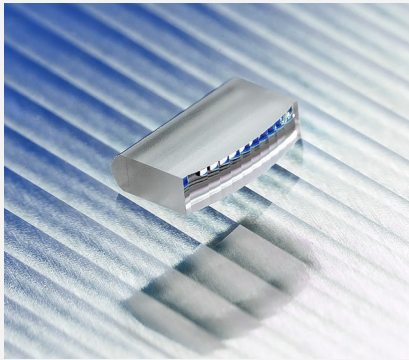


# Fiber Coupler for Mini-Bars

## Monolithic solution for VIS and IR



### Features and Advantages

Monolithic fiber coupler for the efficient coupling of the light output of mini-bars with 10 emitters into optics fibers with a core diameter of 600  $\mu\text{m}$  or larger and NA of 0.22 or larger.

### Product Specifications

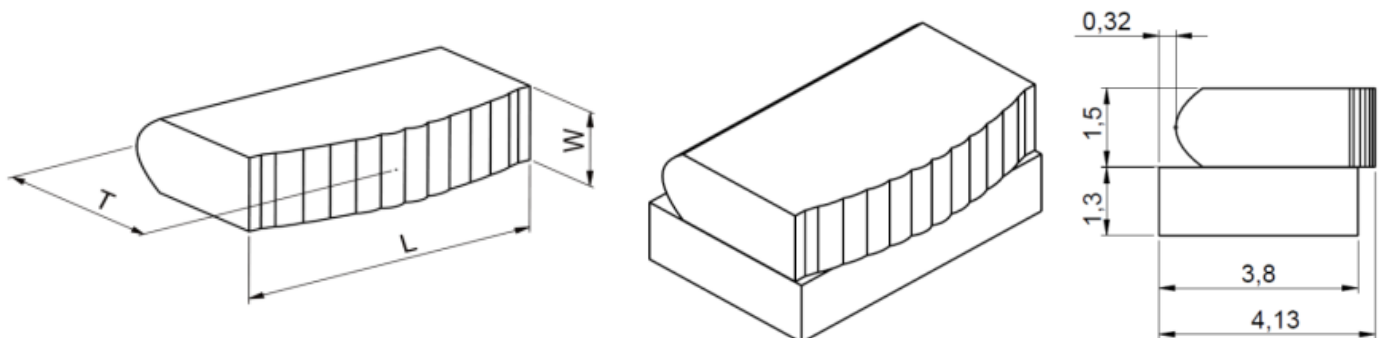
Specification Data	Unit	Value
Material		S-TIH53 (Ohara)
Length (L)	mm	$6.0 \pm 0.1$
Width (W)	mm	$1.5 \pm 0.1$
Thickness (T)	mm	$3.81 \pm 0.05$
Clear Aperture	$\text{mm}^2$	$5.0 \times 1.2$
Numerical Aperture (NA)		FA:0.5; SA:0.08
Transmission	%	> 99
Typical Coupling Efficiencies (for Uncoated Fibers)		
10 Emitters (Width: 90 $\mu\text{m}$ ); Fiber Diameter 600 $\mu\text{m}$ , NA 0.22	%	90
10 Emitters (Width: 90 $\mu\text{m}$ ); Fiber Diameter 800 $\mu\text{m}$ , NA 0.22	%	92
Surface Imperfections (DIN ISO 10110-7)		5/ 2x0.025; C3x0.1; L1x0.025; E <sup>(1)</sup>

Product Code	ZLE001723 <sup>(2)</sup>	ZLE001674 <sup>(2)</sup>	MOD000399 <sup>(2)</sup>
Specification Data	Unit	Value	
Distance Emitter Facet to Coupler	mm	0.4	0.4
Distance Coupler to Fiber	mm	11.8 (@ 970 nm)	11.8 (@ 970 nm)
AR Coating	nm	790 - 990 nm	790 - 990 nm

<sup>(1)</sup> Chipping on short edge 0.2, chipping on long edge 0.08.

<sup>(2)</sup> Example for customization—design, dimensions, coatings & bottom tabs on request.

### Product Drawing



Rev 03 | Updated June 8, 2022 | RoHS compliant 2011/65/EU and 2015/863/EU

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# Fiber Coupler

## Monolithic solution for Infrared applications



### Features and Advantages

Monolithic fiber coupler for the efficient coupling of broad area emitters into optical fibers.

(\*) Product similar to image, see product drawing below.

