

# Beam Transformation System

## BTS(FAC286)-P0.4



### Features and Advantages

Beam Transformation System (BTS) for diode laser bars with up to 25 emitters: emitter size up to 200  $\mu\text{m}$ , emitter pitch 400  $\mu\text{m}$ . The BTS is used to make the beam parameter product of diode laser bars symmetrical for free beam lasers or fiber coupling.

The BTS consists of a FAC286 fast axis collimation lens, a lens array for 90° rotation of the emitters and a bottom tab.

### Product Specifications

Specification Data <sup>(1)</sup>	Unit	Value
Material		S-TIH53 (Ohara)
Length (L)	mm	12.0 $\pm$ 0.1
Width (W)	mm	1.0 $\pm$ 0.1
Thickness (T)	mm	1.9 $\pm$ 0.1
Clear aperture	mm <sup>2</sup>	10.5 x 0.45
Back focal length BFL @ 808 nm	mm	0.09
Pitch	mm	0.4
Gap	mm	0.05 $\pm$ 0.01
Numerical aperture (NA)		FA: 0.5 SA: 0.09
Transmission	%	> 98

Product Code	MOD000477	MOD000678 <sup>(1)</sup>	MOD000454 <sup>(1)</sup>	MOD000679 <sup>(1)</sup>	MOD000478 <sup>(1)</sup>	MOD000680 <sup>(1)</sup>
Specification Data	Unit	Value				
AR-coating	nm	790 - 990	790 - 990	790 - 990	790 - 990	790 - 990
Divergence optimized at	nm	808	976	808	976	808
Remaining divergence (FW1/e <sup>2</sup> ) for fast axis <sup>(2)</sup>	mrad	< 7	< 7	< 10	< 10	< 13

<sup>(1)</sup> Example for customization – customized coatings and different pitches (e.g. 0.4 or 0.5mm) on request.

<sup>(2)</sup> Depending on laser parameters / specification is valid for an emitter-height of 1 $\mu\text{m}$  and no smile of the laser diode.

<sup>(3)</sup> Apart from free beam lasers the BTS with remaining divergence for FA < 7, 10 or 13mrad can be used for coupling into 200, 400 or 600 $\mu\text{m}$  fibers with NA 0.22, respectively (see also BTS-HOC systems for fiber coupling).

### Product Dimensions (mm)

