

Mini Fiber Optical 1060nm Circulator



This Series Bi-substituted Iron Garnet based 1060nm optical circulators are non-reciprocal devices that redirect light at 1060 nm from port-to-port in only one direction while minimizing back reflection and back scattering in the reverse directions. With Agiltron's proprietary magnetic-optics technology and proven micro optics design, it features in low insertion loss, high isolation, compact structure, high power handling, and high stability. The excellent characteristics of this product make it an ideal choice for application where space is constrained. Agiltron also provides customized design to meet special applications.

Features

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

Applications

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

Specifications

Parameter	Min	Typical	Max	Unit
Operation Wavelength	1060	1064	1070	nm
Insertion Loss ^[1]		1.5	2.0	dB
Wavelength Dependent Loss			0.2	dB
Isolation	23	28		dB
Polarization Dependence Loss (SM)			0.3	dB
Extinction Ratio (PM)	20	25		dB
Cross Talk	45	50		dB
Return Loss	50			dB
Optical Power Handling			300	mW

Notes:

[1]. Excluding connectors

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.

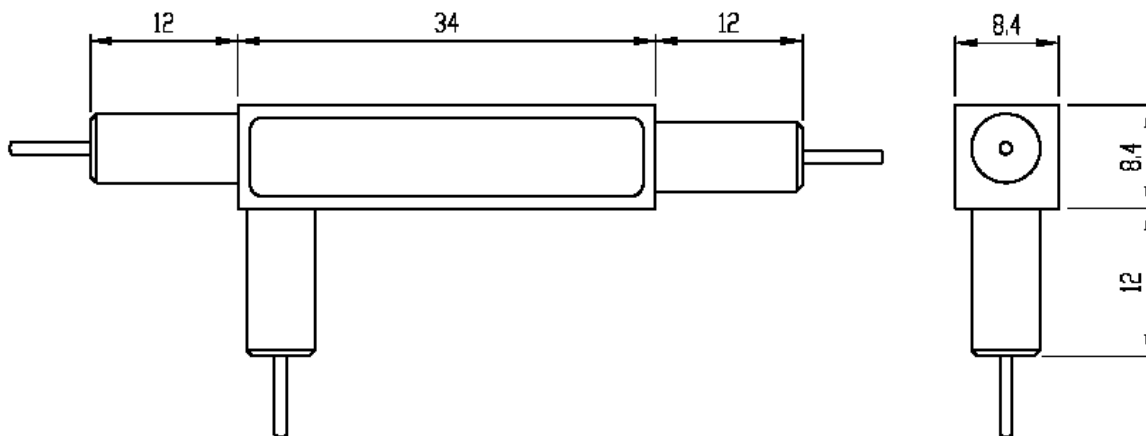
Legal notices: All product information is believed to be accurate and is subject to change without notice. Information contained herein shall legally bind Agiltron only if it is specifically incorporated into the terms and conditions of a sales agreement. Some specific combinations of options may not be available. The user assumes all risks and liability whatsoever in connection with the use of a product or its application.

Rev 03/29/24

Mini Fiber Optical 1060nm Circulator

DATASHEET

Mechanical Dimensions (mm)



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

Ordering Information

Prefix	Type	Wavelength	Grade	Power	Fiber Type	Fiber Cover	Fiber Length	Connector
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OCSB-	Polarization Independence = 11 Polarization Maintaining = 12 Polarizing = 13	1060 = 1 Special = 0	Standard = 1 Special = 0	0.3W = 1 1W = 2	Hi1060 = 2 PM980 = E Special = 0	0.9mm tube = 3 3mm tube = 4 Bare fiber = 1	0.25m = 1 0.5m = 2 1.0 m = 3 1.5m = 4 2.0m = 5 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

Mini Fiber Optical 1060nm Circulator



DATASHEET

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 ($<5 \mu\text{m}$) 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.