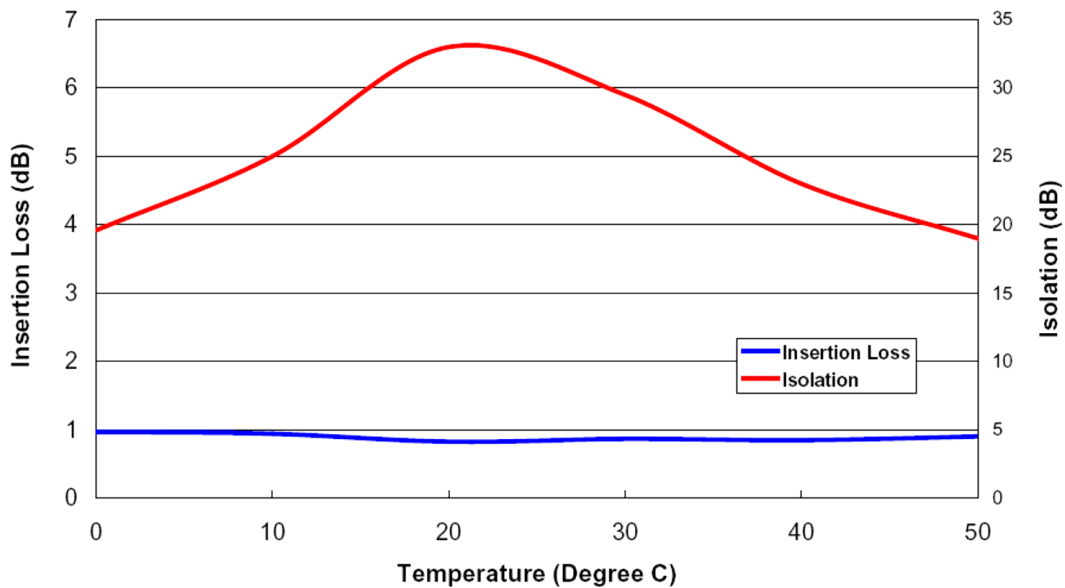
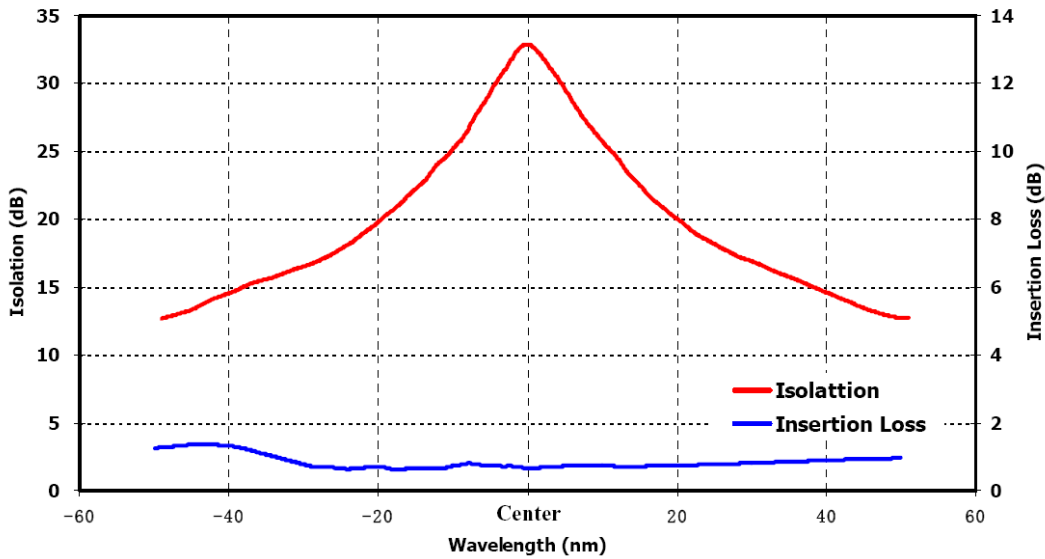
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### Optical Performance



