Circularization of SM Laser Diodes

E2C-Module

General Description

The E2C-Module is a highly efficient means for collimating and circularizing the elliptical beam profile of single-mode laser diodes. With its high numerical aperture and diffraction limited performance the module guarantees an increased efficiency in fiber coupling. The module consists of two aspherical lenses for highest circularizing quality, fixed and aligned in one monolithic module with high-precision. Due to its small size the E2C-module can be integrated into a butterfly package. The module is available for open and packaged diodes and can be adapted to different divergences and beam diameters.

Advantages

- highly efficient circularization
- high numerical aperture
- diffraction limited performance
- optimized for highest brightness
- monolithic module
- easy to mount
- highest level of precision and uniformity
- long term stability

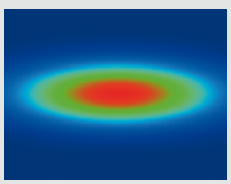
Service

We also design, develop and manufacture customized E2C-Modules, which are optimized to meet the specific requirements of your application. In order to simplify mounting, we also offer the E2C-Modules with customized base plates or additional surfaces for mounting.

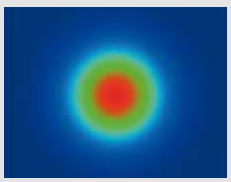
Quality

We operate a 100% quality control policy. By testing the modules in an environment identical to the conditions they will encounter in industrial practice, we ensure that there is no discrepancy between our test results and the results subsequently achieved when our optic is used within its intended application at your site. In conjunction with our sophisticated manufacturing technology, this guarantees the production of modules with unsurpassed collimation characteristics.

Intensity profile at diode laser facet



Intensity profile after E2C-Module



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E2C-Module

E2C – Open Package

Module	DIV $_{FA}$ FWHM (deg)	DIV $_{SA}$ FWHM (deg)	BFL (mm)	L (mm)	W (mm)	H (mm)	h (mm)	D (mm)	d (mm)
E2C-18x8	18	8	0.153	3.5	1.5	2.10	1.35	1.7	0.5
E2C-25x8	25	8	0.248	3.3	1.5	2.35	1.35	1.7	0.5
E2C-32x8	32	8	0.148	3.3	1.5	2.35	1.35	1.7	0.5

E2C – 5.6mm-Package

Module	DIV $_{FA}$ FWHM (deg)	DIV $_{SA}$ FWHM (deg)	γ (mm)	Laser diode* (mm)	L (mm)	W (mm)	D (mm)	d (mm)
E2C-21x10-CAN	21	10	405	HL6362MG	33	15	0.6	2.8
E2C-22x8-CAN	22	8	635	NDHV310APC	33	15	0.5	2.6

* Typical laser diodes for E2C-modules.

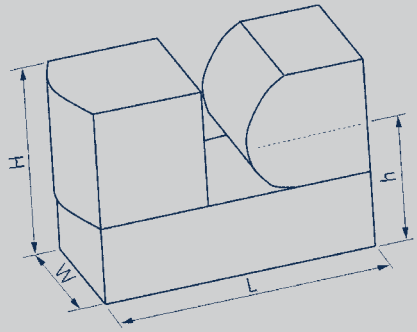
Quality Standards			
XB	Extra-High-Brightness	power within an angle of +/- D (mrad)	> 90%

Div: Divergence
BFL: Back focal length @ 976 nm
h: Entrance beam position
D: Divergence of collimated beam for given wavelength. Module can be used for other wavelength as well, but divergence will change according to wavelength.
Standard Coating: AR 780-1020 nm
Material: SCHOTT and OHARA optical glass

L: Length [+/-0.10 mm)
H: Height (+/- 0.01 mm)
W: Width (+/- 0.01 mm)
d: diameter of collimated beam in both axes

Transmission: > 98%

Options
Customized focal and back focal length according to emitter characteristics (divergence, wavelength)
Customized dimensions
Customized coating
Additional taps or shoulders for mounting



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