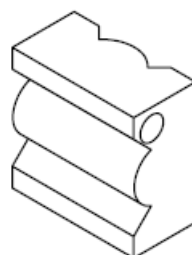
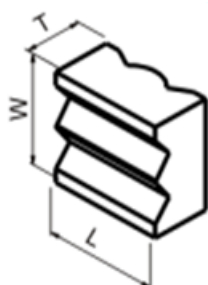
### Product Specifications

Product Code		ZLE000432 <sup>(1)</sup>
Specification Data	Unit	Value
Material		S-TIH53 (Ohara)
Length (L)	mm	2.0 ± 0.05
Width (W)	mm	2.0 ± 0.05
Thickness (T)	mm	1.01 ± 0.02
Clear Aperture (A <sub>i</sub> x A <sub>w</sub> )	mm <sup>2</sup>	0.75 x 0.75
Numerical Aperture (NA) <sup>(2)</sup>		FA:0.6; SA:0.1
Refractive Index @ 808 nm		1.823
Distance Emitter Facet to Coupler (WD <sub>d</sub> )	mm	0.05
Distance Coupler to Fiber (WD <sub>f</sub> )	mm	0.27
Effective Focal Length (EFL) @ 808 nm	mm	FA: 0.05; SA: 0.24
AR Coating	nm	790 - 990
Transmission	%	> 99
Typical Coupling Efficiencies (for AR Coated Fibers)		
Emitter Width ≤100 μm, NA 0.1; Fiber Diameter 50 μm, NA 0.22	%	> 75
Emitter Width ≤100 μm, NA 0.1; Fiber Diameter 100 μm, NA 0.22	%	> 90
Emitter Width ≤200 μm, NA 0.1; Fiber Diameter 100 μm, NA 0.37	%	> 90
Emitter Width ≤200 μm, NA 0.1; Fiber Diameter 200 μm, NA 0.37	%	> 90
Surface Imperfections (DIN ISO)	10110-7	5/ 8x0.01; C5x0.063; L2x0.016; E0.2

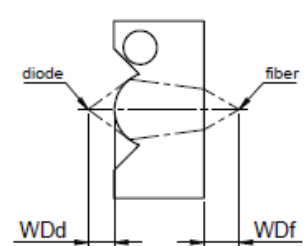
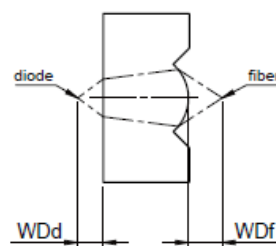
<sup>(1)</sup> Example for customization – customized coating and design on request.

<sup>(2)</sup> For an emitter width of 100 μm.

### Product Drawing



Side A is marked by point



Rev 06 | Updated October 20, 2022 | RoHS compliant 2011/65/EU and 2015/863/EU

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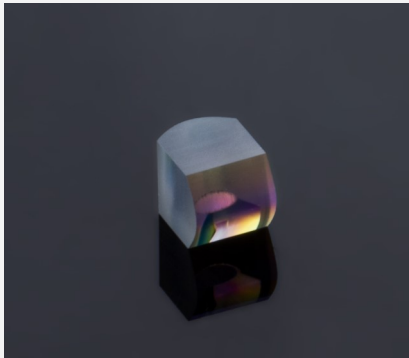
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# Fiber Coupler for Packaged Emitters

## Monolithic solution for Infrared applications



### Features and Advantages

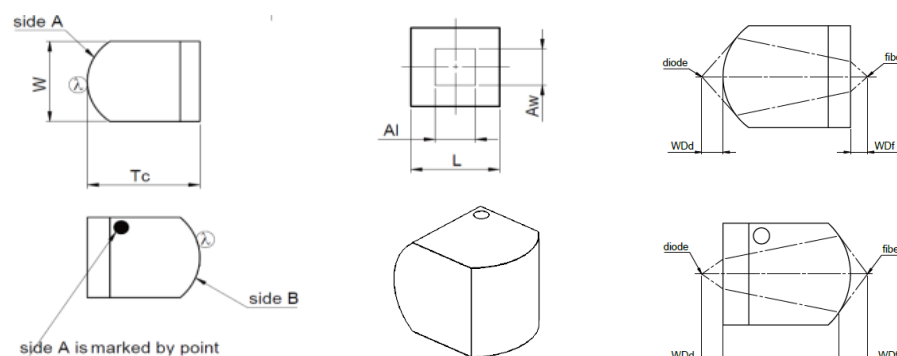
Monolithic fiber coupler for the efficient coupling of broad area emitters into optical fibers.

