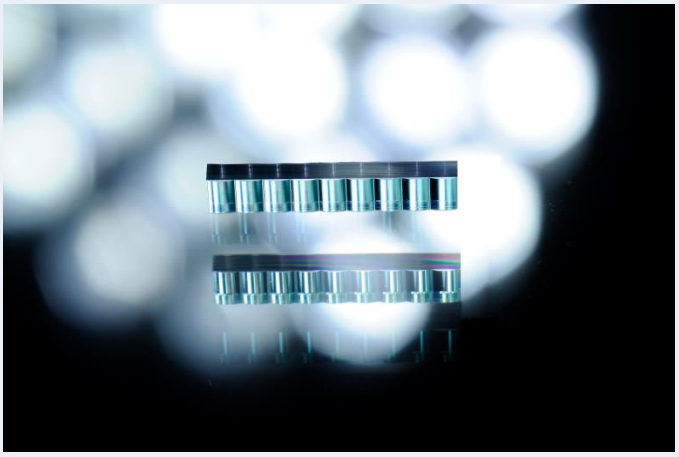
powerphotonic
enhancing beam performance

Product Data Sheet

Slow Axis Collimators

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 patent pending laser micro-machining process, which provides unparalleled performance and flexibility.

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 can include correction for bar smile or custom pitch, focal length and conic constant.

Key Features

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

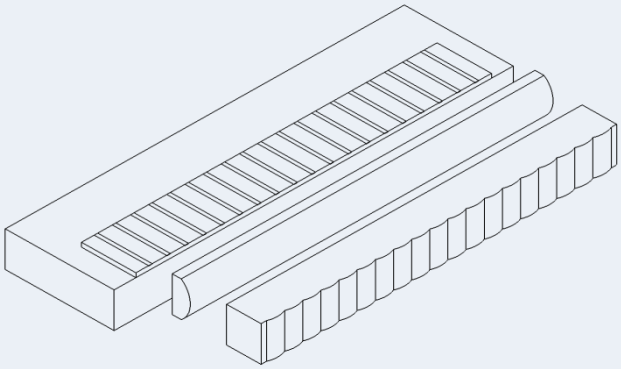
Target Applications

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

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

How it is Used



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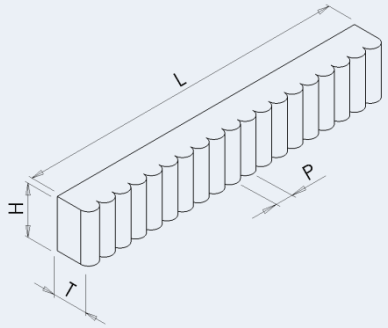
Standard Product Selection

Part Number	Effective Focal Length EFL (mm)	Pitch P (mm)	NA	Length L (mm)	Height H (mm)	Thickness T (mm)	# Elements
PP-SAC-F70-P20-V1-AR1	0.7	0.20	0.11	12.0	1.50	1.00	49
PP-SAC-F90-P20-V1-AR1	0.9	0.20	0.09	12.0	1.50	1.00	49
PP-SAC-F220-P50-V1-AR1	2.20	0.50	0.10	12.0	1.50	1.00	19
PP-SAC-F260-P50-V1-AR1	2.60	0.50	0.09	12.0	1.50	1.00	19
PP-SAC-F300-P50-V1-AR1	3.00	0.50	0.08	12.0	1.50	1.00	19
PP-SAC-F350-P50-V1-AR1	3.50	0.50	0.07	12.0	1.50	1.00	19
PP-SAC-F400-P50-V1-AR1	4.00	0.50	0.06	12.0	1.50	1.00	19
PP-SAC-F450-P50-V1-AR1	4.50	0.50	0.05	12.0	1.50	1.00	19
PP-SAC-F350-P100-V1-AR1	3.50	1.00	0.14	12.0	1.50	1.00	10
PP-SAC-F800-P100-V1-AR1	8.00	1.00	0.06	12.0	1.50	1.00	10
PP-SAC-F900-P100-V1-AR1	9.00	1.00	0.05	12.0	1.50	1.00	10
PP-SAC-F1000-P100-V1-AR1	10.00	1.00	0.05	12.0	1.50	1.00	10
PP-SAC-Fxxx-Pxxx-Vx-ARx	tbd	tbd	tbd	tbd	tbd	tbd	tbd

AR1 optical coating: Broadband 900-1100nm R<0.25%, other coatings on request
NA: Numerical aperture
EFL: Effective focal length @ 808 nm
P: Pitch of emitter
All tbd parameters can be customer specified

L: Length [+/-0.10 mm)
H: Height (+/- 0.05 mm)
T: Thickness (+/- 0.02 mm)



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.

Options

- Focal length
- Pitch, Length, Height, Thickness
- Number of emitters
- Coatings
- Smile correction
- Monolithic collimation of complete stack

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.

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