

# CASTECH<sup>®</sup>

福晶科技

Stock Code-SSE: 002222



WWW.CASTECH.COM

## **Laser & Telecom Components**

**(2014 -2015)**

福建福晶科技股份有限公司  
CASTECH INC.

# 公司简介 INTRODUCTION



**CASTECH INC.** (CASTECH) was founded by Fujian Institute of Research on the Structure of Matter, Chinese Academy of Science in 1988. Thanks to long term interactive partnership with the leaders in laser system manufacturing industry and ongoing efforts of our employees, we have established the largest mass production lines in the world for LBO, BBO, Nd:YVO<sub>4</sub> crystals and Green Laser Kits, and implemented a complete quality control system for our products.

CASTECH is now a worldwide leading supplier of nonlinear optical crystals, laser crystals, precision optics, and a variety of laser/telecom components. Through vertical integration of the manufacturing process, our main products are fabricated in a cost-effective way with quality consistency. In CASTECH, there are Flux Crystal Growth production line, Czochralski Crystal Growth production line, Solution Crystal Growth production line, Crystal Orientation and Dicing workshop, Optical Polishing workshop and Optical Coating workshop with IBS, IAD or EB coating technique. Our commitments are backed by our huge manufacturing capacity.

CASTECH's quality system is ISO 9001:2000 certified. We have established a complete system for outgoing parts inspection. Our optical testing equipments include Zygo Interferometers, Perkin-Elmer Lambda 900, Nikon Microscope, Photo-Thermal Common-Path Interferometer, Prism Master C200, High Precision Transmission and Reflection Meter, and Ellipsometers. These equipments along with many others, ensure that we comply with all specifications for our products.

Today, over 80% of CASTECH's products are exported to USA, Japan, European and other Asian Market. We have established a global sales network. We have set up our agency and sales branches in the main industrial countries and districts.

Our mission is to deliver the best products and solutions to our customers in photonics industry, and help them to realize their full potential in business. Here at CASTECH, we value comity, integrity, honesty, and innovation.

# 发展里程

## Important Milestones of CASTECH

In 2013	CASTECH expanded its production lines for laser and telecom components including high power isolators, collimators, F-Theta Lens etc.
In 2012	CASTECH moved to the new facility.
In 2009	CASTECH began to build its new facility of total 40,000m <sup>2</sup>
In 2008	Fujian CASTECH Crystals, Inc. was renamed as "CASTECH Inc."
In 2008	CASTECH completed IPO in China Shenzhen Stock Exchange (SSE:002222).
In 2007	CASTECH expanded its production line of DPM crystals to 1 million pcs per year.
In 2006	CASTECH increased its capacity of optics production line.
In 2006	CASTECH was restructured to a joint-stock company.
In 2004	CASTECH acquired 30% shares of Hangzhou Keting Optical Technology Inc. with registration capital of 21 millions RMB.
In 2002	CASTECH acquired 55% shares of Qingdao CRYSTECH Inc., with registration capital of 11 millions RMB.
In 2002	CASTECH got the investment from Shenzhen Innovation Scientific and Technological Investment Co., Ltd., Shanghai Dingfeng Science & Technology Development Co., Ltd. and Fujian Huaxing investment company. The total registration capital reached 90 millions RMB.
In 2001	CASTECH passed ISO9001 international quality system authentication.
In 2001	CASTECH was restructured to a limited company with registration capital of 76.5 millions RMB.
In 1996	CASTECH obtained Japan patent (Patent number 2023845) for the LBO crystal component and its applications.
In 1992	CASTECH succeeded in developing Nd:YVO <sub>4</sub> and YVO <sub>4</sub> crystals for the first time in China, and began the volume production.
In 1990	The LBO product from CASTECH was evaluated as one of ten most important laser products by American laser magazine.
In 1990	Fujian CASTECH Crystals, Inc. was licensed to be founded officially, which entire capital was own by FIRSM.
In 1990	FIRSM obtained China patent (Patent No. 88 1 02084.2) for the LBO crystal component and its applications.
In 1989	FIRSM obtained U.S.A. patent (Patent No. 4,826,283) for the LBO crystal component and its applications.
In 1987	The BBO product from FIRSM was evaluated as one of ten most important products by American laser magazine.
In 1986	FIRSM offered the first BBO crystal to the customer.
In 1981	FIRSM began to export PET, ADP, KDP and KAP crystals to the U.S.A. customer.

# CONTENTS

## 01 Telecom Components

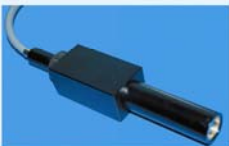


1. Polarization Insensitive Fiber Isolator (Single Stage) 1
2. Single Mode Single Fiber Collimator 3

## 02 High Power Isolators



1. High Power Collimator 5
2. Polarization Insensitive Fiber Isolator 7
3. High Power Polarization Insensitive Fiber Isolator 9
4. High Power Expanded Beam Output Isolator 11
5. High Power Expanded Beam Output Isolator With Laser Pointer 13
6. High Power Fiber To Free Space Isolator 15
7. High Power Free Space Isolator 17
8. High Power Polarization Dependent Isolator 19
9. High Power In-Line Isolator 21



## 03 Pockels Cells



1. BBO Pockels Cells BPC-S Series 23
2. BBO Pockels Cells BPC-D Series 24
3. KD\*P Pockels Cells DPC Series 25
4. Polarization Insensitive Pockels Cells 26

## 04 F-Theta Scan Lenses



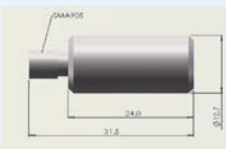
1. F-Theta Scan Lenses-1064nm 27
2. F-Theta Scan Lenses-532nm 28
3. F-Theta Scan Lenses-355nm 29

## 05 Standard Spherical Lens



1. Standard Spherical Lens 31

## 06 End-Pumped Focus Lens



1. End-Pumped Focus Lens 33

# Polarization Insensitive Fiber Isolator (Single Stage)

## Features:

- ◆ Epoxy-free Optical Path
- ◆ Low Insertion Loss & PDL
- ◆ High Isolation
- ◆ Wide Operating Wavelength Range and Temperature Range
- ◆ Telcordia Compliant
- ◆ RoHS Compliant

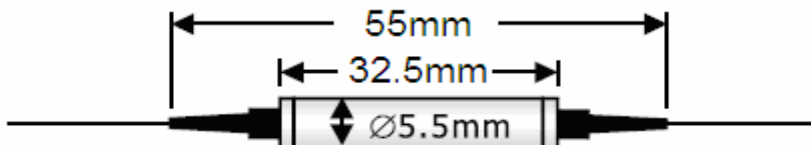
## Applications:

- ◆ EDFA
- ◆ CATV Fiber Optic Links
- ◆ WDM Systems
- ◆ Fiber Optic Instruments



## Specifications:

Parameter	Specification		Unit	
	Premium	Grade A		
Center Wavelength ( $\lambda_c$ )	1310/1480/1550/1590		nm	
Isolation (@25°C, $\lambda_c \pm 15\text{nm}$ )	Min	32	30	dB
Isolation (@0~75°C, $\lambda_c \pm 15\text{nm}$ )	Min	22	20	dB
Insertion Loss (@25°C, $\lambda_c$ )	Typ	0.30	0.40	dB
Insertion Loss (@0~75°C, $\lambda_c \pm 15\text{nm}$ )	Max	0.45	0.60	dB
Polarization Dependent Loss	Max	0.05	0.10	dB
Polarization Mode Dispersion	Max	0.20		ps
Fiber Length	Min	1.0		m
Operating Temperature Range	0~+75		°C	
Storage Temperature Range	-40~+85		°C	
Maximum Power Handling	500		mW	
Package Dimension (D*L)	$\phi 5.5 * L32.5$		mm	



