

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 products.

● 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

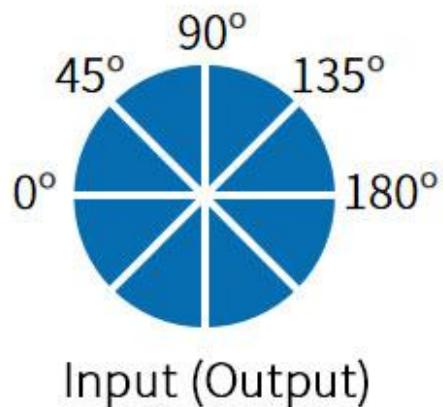
Wavelength	Peak Isolationr	Optical Power	Clear Aperture
800nm	>30dB	10W	10mm

● General Parameters

Polarization state reference

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

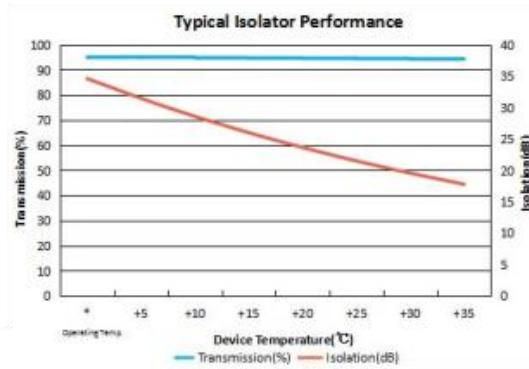
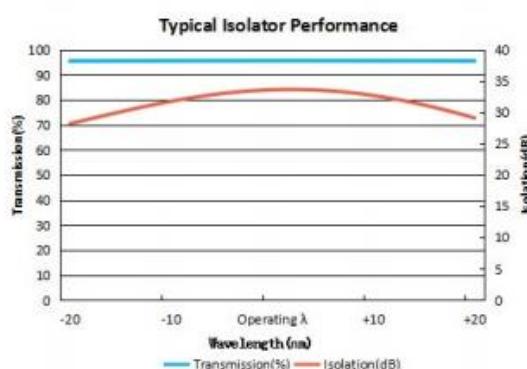
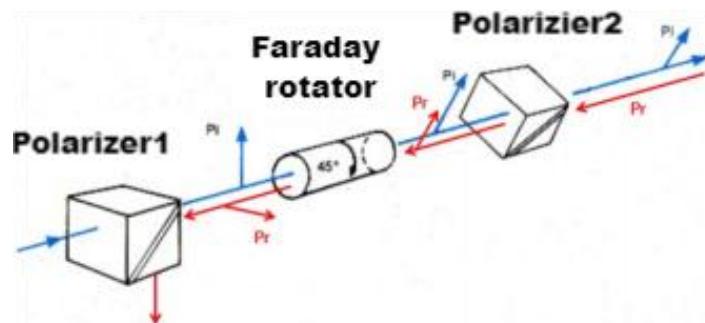
An additional 1/2 waveplate can be provided upon request to alter the output polarization state.



Polarization-dependent isolators beam selection

Forward transmission polarization beam P_i

Reverse transmission polarization beam P_r



A04 (Aperture ≤ 5mm) package

Type(t)	Power(p)	Aperture(a)	Wavelength(λ)	Waveplate(w)	Package(h)
FS (Standard)	1W	2 mm	550-880nm*	C (Contain)	A03*
		3 mm	355 nm		
		4 mm	405 nm		
	5W	5 mm	532 nm	N (Not Contain)	A04
		8 mm	633 nm		
		10 mm	780 nm		
DS (Dual-stage)	30W	12 mm	850 nm	A06	
		15 mm	980 nm		
	50 W		1030 nm		
AB (Adjustable bandwidth)	100 W			A08	A23
	500W				
	...				A31
					...