### Product Specifications

Product Code	ZLE000382	
Specification Data <sup>(1)</sup>	Unit	Value
Material		S-TIH53 (Ohara)
Length (L)	mm	2.4 ± 0.05
Width (W)	mm	2.4 ± 0.05
Thickness (T)	mm	3.0 ± 0.02
Clear Aperture (A <sub>L</sub> x A <sub>W</sub> )	mm <sup>2</sup>	1.1 x 1.1
Numerical Aperture (NA)		FA:0.46; SA:0.1
Refractive Index @ 808 nm		1.823
Distance Emitter Facet to Coupler (WD <sub>d</sub> )	mm	1.35
Distance Coupler to Fiber (WD <sub>f</sub> )	mm	3.1
Effective Focal Length (EFL) @ 808 nm	mm	FA: 1.04; SA: 1.57
AR Coating	nm	790 - 990
Transmission	%	> 99
Typical Coupling Efficiencies (for AR Coated Fibers)		
Emitter 100 μm, NA 0.1; Fiber Diameter 200 μm, NA 0.22	%	> 85
Emitter 200 μm, NA 0.1; Fiber Diameter 200 μm, NA 0.22	%	> 80
Surface Imperfections (DIN ISO 10110-7)		5/ 10x0.01; C10x0.063; L3x0.016; E0.5

<sup>(1)</sup> Customized coating and design on request.

### Product Drawing



Rev 05 | Updated July 25, 2022 | RoHS compliant 2011/65/EU and 2015/863/EU

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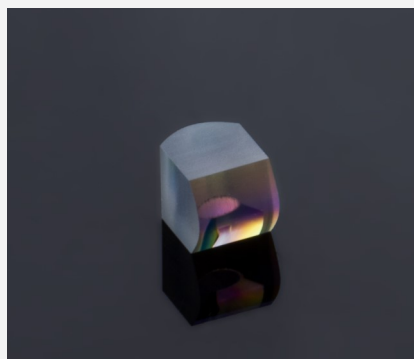
Address: Bookenburgweg 4-8, 44319 Dortmund, Germany

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# Coupler for Pumping Application

## Monolithic solution for blue emitting TO-Cans



### Features and Advantages

Monolithic beam shaping and focusing optic for efficient light coupling of a single emitter (TO-can) for pumping applications.

The coupler is designed to be mounted in front of a single emitter, which is mounted in a TO-can housing.

(\*) Product similar to image, see product drawing below.

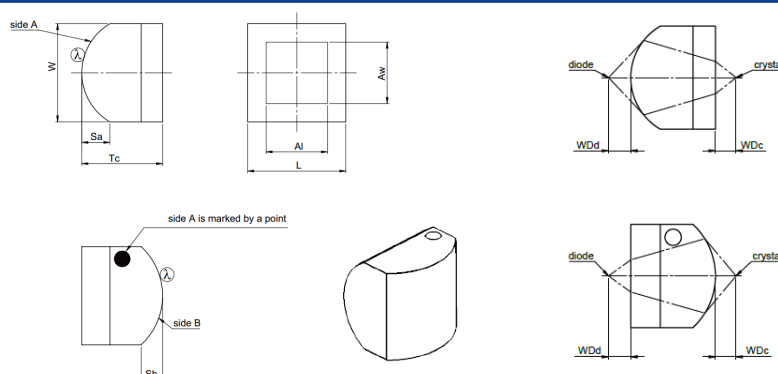
### Product Specifications

Product Code	ZLE000420	
Specification Data	Unit	Value
Material		S-LAM52 (Ohara)
Length (L)	mm	$2.4 \pm 0.1$
Width (W)	mm	$2.4 \pm 0.1$
Thickness (T)	mm	$2.0 + 0 / - 0.1$
Clear Aperture ( $A_l \times A_w$ )	mm <sup>2</sup>	$1.5 \times 1.5$
Refractive Index @ 445 nm		1.739
Effective Focal Length (EFL) @ 445 nm	mm	FA: 1.047; SA: 1.752
Working Distance $WD_d$ <sup>(1)</sup>	mm	1.19
Distance Coupler to Crystal $WD_c$	mm	7.0
Numerical Aperture (NA)		FA: 0.5; SA: 0.12
AR Coating	nm	420 - 470
Transmission	%	> 99
Pump Spot Size (FW 1/e <sup>2</sup> ) <sup>(2)</sup>	μm	$15 \pm 5$
Surface Imperfections (DIN ISO 10110-7)		5/ 10x0.01; C10x0.063; L4x0.016; E0.4

<sup>(1)</sup> Distance Emitter Facet to Coupler

<sup>(2)</sup> Valid for an emitter height of 2 μm (NA 0.33) and an emitter width of 14 μm (NA 0.12)

### Product Drawing



Rev 05 | Updated July 25, 2022 | RoHS compliant 2011/65/EU and 2015/863/EU

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