# Polarization Insensitive Fiber Isolator (Single Stage)

## Order Information:

**PIFI** — **A** — **B** — **C** — **D** — **E**

A	Type	S: Single stage			
B	Grade	P: Premium	A: Grade A		
C	Wavelength	1310:1310nm	1480:1480nm	1550:1550nm	1590:1590nm
D	Fiber Type	1: 250 μ m bare fiber	2: 900 μ m tight buffer fiber	3: Other	
E	Connector Type	00: without connector	11: FC/PC	12:FC/UPC	13:FC/APC 21:SC/PC 22:SC/UPC 23:SC/APC 31:LC 41:MU 51:ST 61:Customized

**Note: OEM products with different specifications are also available**

# Single Mode Single Fiber Collimator

## Features:

- ◆ Epoxy-free Optical Path
- ◆ Low Insertion Loss
- ◆ High return loss
- ◆ High environmental stability
- ◆ Good uniformity

## Applications:

- ◆ Isolators
- ◆ Circulators
- ◆ WDM Systems
- ◆ Switches
- ◆ Interleavers



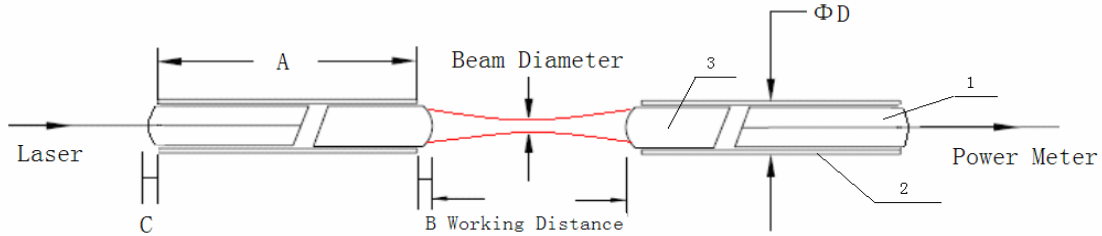
## Specifications:

Parameter	Specification		Unit	
	Grade P	Grade A		
Center Wavelength ( $\lambda_c$ )	1550	1550	nm	
Spectral Bandwidth	$\pm 30$	$\pm 30$	nm	
Insertion Loss	Max.	0.20 (typ. 0.15)	0.25 (typ. 0.20)	dB
Return Loss	Min.	65	60	dB
Beam Divergence	Max.	0.25	0.25	°
Beam Diameter	Max.	0.5	0.5	mm
Working Distance <sup>1</sup>		5~10	5~10	mm
Optical Power	Max.	500	500	mW
Tensile Load	Max.	5	5	N
Operating Temperature Range		0~+75		°C
Storage Temperature Range		-40~+85		°C
Package Dimension (D*L) <sup>2</sup>		$\phi 2.78/3.20 * L 8.0$		mm

1. Customized design available upon request.
2.  $\phi 2.78 \times 8$  (with glass tube) ,  $\phi 3.20 \times 8$  (with metal tube)

# Single Mode Single Fiber Collimator

## Dimensions and Beam Illustration:

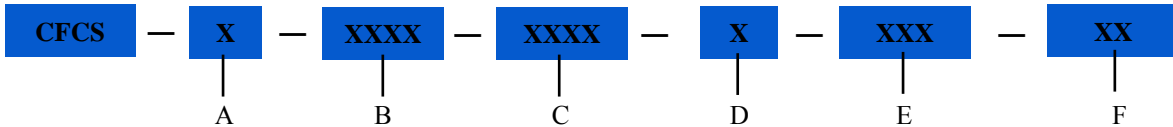


1.Fiber Pigtail      2.Glass Tube      3.C-Lens

Size A: 8.0 mm ;      Size B: 1.0±0.2 mm

Size C: 1~2 mm      Size ΦD: 2.78 mm (with glass tube)

## Order Information:



A	Grade	P: Grade P	A: Grade A	S: Custom
B	Fiber Type	250S= 250 μ m bare fiber	900T= 900 μ m tight buffer fiber	900L= 900 μ m loose tube
C	Wavelength	1310=1310nm	1550=1550nm	1315=1310&1550nm
D	Metal Tube	N=None	Y=With	
E	Working Distance	005=5mm	010=10mm	020=20mm
F	Connector	NN=None	XY=With Connector <sup>1</sup>	

1.Please specify the type of connector as below when ordering

X=Mechanical Type      0: None    1: FC      2: SC      3: ST      4: LC      5: MU      6: Other

Y=Physical Contact Type    0: None    1: PC      2: UPC      3: APC

Note: OEM products with different specifications are also available

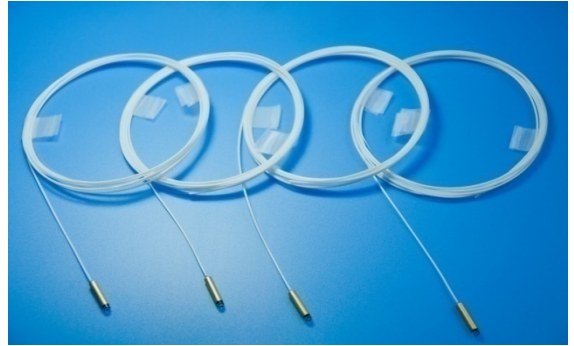
# High Power Collimator

## Features:

- ◆ Epoxy-free Optical Path
- ◆ Low Insertion Loss
- ◆ High return loss
- ◆ High environmental stability
- ◆ Good uniformity

## Applications:

- ◆ HP Isolators
- ◆ Fiber Laser
- ◆ Fiber Sensor



## Specifications:

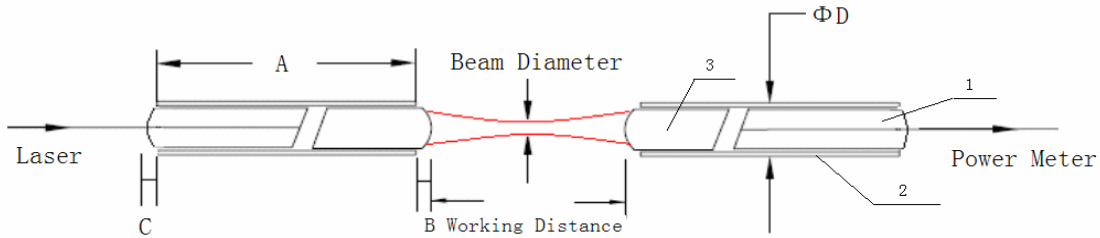
Parameter		Specification	Unit
Center Wavelength ( $\lambda_c$ )		1064	nm
Spectral Bandwidth		$\pm 30$	nm
Insertion Loss	Max.	0.45 (typ. 0.35)	dB
Return Loss	Min.	55	dB
Beam Divergence	Max.	0.25	°
Beam Diameter	Max.	0.4,0.8	mm
Working Distance <sup>1</sup>		50~150	mm
Optical Power	Max.	5,10,20,30,50	W
Tensile Load	Max.	5	N
Fiber Length	Min.	1.0	m
Operating Temperature Range		0~+75	°C
Storage Temperature Range		-40~+85	°C
Package Dimension (D*L) <sup>2</sup>		$\phi 2.78/3.20 * L 10/18$	mm

1. Customized design available upon request.

2.  $\phi 2.78 \times 10/18$ (with glass tube),  $\phi 3.20 \times 10/18$ (with metal tube)

