

800nm conventional polarization-dependent free-space optical isolator A07 package



● Product Description

Free-space optical isolators can be divided into two types: polarization-dependent and polarization-independent.

Polarization-dependent isolators, also known as Faraday isolators, consist of three parts: a polarizer, a Faraday rotator, and an analyzer (which is oriented at a 45° angle to the polarizer's axis). Polarization-independent isolators primarily consist of a birefringent crystal (or polarizer), a Faraday rotator, and a half-wave plate. These are commonly used in fiber lasers and are effective at maintaining the stability of optical systems. These isolators



use high-quality magneto-optical crystals, offering low absorption, high extinction ratio, and low loss. The products feature excellent and reliable performance, with a peak isolation of up to 45 dB, a maximum aperture of 45 mm, and typical transmission values reaching 95%. Customization is available for all product

● Product features

Polarization-dependent design achieves high isolation; low insertion loss; free-space optical path structure; high damage threshold suitable for medium-to-high power lasers; A07 standard package compact and easy to integrate

● Part Number

MP-ISO-S-800-C-S-10-S

● Application area

Laser precision processing、 Laser sensing systems、 Ultrafast laser systems、 OCT Systems、 Laser detection

● Core parameters

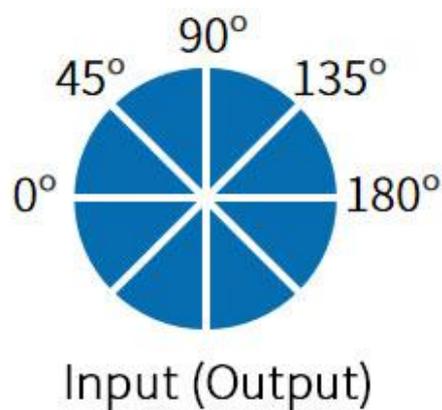
Wavelength	Peak Isolationr	Optical Power	Clear Aperture
800nm	>30dB	10W	10mm

● General Parameters

Polarization state reference

All models of free-space isolators will non-reciprocally rotate the polarization state by 45° along the polarization plane.

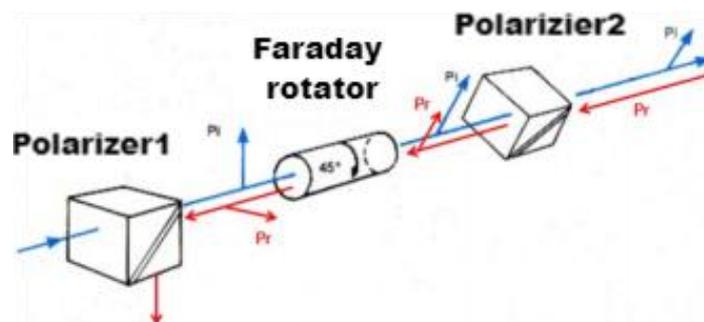
An additional $1/2$ waveplate can be provided upon request to alter the output polarization state.

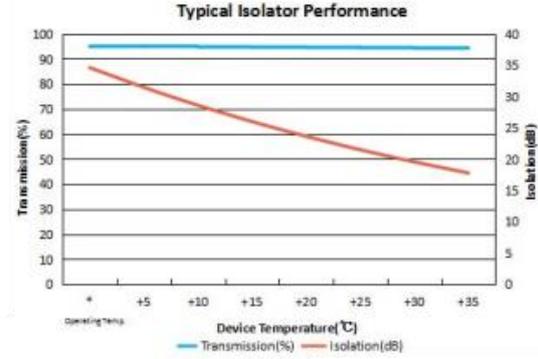
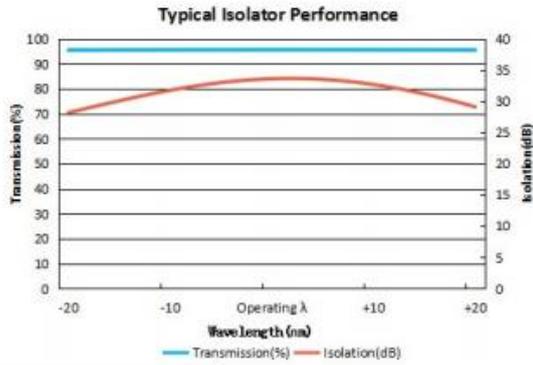