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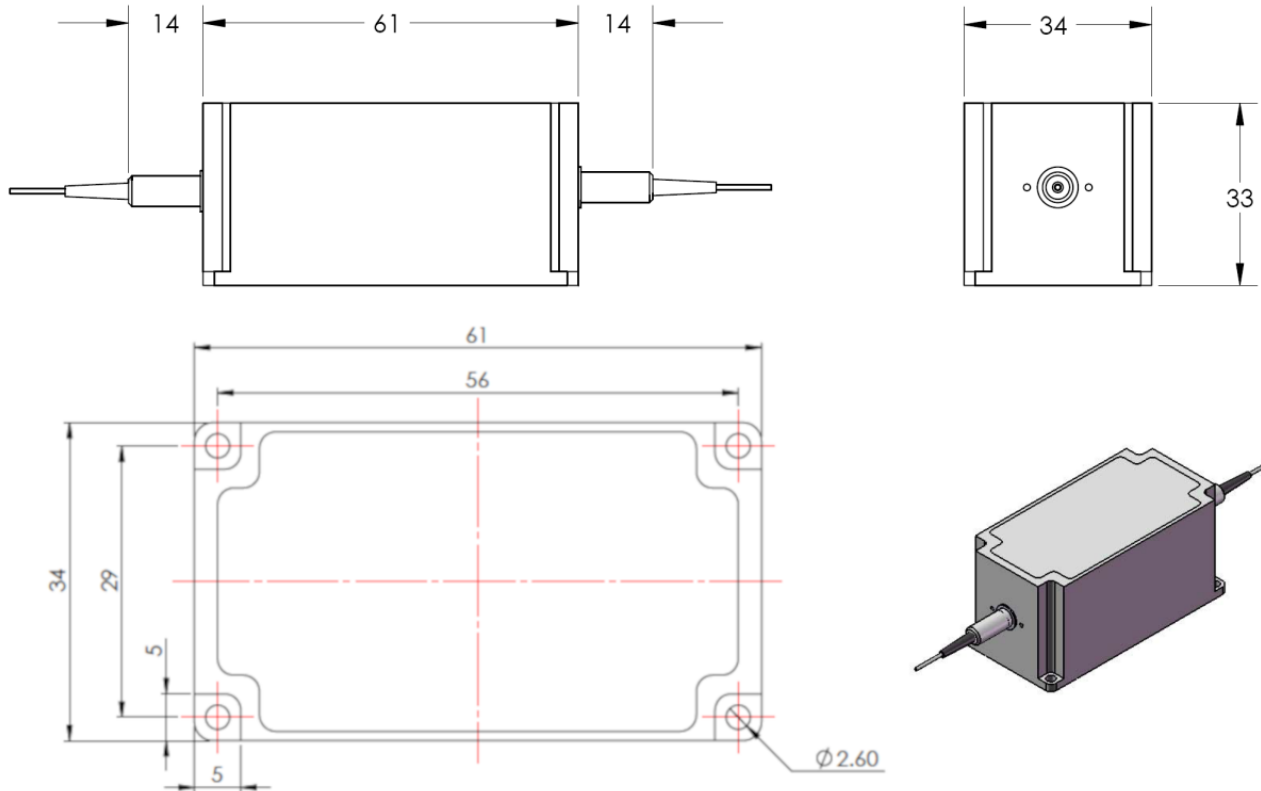
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### Mechanical Dimensions: Standard (Mini/850) Unit: mm



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

### Ordering Information (Part Number)

Prefix	Configuration	Wavelength	Grade	Package	Fiber Type	Fiber Cover	Fiber Length	Connector <sup>[1]</sup>
<b>OIST-</b>	HP Polarization Independent = 31 HP Polarization Maintaining = 32 Special = 30	1060 = 1 850 = 8 980 = 9 Special = 0	1W = 1 2W = 2 5W = 5	Standard = 1 Special = 0	HI1060 = 2 HI980 = 9 PM980 = E Special = 0	0.9mm tube = 3 Bare fiber = 1 Special = 0	0.25m = 1 0.5m = 2 1.0m = 3 Special = 0	1*

\* Agiltron provide high power connector, please call.

[1]. The connector cannot be installed directly onto bare fiber, as it is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer can remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SM28 fiber and decreases further with smaller core fibers.

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## Application Notes

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### 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 ( $<5 \mu\text{m}$ ) 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 handling by expanding the core side at the fiber ends.