# High Power Collimator

## Dimensions and Beam Illustration:



1.Fiber Pigtail      2.Glass Tube      3.C-Lens

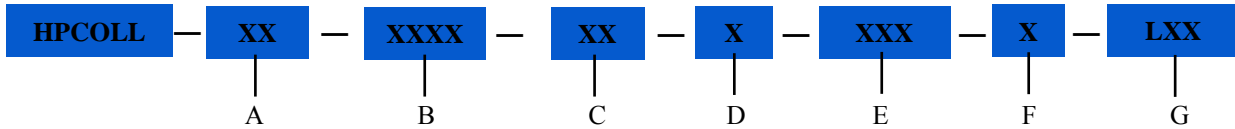
Size A: 10~18mm ;

Size B: 1.5 ± 0.2 mm

Size C: 1~2 mm

Size ΦD: 3.2 mm (with Metal tube)

## Order Information:



A	Fiber Type	Hi1060 ,GDF10/125, GSF10/125, 20/125DCF, 20/125SCF, 25/250DCF, 25/250SCF, 30/250DCF, 30/250SCF etc. 250S= 250um bare fiber
B	Pigtail diameter	350S= 350um bare fiber 900L= 900um loose tube
C	Power handling	5=5W ,10=10W, 20=20W,30=30W ,50=50W etc.
D	Power condition	P=Pulse, C=CW
E	Working Distance	050=50mm, 100=100mm,120=120mm etc.
F	Metal Tube	N=None, Y=With
G	Fiber length	L1.0=1.0m, L1.5=1.5m,L 2.0=2.0m, L3.0=3.0m etc

Note: OEM products with different specifications are also available

# Polarization Insensitive Fiber Isolator

## Features:

- ◆ Epoxy-free Optical Path
- ◆ Low Insertion Loss & PDL
- ◆ High Isolation
- ◆ Wide Operating Wavelength Range and Temperature Range
- ◆ Telcordia Compliant
- ◆ RoHS Compliant

## Applications:

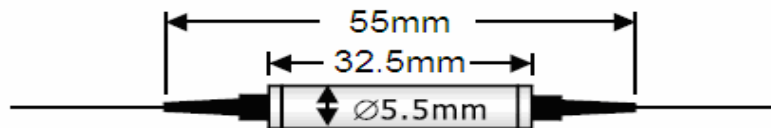
- ◆ Fiber Laser
- ◆ Fiber Optic Instruments
- ◆ Fiber sensor
- ◆ Lab research

## Specifications:



Parameter	Specification		Unit
	Single Stage	Dual Stage	
Center Wavelength ( $\lambda_c$ )	1064		nm
Isolation (@25°C, $\lambda_c$ )	Typ 40	55	dB
Isolation (@25°C, $\lambda_c \pm 15\text{nm}$ )	Min 20	45	dB
Insertion Loss (@25°C, $\lambda_c$ )	Typ 1.5	2.4	dB
Insertion Loss (@0~50°C, $\lambda_c \pm 15\text{nm}$ )	Max 1.8	3.2	dB
Polarization Dependent Loss	Max 0.15	0.15	dB
Polarization Mode Dispersion	Max 0.25	0.05	ps
Return Loss (Input/Output)	Min 50/50	50/50	dB
Fiber Length	Min	1.0	m
Operating Temperature Range	0~+50		°C
Storage Temperature Range	-40~+85		°C
Maximum Power Handling	300		mW
Maximum Peak Power	1000		W
Package Dimension (D*L)	$\phi 5.5 * L32.5$		mm

## Package Dimension:



# Polarization Insensitive Fiber Isolator

## Order Information:

**CISO**

—

**A**

—

**B**

—

**C**

—

**D**

—

**E**

A	Type	S: Single stage	D: Dual Stage
B	Power	03: 300mW	
C	Wavelength	1064:1064nm	
D	Fiber Type	HI: Hi1060 Fiber	SC: 10/125 SCF Fiber    DC:10/125DCF Fiber
E	Fiber Length	1:1.0m	0:Other

**Note: OEM products with different specifications are also available**

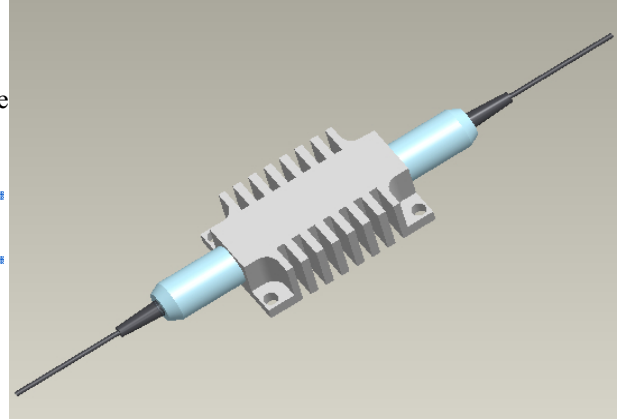
# High Power Polarization Insensitive Fiber Isolator

## Features:

- ◆ Epoxy-free Optical Path
- ◆ Low Insertion Loss & PDL
- ◆ High Isolation
- ◆ Wide Operating Wavelength Range and Temperature Range
- ◆ Telcordia Compliant
- ◆ RoHS Compliant

## Applications:

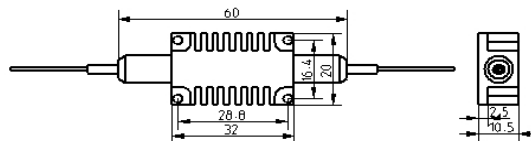
- ◆ Fiber Laser
- ◆ Fiber Optic Instruments
- ◆ Fiber sensor
- ◆ Lab research



## Specifications:

Parameter	Specification		Unit	
	Single Stage	Dual Stage		
Center Wavelength ( $\lambda_c$ )	1064		nm	
Isolation (@25°C, $\lambda_c$ )	Typ	40	55	dB
Isolation (@25°C, $\lambda_c \pm 15\text{nm}$ )	Min	20	45	dB
Insertion Loss (@25°C, $\lambda_c$ )	Typ	1.5	2.4	dB
Insertion Loss (@0~50°C, $\lambda_c \pm 15\text{nm}$ )	Max	1.8	3.2	dB
Polarization Dependent Loss	Max	0.15	0.15	dB
Polarization Mode Dispersion	Max	0.25	0.05	ps
Return Loss (Input/Output)	Min	50/50	50/50	dB
Fiber Length	Min	1.0		m
Operating Temperature Range			0~+50	°C
Storage Temperature Range			-40~+85	°C
Maximum Power Handling			1.0	W
Maximum Peak Power			1000	W

## Package Dimension:



# High Power Polarization Insensitive Fiber Isolator

## Order Information:

CISO

—

A

—

B

—

C

—

D

—

E

A	Type	S: Single stage	D: Dual Stage
B	Power	01: 1.0W	
C	Wavelength	1064:1064nm	
D	Fiber Type	HI: Hi1060 Fiber	SC: 10/125 SCF Fiber DC:10/125DCF Fiber
E	Fiber Length	1:1.0m	0:Other

**Note: OEM products with different specifications are also available**

# High Power Expanded Beam Output Isolator

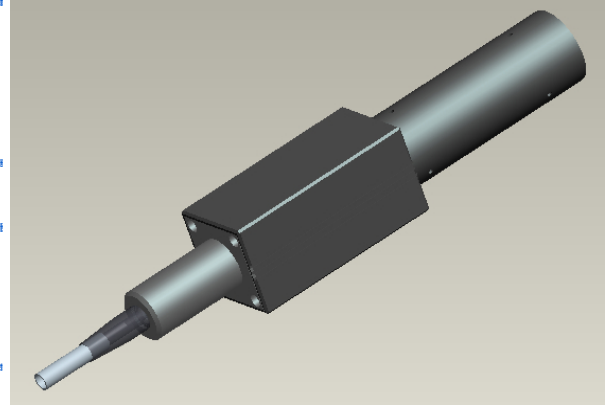
## Features:

- ◆ High isolation and high power handling
- ◆ Low Insertion Loss & PDL
- ◆ High beam quality
- ◆ RoHS Compliant

## Applications:

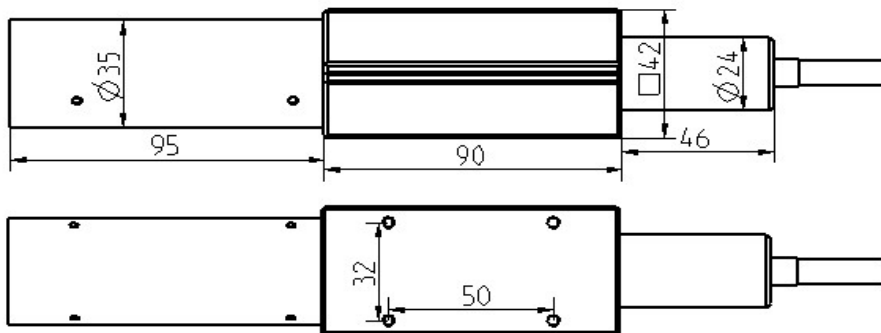
- ◆ Fiber laser
- ◆ Fiber sensor
- ◆ Lab research

## Specifications:



Parameter		Specification	Unit
<b>Single Stage</b>			
Center Wavelength ( $\lambda_c$ )		1064	nm
Operating Wavelength Range	Min	$\pm 10$	nm
Peak Isolation	Typ	35	dB
Isolation in band at 23°C	Min	25	dB
Insertion Loss at 23°C	Max	0.50	dB
Polarization Dependent Loss	Max	0.15	dB
Return Loss (Input/Output)	Min	50	dB
Fiber Type		HI1060 Fiber or LMA Fiber	
Fiber Length		2.2 or Others	m
Output Beam Diameter		5,8,10 or Others	mm
Optical Power (Average)		2.5,10,20 or Specify	W
Optical Power (Pulse Peak)		2.5,10,20 or Specify	kW

## Dimensions :



# High Power Expanded Beam Output Isolator

## Order Information:

HPISO	EB	A	B	C	D	E
A	Handling Power	2:2W 5:5W 10:10W 20:20W 30:30W 00:Other				
B	Fiber Type	1:10/125SCF 2:10/125DCF 3:20/125SCF 4:20/125DCF 5:25/250SCF 5:25/250DCF 6:30/250SCF 7:30/250DCF 0:Other				
C	Wavelength	1064:1064nm 0000:Others				
D	Pigtail Diameter	L:900um Loose Tube B:3mm Loose Cable C:6-8mm Armoured Cable S:Other				
E	Output Beam Diameter	6:6mm 8:8mm 10:10mm 0:Other				

**Note: OEM products with different specifications are also available**

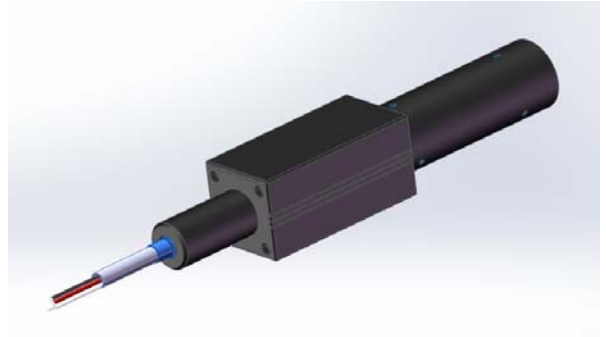
# High Power Expanded Beam Output Isolator With Laser Pointer

## Features:

- ◆ High isolation and high power handling
- ◆ Low Insertion Loss & PDL
- ◆ High beam quality
- ◆ With laser pointer (650nm)

## Applications:

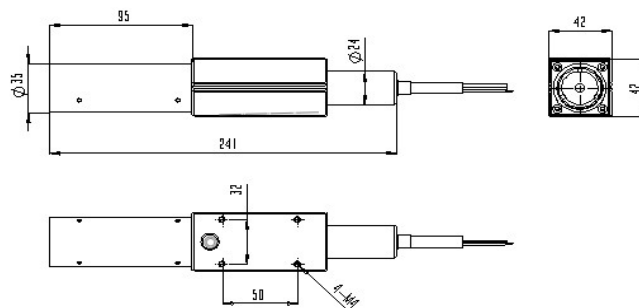
- ◆ Laser marking
- ◆ Laser cutting



## Specifications:

Parameter		Specification	Unit
<b>Single Stage</b>			
Center Wavelength ( $\lambda_c$ )		1064	nm
Operating Wavelength Range	Min	$\pm 10$	nm
Peak Isolation	Typ	35	dB
Isolation in band at 23°C	Min	25	dB
Insertion Loss at 23°C	Max	0.50	dB
Polarization Dependent Loss	Max	0.15	dB
Return Loss (Input/Output)	Min	50	dB
Fiber Type		HI1060 Fiber or LMA Fiber	
Laser pointer wavelength		650	nm
Laser pointer power		<5(<100mA)	mW
Laser pointer working distance		>1	m
Working light and Indicator light axially		<1	mrad

## Dimensions:



# High Power Expanded Beam Output Isolator With Laser Pointer

## Order Information:

HPISO	EBLP	A	B	C	D	E
A	Handling Power	2:2W 5:5W 10:10W 20:20W 00:Other				
B	Fiber Type	1:Hi1060 2:20/125SCF 3:20/125DCF 4:Other				
C	Wavelength	1064:1064nm 0000:Others				
D	Pigtail Diameter	L:900um Loose Tube B:3mm Loose Cable C:6-8mm Armoured Cable S:Other				
E	Output Beam Diameter	5:5mm 8:8mm 10:10mm 0:Other				

**Note: OEM products with different specifications are also available**

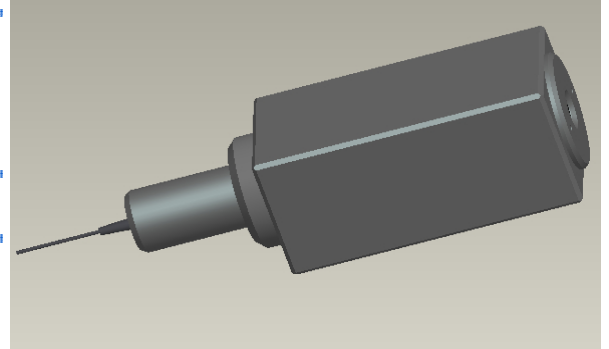
# High Power Fiber To Free Space Isolator

## Features:

- ◆ High isolation and high power handling
- ◆ Low Insertion Loss & PDL
- ◆ High beam quality
- ◆ RoHS Compliant

## Applications:

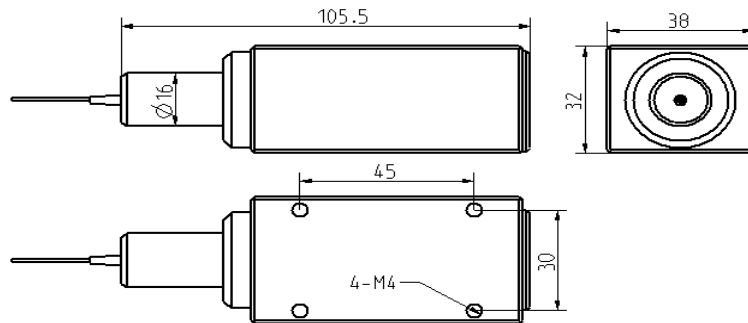
- ◆ Fiber laser
- ◆ Fiber sensor
- ◆ Lab research