Polarization-dependent isolators beam selection

Forward transmission polarization beam P_i

Reverse transmission polarization beam P_r





A04 (Aperture $\leq 5\text{mm}$) package

Type(t)	Power(p)	Aperture(a)	Wavelength(λ)	Waveplate(w)	Package(h)
FS (Standard)	1W	2 mm	550-880nm*	C (Contain)	A03*
	5W	3 mm	355 nm		A04
DS (Dual-stage)	30W	4 mm	405 nm	N (Not Contain)	A06
	50 W	5 mm	532 nm		A08
AB (Adjustable bandwidth)	100 W	8 mm	633 nm	N (Not Contain)	A23
	500W	10 mm	780 nm		A31
	...	12 mm	850 nm		...



		15 mm	980 nm		
		25 mm	1030 nm		
		45 mm	1064 nm		
			1319 nm		
		...	1550 nm		
			2000 nm		
			4500 nm		
			...		

*Only applicable to the adjustable bandwidth type

**500 W is only applicable under the 1030/1064 nm wavelength condition.

Typical indicator reference				
Aperture Size	Damage Threshold	Power Handling	Transmission	Peak Isolation
2~15 mm	3J/cm ² at 10ns @(532~980)nm	50W	>93%*, > 90%**	>33 dB*, >45 dB**
2~10 mm	10J/cm ² at 10ns @(1319~2000)nm	50W	>93%	>33 dB
15~25 mm	10J/cm ² at 10ns @1030/1064nm	500W	>93%	>33 dB



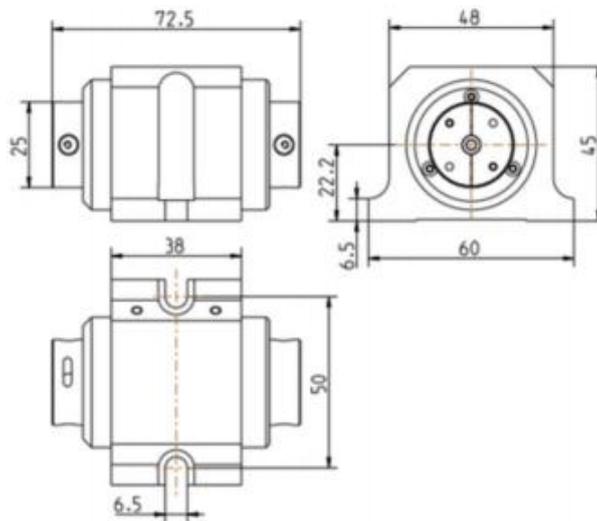
The operating temperature range for the product is 10°C to 30°C.

* Only applicable to conventional isolators.

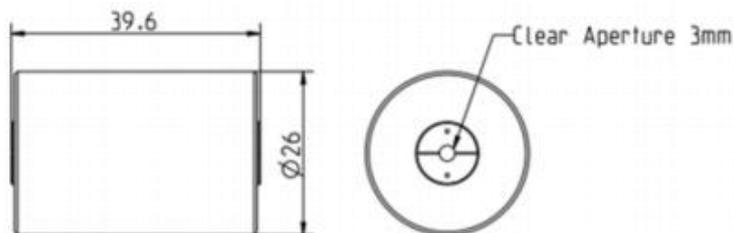
**Only applicable to dual-stage isolators.

Packaging Dimension Diagram (mm)

A04 (Aperture ≤ 5mm)



A46 (Compact, 1064nm)



Type(t)	Power(p)	Apertur e(a)	Waveleng th(λ)	Wavelength(w)	Waveplate(h)
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PI (Polarization-Insensitive)	50W	1.5 mm	980 nm	C (Contain)	A16
	100W		1030 nm		A29
	500 W	5 mm	1064 nm	N (Not Contain)	A38
	1000W	8 mm	1064 nm		A41

