



Slow Axis Collimators



PowerPhotonic
Enhancing Beam Performance

Overview

PowerPhotonic's range of slow axis collimator (SAC) optics are used to reduce the slow axis divergence of diode lasers. They consist of a monolithic array of cylindrical lenses to simplify system alignment, and are available in a range of standard focal lengths and pitch combinations.

PowerPhotonic's SACs are manufactured using the company's patented laser micro-machining process, which provides unparalleled performance and flexibility. The optical surface is ultra-smooth, resulting in very low scatter and crosstalk.

As well as offering compatibility with many different laser bars and stacks, using our unique laser micro-machining process means that additional functionality can easily be added to the SAC at minimal cost as part of our customization program.

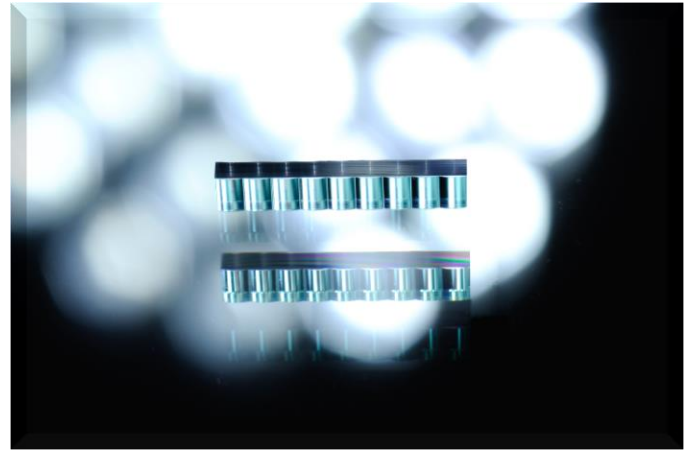
Customization options include correction for bar smile or custom pitch and focal length.

Key Features

- UV-fused silica
- Monolithic design
- Efficient collimation
- Transmission >99%
- Long term mechanical stability
- Customization options

Benefits

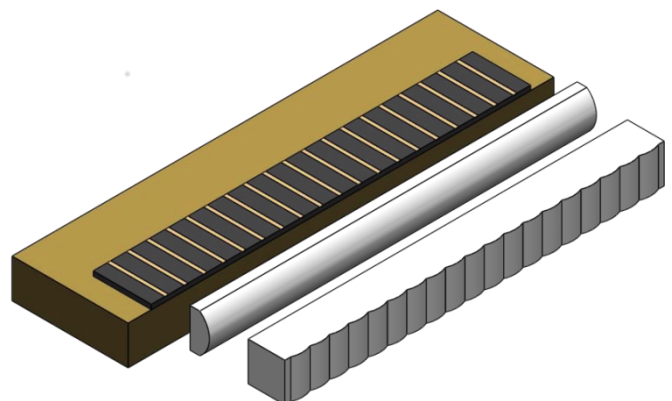
- Compatible with off-the-shelf FACs
- Suitable for laser diode stack assembly
- Flexible part size
- System performance optimization with additional customization options
- Low scatter



Target Applications

- High power laser diode bars and stacks
- Solid-state laser pumping
- Wavelength-locked systems
- Fiber-coupled direct diode
- Free-space direct diode

How it is Used



Standard Product Selection

Part Number	Effective Focal Length EFL (mm)	Pitch P (mm)	NA	Length L (mm)	Height H (mm)	Thickness T (mm)	# Elements
PP-SAC-F220-P50-V1-AR5	2.20	0.50	0.10	12.0	1.50	1.00	19
PP-SAC-F260-P50-V1-AR5	2.60	0.50	0.09	12.0	1.50	1.00	19
PP-SAC-F300-P50-V1-AR5	3.00	0.50	0.08	12.0	1.50	1.00	19
PP-SAC-F350-P50-V1-AR5	3.50	0.50	0.07	12.0	1.50	1.00	19
PP-SAC-F400-P50-V1-AR5	4.00	0.50	0.06	12.0	1.50	1.00	19
PP-SAC-F450-P50-V1-AR5	4.50	0.50	0.05	12.0	1.50	1.00	19
PP-SAC-F350-P100-V1-AR5	3.50	1.00	0.14	12.0	1.50	1.00	10
PP-SAC-F800-P100-V1-AR5	8.00	1.00	0.06	12.0	1.50	1.00	10
PP-SAC-F900-P100-V1-AR5	9.00	1.00	0.05	12.0	1.50	1.00	10
PP-SAC-F1000-P100-V1-AR5	10.00	1.00	0.05	12.0	1.50	1.00	10
PP-SAC-Fxxx-Pxxx-Vx-ARx	Custom	Custom	Custom	Custom	Custom	Custom	Custom

AR5 optical coating: Broadband 785-1030nm R<0.5%, other coatings on request

NA: Numerical aperture

EFL: Effective focal length @ 808nm

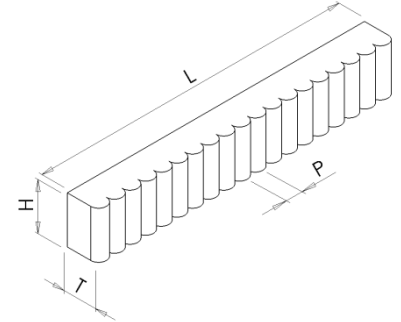
P: Pitch of emitter

All custom parameters can be customer specified

L: Length (+/-0.10mm)

H: Height (+/- 0.05mm)

T: Thickness (+/- 0.02mm)



Customization Program

Due to the unique nature of the PowerPhotonic manufacturing process, our standard products can be easily modified to meet specific requirements. Please contact PowerPhotonic for additional information.

About Us

PowerPhotonic is a global leader in precision laser machined micro-optics products. Our business was founded with the objective of providing unsurpassed excellence in all aspects of design and manufacture of micro-optics for optical and laser applications. Our world-class design skills are supported by an innovative and flexible manufacturing process that allows the company to design both a broad range of state-of-the-art standard micro-optics products and uniquely, to offer a low cost and rapid fabrication service for creating completely freeform optical surfaces.

For Sales and Technical Support

United Kingdom

PowerPhotonic Ltd.
1 St. David's Drive
Dalgety Bay, Fife, KY11 9PF
United Kingdom

Tel: +44 1383 825 910

Fax: +44 1383 825 739

sales@powerphotonic.com

North America

PowerPhotonic, Inc.
4900 Hopyard Road, Suite 100
Pleasanton, CA 94588
USA

Tel: +1 925 463 4876

Fax: +1 925 475 7422

sales@powerphotonic-us.com



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