## Specifications:

Parameter		Specification	Unit
<b>Single Stage</b>			
Center Wavelength ( $\lambda_c$ )		1064	nm
Operating Wavelength Range	Min	$\pm 10$	nm
Peak Isolation	Typ	35	dB
Isolation in band at 23°C	Min	25	dB
Insertion Loss at 23°C	Max	0.50	dB
Polarization Dependent Loss	Max	0.15	dB
Return Loss (Input/Output)	Min	50	dB
Fiber Type		HI1060 Fiber or LMA Fiber	
Fiber Length		1.0 or Others	m
Output Beam Diameter		0.5 or Others	mm
Optical Power (Average)		2,5,10,20 or Specify	W
Optical Power (Pulse Peak)		2,5,10,20 or Specify	kW

## Dimensions:



# High Power Fiber To Free Space Isolator

## Order Information:

HPISO	FF	A	B	C	D	E
A	Handling Power	2:2W 5:5W 10:10W 20:20W 30:30W 00:Other				
B	Fiber Type	1:Hi1060 2:10/125SCF 3:10/125DCF 4:20/125SCF 5:20/125DCF 6:25/250SCF 7:25/250DCF 8:30/250SCF 9:30/250DCF 0:Other				
C	Wavelength	1064:1064nm 0000:Others				
D	Pigtail Diameter	L:900um Loose Tube B:3mm Loose Cable C:6-8mm Armoured Cable S:Other				
E	Fiber Length	1:1.0m 0:Other				

**Note: OEM products with different specifications are also available**

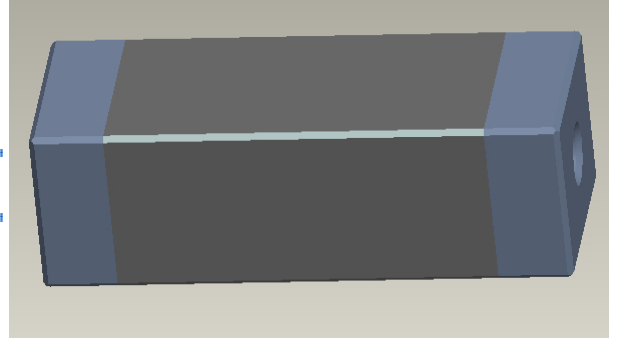
# High Power Free Space Isolator

## Features:

- ◆ High isolation and high power handling
- ◆ Low Insertion Loss & PDL
- ◆ High beam quality
- ◆ RoHS Compliant

## Applications:

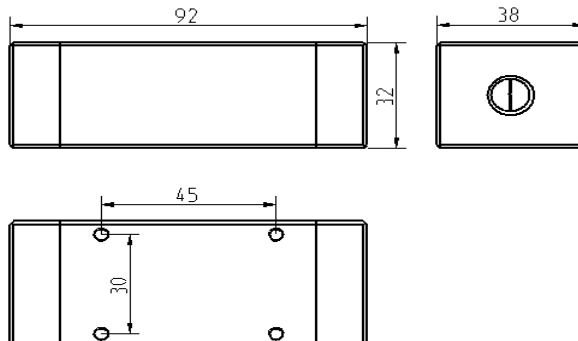
- ◆ Fiber laser
- ◆ Fiber sensor
- ◆ Lab research



## Specifications:

Parameter		Specification	Unit
<b>Single Stage</b>			
Center Wavelength ( $\lambda_c$ )		1064	nm
Operating Wavelength Range	Min	$\pm 10$	nm
Peak Isolation	Typ	30	dB
Isolation in band at 23 °C	Min	25	dB
Insertion Loss at 23 °C	Max	0.50	dB
Polarization Dependent Loss	Max	0.15	dB
Return Loss (Input/Output)	Min	50	dB
Clear Aperture		0.7 or Others	mm
Optical Power (Average)		2,5,10,20 or Specify	W
Optical Power (Pulse Peak)		2,5,10,20 or Specify	kW
Operating Temperature Range		0~50	°C
Storage Temperature Range		-20~75	°C

## Dimensions:



# High Power Free Space Isolator

## Order Information:

**HPISO**

—

**FS**

—

**A**

—

**B**

—

**C**

A	Handling Power	2:2W	5:5W	10:10W	20:20W	30:30W	00:Other
B	Clear Aperture	S:0.7mm	O:Others				
C	Wavelength	1064:1064nm	0000:Others				

**Note: OEM products with different specifications are also available**

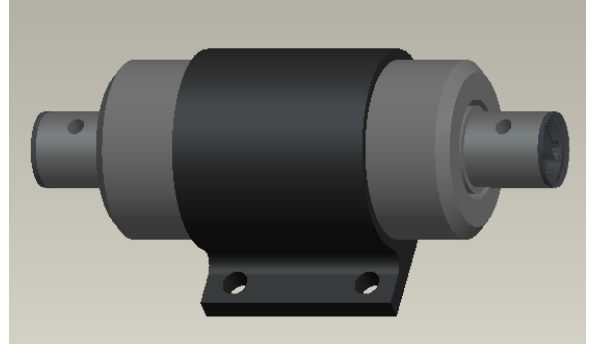
# High Power Polarization Dependent Isolator

## Features:

- ◆ High isolation and high power handling
- ◆ Low Insertion Loss
- ◆ High beam quality
- ◆ RoHS Compliant

## Applications:

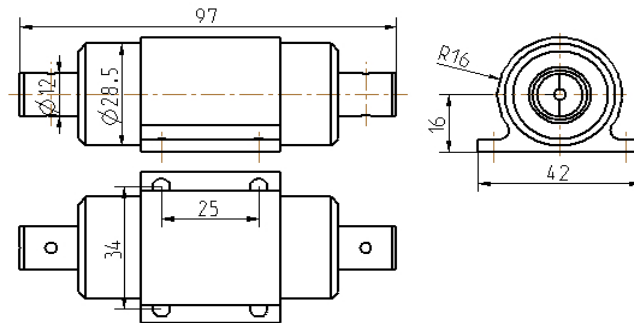
- ◆ Laser
- ◆ Optical transmitters and transceivers
- ◆ Lab research



## Specifications:

Parameter		Specification	Unit
<b>Single Stage</b>			
Center Wavelength ( $\lambda_c$ )		1064	nm
Operating Wavelength Range	Min	$\pm 10$	nm
Peak Isolation	Typ	35	dB
Isolation in band at 23 °C	Min	25	dB
Insertion Loss at 23 °C	Max	0.50	dB
Extinction Ratio	Min	22	dB
Return Loss (Input/Output)	Min	50	dB
Clear Aperture		2.7 or Others	mm
Optical Power (Average)		10,20,30 or Specify	W
Optical Power (Pulse Peak)		10,20,30 or Specify	kW
Operating Temperature Range		0~50	°C
Storage Temperature Range		-20~75	°C

## Dimensions:



# High Power Polarization Dependent Isolator

## Order Information:

**HPISO**

—

**PD**

—

**A**

—

**B**

—

**C**

A	Handling Power	10:10W	20:20W	30:30W	00:Other
B	Clear Aperture	S:2.7mm	O:Others		
C	Wavelength	1064:1064nm	0000:Others		