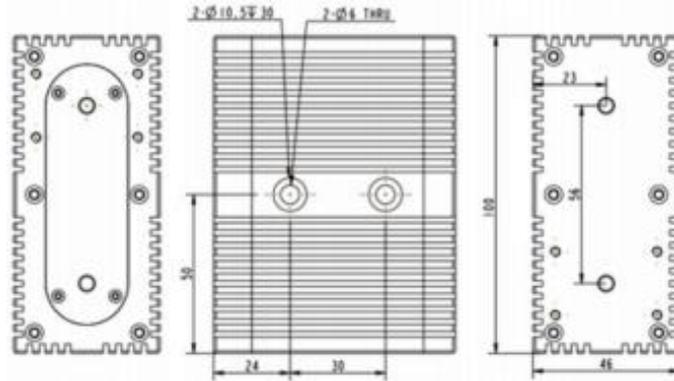
Typical Specifications Reference				
Aperture	Damage Threshold	Power Handling	Transmission	Peak Isolation
1.5 mm	10J/cm ² at10ns @(980~1064)nm	50W	>93%	>33 dB
5 mm	10J/cm ² at10ns @(980~1064)nm	100W	>93%	>33 dB
8 mm	10J/cm ² at10ns @(980~1064)nm	1000W	>93%	>33 dB

* The operating temperature range for the product is 10°C-30°C

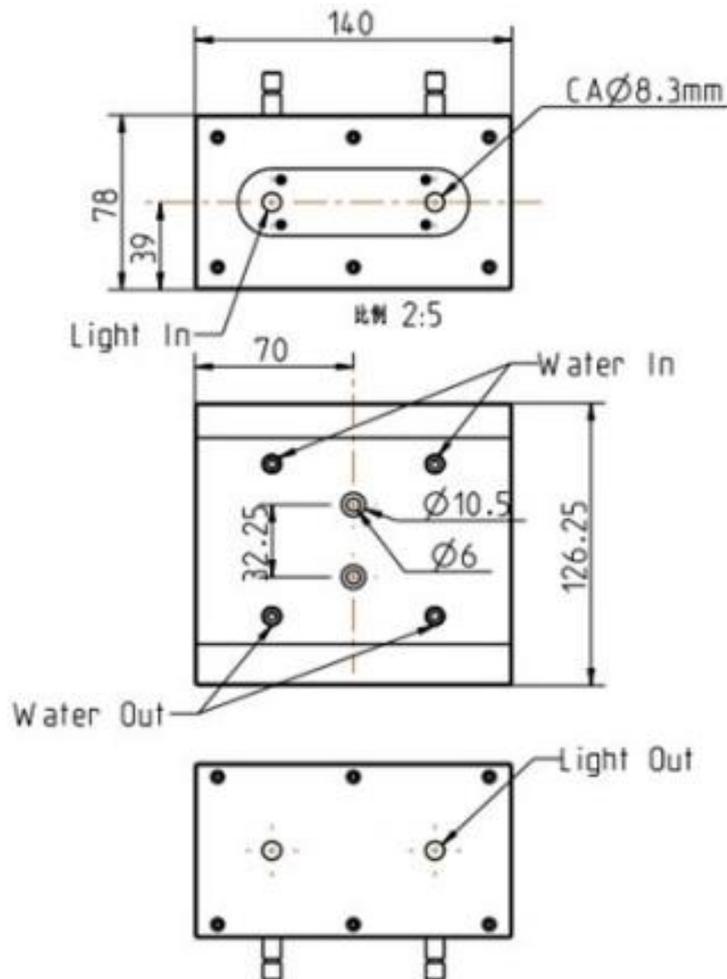


Packaging Dimension Diagram (mm)

A16 (Aperture $\leq 5\text{mm}$)



A41 (Aperture ≤ 8 , water-cool)





Parameters

Wavelength	800nm±10nm
Peak Isolation	>30dB
Transmission	>90%
Optical Power(Average)	10W
Clear Aperture	10mm
Max Power Density	100W/cm ²
Input Polarization	Horizontal or Vertical
Output Polarization	Horizontal or Vertical or Adjustable
Operating Temperature	10-30°C
Storage Temperature	-10-60°C

Reliability Test:

Test Item	Condition	Frequency	Sampling
High-low temperature cycle test	Temperature -20°C~ 70°C, total time ≥24 hours	1 / batch	/



Dimensions

