

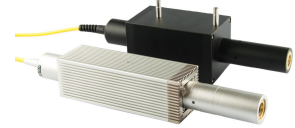
# Fiber-Free Space Isolators

**Fiber-Free Space Isolators** can be divided into two categories according to its output mode: non-expanded-beam isolator and expanded-beam isolator.

**Non-expanded-beam isolator** consists of birefringent crystal, Faraday rotator, half-wave plate or polarizer and collimator. It's usually used in the fiber laser system to maintain the stability of optical system effectively.

**Expanded-beam isolator** consists of collimator, birefringent crystal, Faraday rotator, half wave plate or polarizer and beam expander. The output beam is characterized by good beam quality and small divergence angle.

CASTECH utilizes the high-quality crystals and optical components to fabricate Fiber-Free Space Isolators with great performance. The power ranges from 300mW to 200W. The products are featured with high isolation (33dB for single-stage series and 50dB for dual-stage series), low insertion loss, excellent environmental stability and low thermal lens effect. The beam expander helps customers adjust systems magnification with high-quality beam quality output.



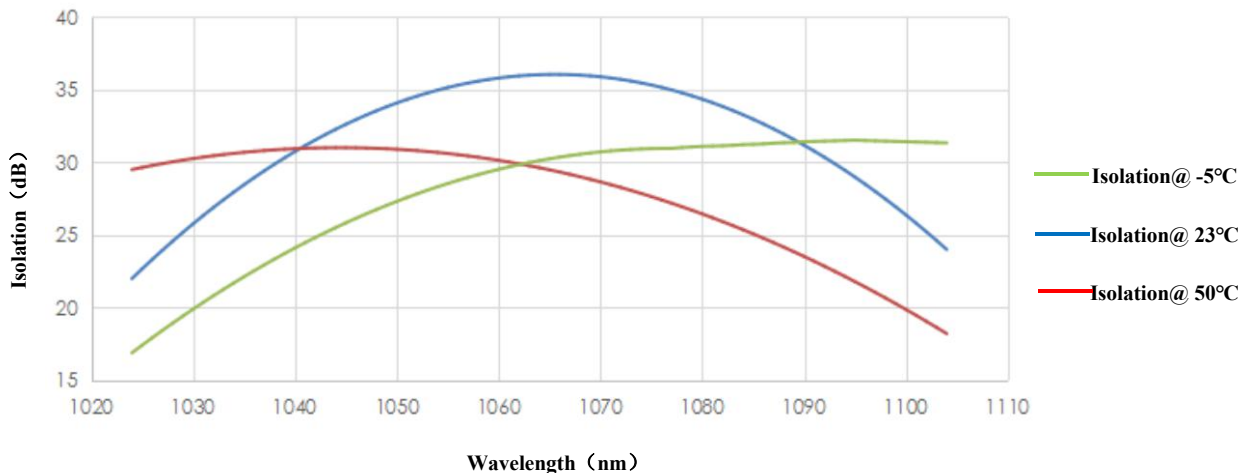
## Applications

• Fabrication of fiber laser

• Optical fiber sensor

• Laser gauge

Typical Isolator Performance



# Fiber-Free Space Isolators

## Non-Expanded-Beam Type Model Number: HPISO-t-p-f-λ-e-b-s-d-h

Type(t)	Power(p)	Fiber Type(f)	Wavelength (λ)	Pigtail Diameter(e)	Beam Diameter(b)	Stage(s)	Spot Shape(d)	Housing(h)	
FF (NonExpan ded Beam)		1 (10/125SCF)	980 nm	C (6mm Armored Cable)	0.3 mm	S (Single)	G (Gauss)	A08 A09 ...	
	1 W	2 (20/130DCF)		E (8 mm Armored Cable)					0.5 mm
	5 W	3 (12/250SCF)		H (10 mm Armored Cable)					0.7 mm
	30 W	4 (20/250DCF)		L (900 μm Loose Tube)					1.0 mm
	50 W	5 (30/250DCF)		N (Bare fiber)					2.0 mm
	70 W	6 (PM 980)		...	D (Dual)	F (Flat-top)			
	100 W	...							
	200 W								
	500 W								
	...								

## Typical Specifications

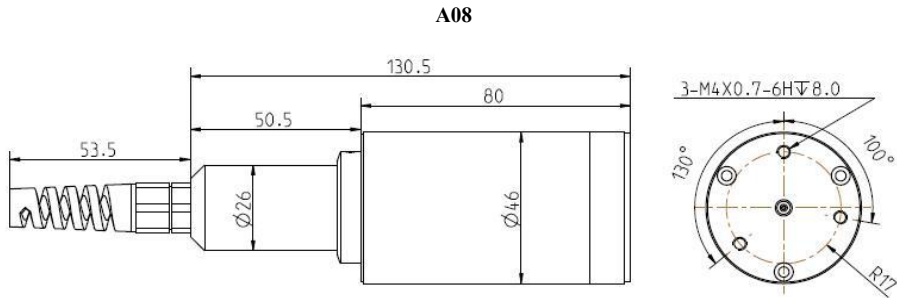
Withstand Power	Damage Threshold (10 ns, 10 Hz)	Transmission	Peak Isolation
50 W	10 J/cm <sup>2</sup> @1064 nm	>93 %*, >90 %**	>33 dB*, >50 dB**
100 W	10 J/cm <sup>2</sup> @1064 nm	>93 %*, >90 %**	>33 dB*, >50 dB**
500 W*	10 J/cm <sup>2</sup> @1064 nm	>93 %	>33 dB

Operating temperature range: 10°C-30°C.

\* Only applicable to single-stage isolator

\*\*Only applicable to dual-stage isolator

## Housing dimensions(mm):



# Fiber-Free Space Isolators

Expanded-Beam Type Model Number: HPISO-t-p-f-λ-e-b-s-d-h

Type(t)	Power (p)	Fiber Type(f)	Wavelength(λ)	Pigtail Diameter(e)	Beam Diameter(b)	Stage(s)	Spot Shape(d)	Housing(h)
EB (Expanded Beam) WLP* (With Laser Pointer)	1 W	1 (10/125SCF)	980 nm 1030 nm 1064 nm 1080 nm 2000 nm ..	C (6 mm Armored Cable)	5 mm 6 mm 7 mm 8 mm 9 mm 10 mm 11 mm ...	S (Single) D (Dual)	G (Gauss) F (Flat-top)	A02 A05 A28 A36 A40 ...
	5 W	2 (20/130DCF)		E (8 mm Armored Cable)				
	30 W	3 (12/250SCF)		H (10 mm Armored Cable)				
	50 W	4 (20/250DCF)		L (900 μm Loose Tube)				
	70 W	5 (30/250DCF)		N (Bare fiber)				
	100 W	6 (PM 980)						
	200 W	...						
	...							

\*The red light indicator type is only applicable to single-stage isolators

## Typical Specifications

Withstand Power	Damage Threshold (10 ns, 10 Hz)	Transmission	M <sup>2</sup> Deterioration Rate	Peak Isolation
50 W	10 J/cm <sup>2</sup> @1064 nm	>92 %*, >90 %**	≤10%	>33 dB*, >50 dB**
100 W	10 J/cm <sup>2</sup> @1064 nm	>92 %*, >90 %**	≤10%	>33 dB*, >50 dB**
500 W	10 J/cm <sup>2</sup> @1064 nm	>92 %	≤10%	>33 dB

Operating temperature range: 10°C-30°C.

\* Only applicable to single-stage isolator

\*\*Only applicable to dual-stage isolator

## Housing dimensions(mm):