**Note: OEM products with different specifications are also available**

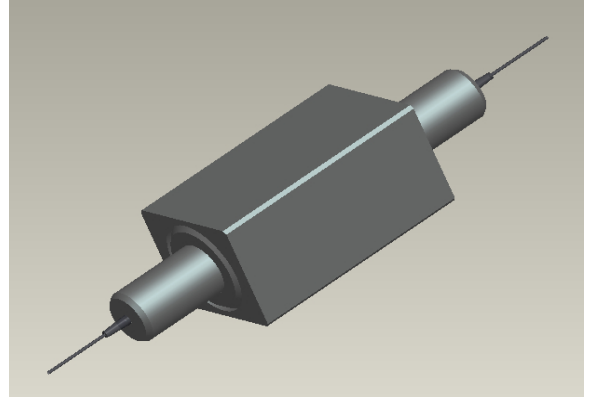
# High Power In-Line Isolator

## Features:

- ◆ High isolation and high power handling
- ◆ Low Insertion Loss & PDL
- ◆ High beam quality
- ◆ RoHS Compliant

## Applications:

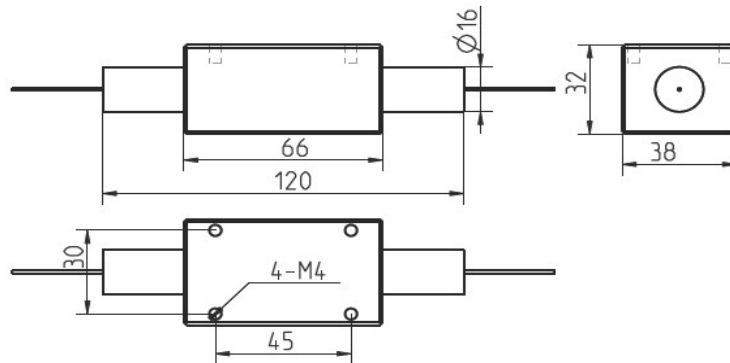
- ◆ Fiber laser
- ◆ Fiber sensor
- ◆ Lab research



## Specifications:

Parameter		Specification	Unit
<b>Single Stage</b>			
Center Wavelength ( $\lambda_c$ )		1064	nm
Operating Wavelength Range	Min	$\pm 10$	nm
Peak Isolation	Typ	35	dB
Isolation in band at 23°C	Min	25	dB
Insertion Loss at 23°C	Max	1.00	dB
Polarization Dependent Loss	Max	0.15	dB
Return Loss (Input/Output)	Min	50	dB
Fiber Type		HI1060 Fiber or LMA Fiber	
Fiber Length		1.0 or Others	m
Optical Power (Average)		2,5,10,20 or Specify	W
Optical Power (Pulse Peak)		2,5,10,20 or Specify	kW

## Dimensions:



# High Power In-Line Isolator

## Order Information:

	HPISO	IL	A	B	C	D	E
A	Handling Power		2:2W 5:5W 10:10W 20:20W 00:Other				
B	Fiber Type		1:Hi1060 2:10/125SCF 3:10/125DCF 4:20/125SCF 5:20/125DCF 6:25/125SCF 7:30/125SCF 8:Other				
C	Wavelength		1064:1064nm 0000:Others				
D	Pigtail Diameter		L:900um Loose Tube S:Other	B:3mm Loose Cable		C:6-8mm Armoured Cable	
E	Fiber Length		1:1.0m 0:Other				

**Note: OEM products with different specifications are also available**

## BBO Pockels Cells BPC-S Series



- ◆ BBO-based Pockels cells
- ◆ Spectral through (210nm-2000nm)
- ◆ Low absorption loss
- ◆ Small piezoelectric ring effect
- ◆ Good temperature stability
- ◆ High extinction ratio
- ◆ Capacitance value is small, fast switching speed
- ◆ High repetition rate, repetition rate up to 100KHz
- ◆ Compact Structure
- ◆ Damage Threshold:  $\geq 1\text{GW}/\text{cm}^2$ , at 1064 nm, 10 ns, 1 Hz
- ◆ Other specification upon request

### BBO Pockels Cells BPC-S Series

P/N	Clear aperture(mm)	Transmission typical(%)	Extinction ratio(voltage-free)	$\lambda$ /4-voltage	Capacity(pF)
BPC3AS	2.6	98	$\geq 1000:1$	3.5kV	$\leq 3$
BPC4AS	3.6	98	$\geq 1000:1$	4.9kV	$\leq 3$
BPC5AS	4.6	98	$\geq 1000:1$	5.9kV	$\leq 3$
BPC6AS	5.6	98	$\geq 1000:1$	7.3kV	$\leq 3$
BPC3BS	2.6	98	$\geq 1000:1$	2.8kV	$\leq 3$
BPC4BS	3.6	98	$\geq 1000:1$	3.9kV	$\leq 3$
BPC5BS	4.6	98	$\geq 1000:1$	4.7kV	$\leq 3$
BPC6BS	5.6	98	$\geq 1000:1$	5.8kV	$\leq 3$

All order number valid for 1064 nm

## BBO Pockels Cells BPC-D Series



- ◆ BBO-based Pockels cells
- ◆ Spectral through (210nm-2000nm)
- ◆ Low absorption loss
- ◆ Small piezoelectric ring effect
- ◆ Good temperature stability
- ◆ High extinction ratio
- ◆ Capacitance value is small, fast switching speed
- ◆ Compact Structure
- ◆ Damage Threshold:  $\geq 1\text{GW}/\text{cm}^2$ , at 1064 nm, 10 ns, 1 Hz
- ◆ Other specification upon request

### BBO Pockels Cells BPC-D Series

P/N	Clear aperture(mm)	Transmission typical(%)	Extinction ratio(voltage-free)	$\lambda/4$ -voltage	Capacity(pF)
BPC3AD	2.6	97	>500:1	1.8kV	$\leq 6$
BPC4AD	3.6	97	>500:1	2.5kV	$\leq 6$
BPC5AD	4.6	97	>500:1	3kV	$\leq 6$
BPC6AD	5.6	97	>500:1	3.7kV	$\leq 6$
BPC3BD	2.6	97	>500:1	1.4kV	$\leq 6$
BPC4BD	3.6	97	>500:1	2kV	$\leq 6$
BPC5BD	4.6	97	>500:1	2.4kV	$\leq 6$
BPC6BD	5.6	97	>500:1	2.9kV	$\leq 6$

All order number valid for 1064 nm

## KD\*P Pockels Cells DPC Series

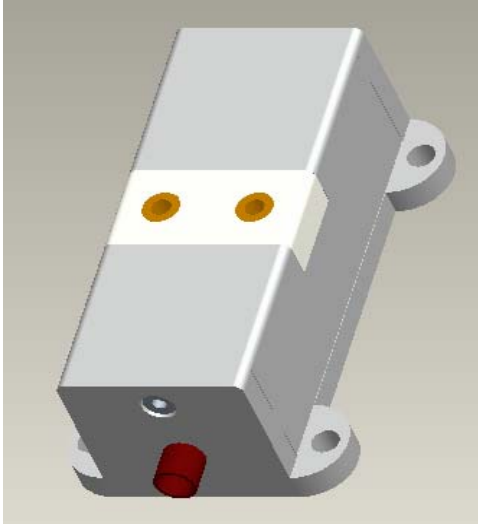


- ◆ KD\*P-based Pockels cells
- ◆ Spectral through (210nm-2000nm)
- ◆ Low absorption loss
- ◆ Small piezoelectric ring effect
- ◆ Good temperature stability
- ◆ High extinction ratio
- ◆ Capacitance value is small, fast switching speed
- ◆ High repetition rate
- ◆ Damage Threshold:  $\geq 1\text{GW}/\text{cm}^2$
- ◆ Compact Structure

### KD\*P Pockels Cells DPC Series

P/N	Clear aperture(mm)	Transmission typical(%)	Extinction ratio(voltage-free)	$\lambda/4$ -voltage	Capacity (pF)
DPC8S	8	98	>1000:1	3.2kV at 1064nm, 20°C	$\leq 6$
DPC10S	10	98	>1000:1	3.2kV at 1064nm, 20°C	$\leq 6$
DPC12S	12	98	>1000:1	3.2kV at 1064nm, 20°C	$\leq 6$