		25 mm	1064 nm		
		45 mm	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

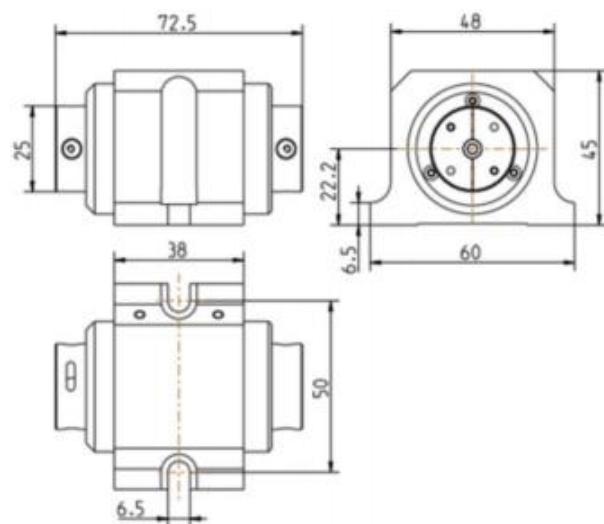
The operating temperature range for the product is 10°C to 30°C.

* Only applicable to conventional isolators.

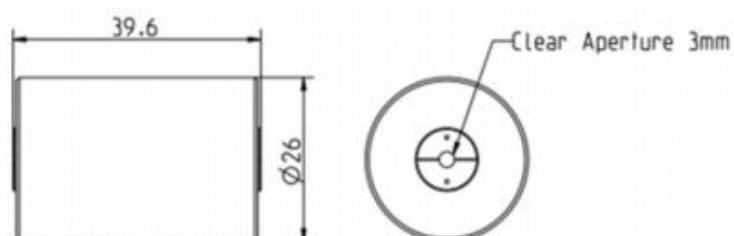
**Only applicable to dual-stage isolators.

Packaging Dimension Diagram (mm)

A04 (Aperture≤5mm)



A46 (Compact, 1064nm)



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

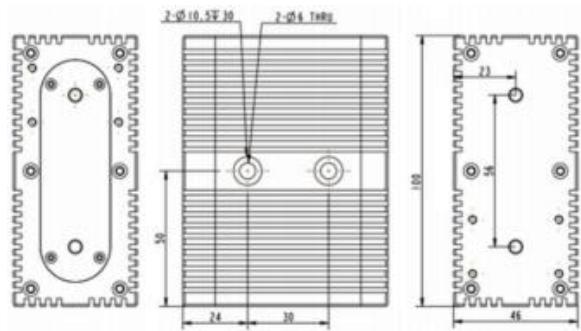
Typical Specifications Reference				
Aperture	Damage Threshold	Power Handling	Transmission	Peak Isolation
1.5 mm	10J/cm ² at 10ns @(980~1064)nm	50W	>93%	>33 dB
5 mm	10J/cm ² at 10ns @(980~1064)nm	100W	>93%	>33 dB
8 mm	10J/cm ² at 10ns @(980~1064)nm	1000W	>93%	>33 dB

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

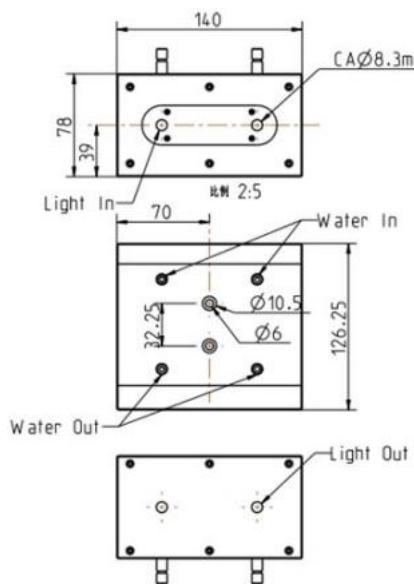


Packaging Dimension Diagram (mm)

A16 (Aperture≤5mm)



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/cm²
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

