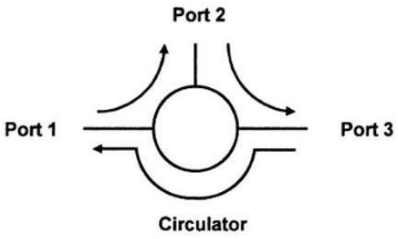
2 µm PM High Power Fiber Circulator

(1, 2, 5W)

DATASHEET

BUY NOW

This 2 µm PM fiber optical circulator is a three port passive device that transmits high power light from one port to another port in one direction while directs light propagating in the reverse direction to a third fiber port for any state of polarization. Agiltron's proprietary magnetic-optics technology and advanced micro-optic technique enable industrial leading performance in compact size, power handling, low loss, reliability, and low cost. Agiltron currently provides a full range of polarization-independent, polarization maintaining, and custom design versions with a broad wavelength coverage. We have experience to incorporate special fibers.



Features

- High Power Handling
- Low IL, PDL &TDL
- High Isolation
- High Reliability
- Cost Effective

Applications

- Laser Pump Source
- Optical Fiber Amplifier
- Laser Manufacturing
- Test and Measurement

Specifications

Parameter		Min	Typical	Max	Unit
Operation Wavelength		1950	2000	2040	nm
Insertion Loss [1], [2]			1.5	2 [3]	dB
PDL (Single mode)				0.1	dB
Extinction Ratio (PM fiber)		18	20		dB
Return Loss [1]		50			dB
Isolation	Single State	20 [4]	25	30	dB
	Dual State	40	50	55	
Optical Power Handling CW [5]				5	W
ns Pulse Peak Power Handling				10	kW
Operating Temperature		-5		70	°C
Storage temperature		-40		85	°C

Notes:

[1]. Excluding connectors.

[2]. Using fiber centered at the operation band reduces loss

[3]. Longer wavelength has higher loss due to material absorption

[4]. Measured at the center wavelength

[5]. Back Reflect < 10%. For >10% application, please call us.

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.

Rev 04/02/24

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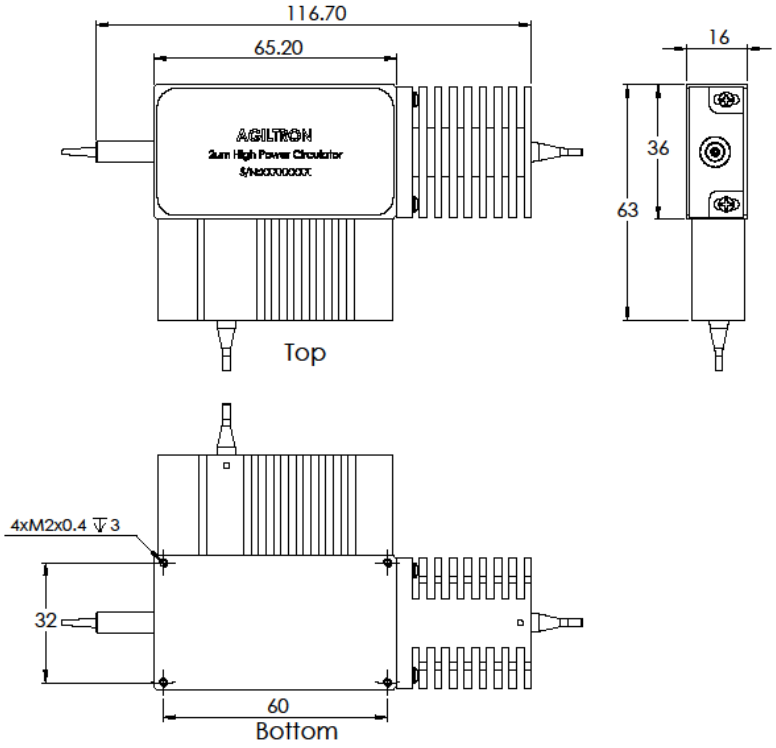
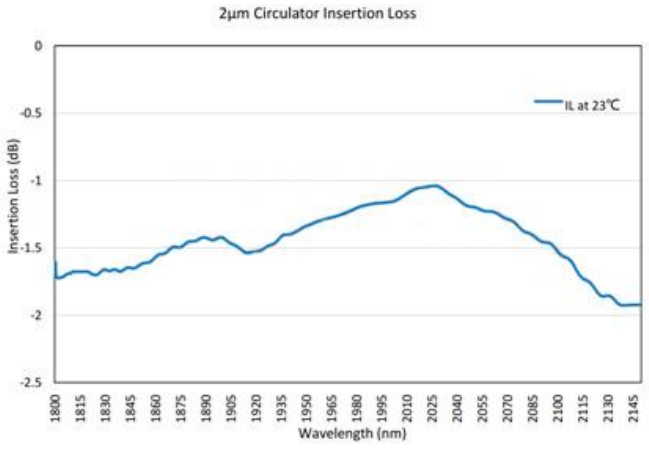
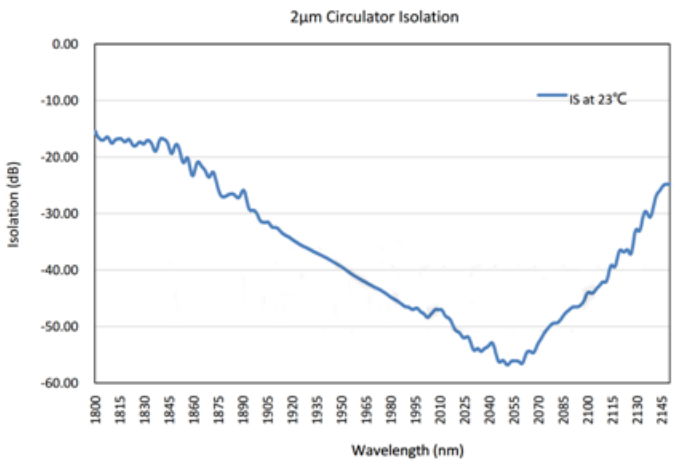
Mechanical Footprint Dimensions (mm)



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

Typical Optical Spectrum Dual Stage





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Ordering Information

	☐	☐	☐	☐	☐	☐	☐	☐	☐
Prefix	**Stage**	**Type**	**Wavelength**	**Power handling**	**Working Axis**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector**
HPPC-	Single = A Dual = B	CW = C Pulse = P	1950 = 1 2000 = 2 Special = 0	0.3W = 0 1W = 1 2W = 2 5W = 5	Fast Axis Blocked = F Both Axis working = B	PM1550 = 1 PM1950 = 2 PM2000 = 3	Bare fiber = 1 900um tube = 2 3mm 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.