## Polarization Insensitive Pockels Cells



- ◆ BBO-based Pockels cells
- ◆ Design for fiber laser
- ◆ Spectral through (210nm-2000nm)
- ◆ Low absorption loss
- ◆ Small piezoelectric ring effect
- ◆ Good temperature stability
- ◆ Capacitance value is small, fast switching speed
- ◆ High repetition rate, repetition rate up to 100KHz
- ◆ Max. peak power for ns pulse : 20kW
- ◆ Compact Structure
- ◆ Other specification upon request

P/N	Fiber Type	Fiber Length(m)	Transmission typical(%)	operating voltage	Capacity (pF)
PIPC0118	HI1060 Fiber or LMA Fiber	1 or others	90	2.6kV at 1064nm, 20°C	≤3

## F-Theta Scan Lenses-1064nm

### Features:

- ◆ High efficiency AR coatings
- ◆ High damage threshold
- ◆ Low F-Theta distortion
- ◆ Customized design available

### Applications:

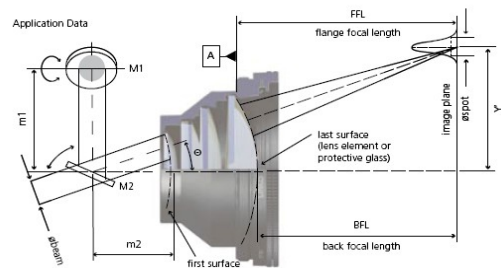
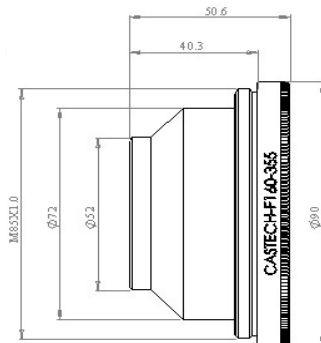
- ◆ Laser marking
- ◆ Laser cutting



### Specifications:

Parameter		Specification	Unit
<b>Single Stage</b>			
Center Wavelength ( $\lambda_c$ )		1064	nm
Operating Wavelength Range	Min	$\pm 10$	nm
Effective Focal Length		160	mm
Scan Angle	Max	$\pm 25$	°
Scan Field	Max	99*99	mm
Entrance Beam Diameter	Max	12	mm
Image Spot Diameter	Max	26	$\mu m$
Mirror Distances (m1/m2)	Typical	12/16	mm
AR Alignment Light		Ravg<1%@(520-550)Ravg<1%@(620-670)AOI=0-25°	
Transmittance	Min	98% @1064 $\pm 10$ nm	
F-Theta Distortion	Max	0.1%	
Screw Thread		M85 $\times$ 1	

### Dimensions:



## F-Theta Scan Lenses-532nm

### Features:

- ◆ High efficiency AR coatings
- ◆ High damage threshold
- ◆ Low F-Theta distortion
- ◆ Customized design available

### Applications:

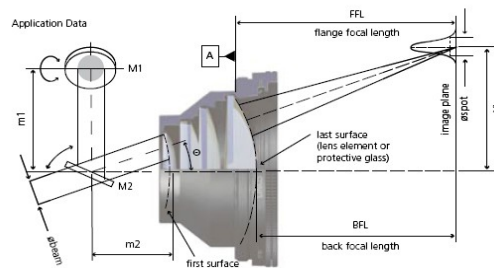
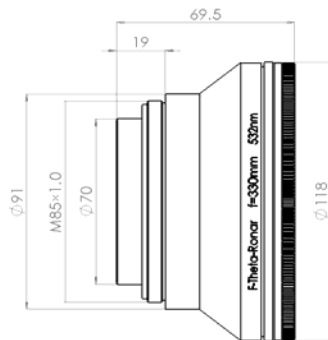
- ◆ Laser marking
- ◆ Laser cutting



### Specifications:

Parameter		Specification	Unit
<b>Single Stage</b>			
Center Wavelength ( $\lambda_c$ )		532	nm
Operating Wavelength Range	Min	$\pm 10$	nm
Effective Focal Length		330	mm
Scan Angle	Max	$\pm 25$	°
Scan Field	Max	204*204	mm
Entrance Beam Diameter	Max	14	mm
Image Spot Diameter	Max	23	$\mu m$
Mirror Distances (m1/m2)	Typical	18/24	mm
AR Alignment Light		Ravg<1%@(620-670)AOI=0-25°	
Transmittance	Min	98% @532 $\pm 10$ nm	
F-Theta Distortion	Max	0.1%	
Screw Thread		M85×1	

### Dimensions:



## F-Theta Scan Lenses-355nm

### Features:

- ◆ High efficiency AR coatings
- ◆ High damage threshold
- ◆ Low F-Theta distortion
- ◆ Customized design available

### Applications:

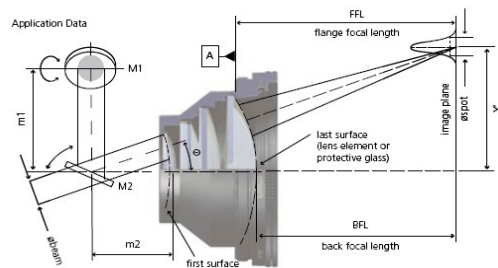
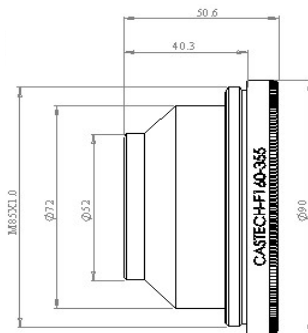
- ◆ Laser marking
- ◆ Laser cutting



### Specifications:

Parameter		Specification	Unit
<b>Single Stage</b>			
Center Wavelength ( $\lambda_c$ )		355	nm
Operating Wavelength Range	Min	$\pm 10$	nm
Effective Focal Length		160	mm
Scan Angle	Max	$\pm 25$	°
Scan Field	Max	99*99	mm
Entrance Beam Diameter	Max	7	mm
Image Spot Diameter	Max	15	$\mu m$
Mirror Distances (m1/m2)	Typical	12/16	mm
AR Alignment Light		Ravg<1%@(520-550)Ravg<1%@(620-670)AOI=0-25°	
Transmittance	Min	98% @355 $\pm 10$ nm	
F-Theta Distortion	Max	0.1%	
Screw Thread		M85 $\times$ 1	

### Dimensions:



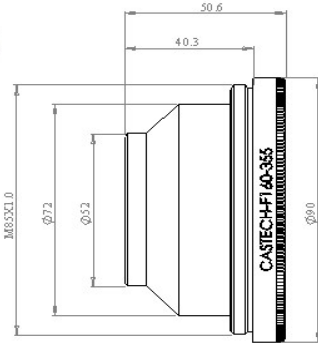
# F-Theta Scan Lenses

## Order Information:

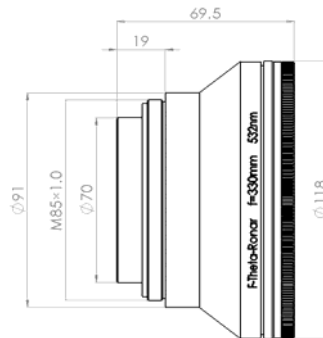
**FT** — **A** — **B** — **C**

A	Wavelength	1064:1064nm	532:532nm	355:355nm	00:Other
B	Effective focal length	100:100mm	160:160mm	254:254mm	330:330mm 420:420mm 000:Other
C	Scan field	70:70*70mm	99:99*99mm	157:157*157mm	217:217*217 mm 291:291*291mm 000:Others

**Note: OEM products with different specifications are also available**



Pic.1



Pic.2

Order No.	EFL (mm)	BFL (mm)	Scan field (mm)	Scan angle (°)	Entrance beam diameter (mm)	Image spot diameter (μm)	M1/M2 (mm)	Screw thread	Dimension figure
FT-1064-100-70	100	108	70×70	±28	12	20	16/12	M85×1	Pic.1
FT-1064-160-99	160	181	99×99	±25	12	26	16/12	M85×1	Pic.1
FT-1064-254-157	254	299	157×157	±25	20	25	30/16	M85×1	Pic.2
FT-1064-330-217	330	390	217×217	±26.5	16	40	18/24	M85×1	Pic.2
FT-1064-420-291	420	497	291×291	±28	15	55	30/16	M85×1	Pic.2
FT-532-100-70	100	108	70×70	±28	6	15	16/12	M85×1	Pic.1
FT-532-160-99	160	187	99×99	±25	15	12	16/12	M85×1	Pic.1
FT-532-254-170	254	321	170×170	±27.5	10	25	30/16	M85×1	Pic.2
FT-532-330-204	330	386.2	204×204	±25	14	23	18/24	M85×1	Pic.2
FT-532-420-290	420	493.5	290×290	±28	15	27	30/16	M85×1	Pic.2
FT-355-100-70	100	108	70×70	±28	6	10	12/16	M85×1	Pic.1
FT-355-160-99	160	187	99×99	±25	7	15	12/16	M85×1	Pic.1
FT-355-254-170	254	321	170×170	±27.5	10	17	13/30	M85×1	Pic.2
FT-355-330-204	330	386.2	204×204	±25	10	20	13/30	M85×1	Pic.2

## Standard Spherical Lens

### Features:

- ◆ High efficiency AR-632.8nm coatings
- ◆ Low Wavefront PV Error
- ◆ High precision processing and assembling
- ◆ Customized design available

### Applications:

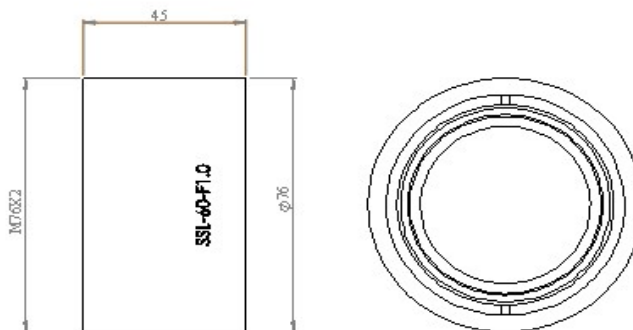
- ◆ Interferometry measurement
- ◆ Non-contact measurement



### Specifications:

Parameter	Specification	Unit
<b>Single Stage</b>		
Center Wavelength ( $\lambda_c$ )	632.8	nm
Operating Wavelength Range	Min $\pm 10$	nm
F#	f1.0/f1.4/f2.0/f3.3/f5.6/f8.0	
Clear Aperture	60	mm
Standard Surface Material	Corning 7980	
Standard Surface Wavefront PV Error	$< \lambda / 10$	
Screw Thread	M76 $\times$ 2	

### Dimensions:



## Standard Spherical Lens

### Order Information:

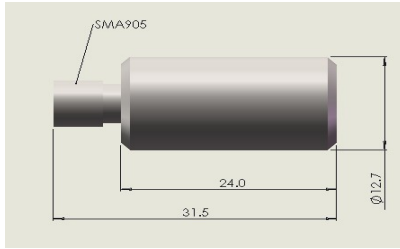
SSL — A — B

A	Clear Aperture	60:60mm	30:30mm	00:Other		
B	F#	1.0:f1.0	1.4:f1.4	2.0:f2.0	3.3:f3.3	5.6:f5.6
		8.0:f8.0	000:Other			

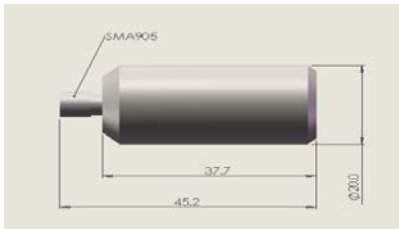
**Note: OEM products with different specifications are also available**

Order No.	R(mm)	Measurable Radius of Curvature		Max. Measurable Caliber	
		Concave	Convex	Concave	Convex
SSL-60-F1.0	43	0~180	0~42	0~100	0~41
SSL-60-F1.4	65	0~270	0~64	0~100	0~46
SSL-60-F2.0	105	0~300	0~104	0~100	0~52
SSL-60-F3.3	179	0~220	0~178	0~67	0~55
SSL-60-F5.6	316	0~84	0~315	0~15	0~57
SSL-60-F8.0	467	--	0~466	--	0~59

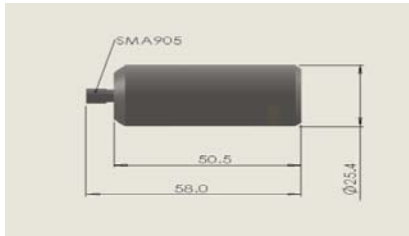
## End-Pumped Focus Lens



FOC-127



FOC-200



FOC-254

- High transmittance
- High precision processing and assembling
- High damage threshold
- Excellent thermal performance
- Easy installation
- Non-magnetic stainless steel Housing
- Suitable for industrial applications
- Other specification upon request

Item #	NA	Connector Style	AR (nm)	Transmittance	Dimensions(mm)	Working distance (mm)
FOC-127-10-808						10
FOC-127-20-808					12.7	20
FOC-127-25-808						25
FOC-127-30-808						30
FOC-200-40-808						40
FOC-200-45-808						45
FOC-200-50-808	<0.24	SMA905	808	>98%	20.0	50
FOC-200-60-808						60
FOC-200-80-808						80
FOC-254-100-808						100
FOC-254-150-808						150
FOC-254-200-808					25.4	200
FOC-254-235-808						235
FOC-254-500-808						500

## Ordering Information

CASTECH's goal is to provide you with matchless customer satisfaction.

### Sales & Technical Information.

8:00AM-6:00PM (Beijing time, Mon - Fri)

### Convenient Order Entry.

We gladly accept orders by e-mail, fax, mail or phone with the following information:



Product description	Billing address
Quantity	Shipping address
Price	Purchase order number
Complete company name	Contact name and phone and fax number.

### Specifications.

We will do our best to provide you with accurate information about our products. It will be advisable to verify the suitability of the product for its intended application before ordering.

### Prompt Delivery.

We will default to the carriers like UPS, FedEx, DHL, TNT, EMS, etc., except you have a preferred carrier.

### Price.

All prices are in US dollars and in FOB Fuzhou, China, unless otherwise approved in advance.

### Flexible Payment Options.

CASTECH extend standard terms of Net 30 days from the date of our invoices on all orders with prior credit approval, by T/T or cheque. CASTECH also offer Cash-on-Delivery (COD) and prepayment terms.

### You Are Protected by Warranty.

Within the warranty period, all products are guaranteed to be free of defects and defective products would be returned to CASTECH for repairing or replacing at our options. But the warranty does not apply to failure of the product due to misuse, accident, or negligence.

# CASTECH

**WWW.CASTECH.COM**  
WWW.CASTECH.COM

福建福晶科技股份有限公司  
CASTECH INC.

**ADD:** Building No.9, Zone F, 89 Ruan  
jian Avenue, Fuzhou, Fujian  
350003, China

**TEL:** +86-591-83710533

**FAX:** +86-591-83711593

**E-mail:** SALES@CASTECH.COM