



High Power Single Emitter Diode Lasers

95 μm , 808 nm, 4 W



JDL-BAB-25-23-808-TM-92-2.0 (For cleaving into single emitters)

Features:

- High laser power
- High efficiency
- Long lifetime, high reliability
- Excellent beam characteristics

Applications:

- Pumping of solid-state lasers and fiber lasers
- Industrial, scientific and medical systems
- Applications in the printing industry
- Defense and security

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Preliminary Specifications

Product	JDL-BAB-25-23-808-TM-92-2.0 (*For cleaving into single emitters)				
	Symbol	Min	Nom	Max	Unit
Operation*					
Wavelength (cw)	λ	805	808	811	nm
Optical Output Power per Emitter	P_{opt}		4		W
Operation Mode			cw, switched		
Power Modulation			100		%
Geometrical					
Number of Emitters			23		
Emitter Width	W	90	95	100	μm
Emitter Pitch	P		400		μm
Filling Factor	F		-		%
Width	B	9600	9800	10000	μm
Cavity Length	L	1980	2000	2020	μm
Thickness	D	115	120	125	μm
Electro Optical Data per Emitter*					
Fast Axis Divergence (FWHM)	θ_{\perp}		27	30	°
Fast Axis Divergence**	θ_{\perp}		46	50	°
Slow Axis Divergence at 4 W (FWHM)	θ_{\parallel}		6	8	°
Slow Axis Divergence at 4 W**	θ_{\parallel}		8	10	°
Pulse Wavelength	λ	802	805	808	nm
Spectral Bandwidth (FWHM)	$\Delta\lambda$		2	3	nm
Slope Efficiency***	η	1.0	1.25		W/A
Threshold Current	I_{th}		0.4	0.5	A
Operating Current	I_{op}		3.6	4.5	A
Operating Voltage	V_{op}		1.8	2.0	V
Series Resistance	R_s		65	75	mΩ
Degree of TM Polarization	α	97			%
EO Conversion Efficiency***	η_{tot}	57	61		%

* Mounted as single emitters on a heat sink with $R_{th} = 3.5 \text{ K/W}$, coolant temperature 25 °C , operating at nominal power

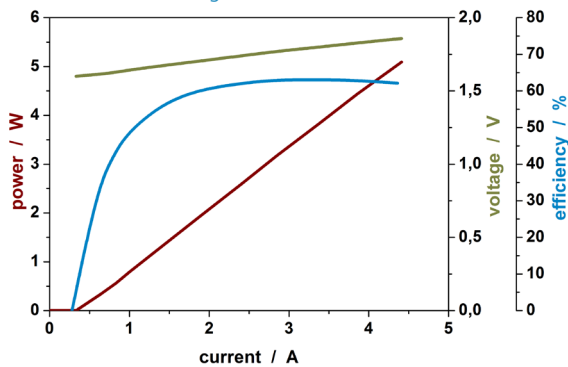
** Full width at 95 % power content

*** Item may change upon notice and acceptance by JENOPTIK Diode Lab GmbH, due to future improvements of technology or processing

Note: Nominal data represents typical values.

Safety Advises: Single emitter diode lasers are the active components in high-power diode lasers in accordance with IEC standard class 4 laser products. As delivered, single emitter diode lasers cannot emit any laser beam. The laser beam can only be released if the single emitter diode lasers are connected to a source of electrical energy. In this case, IEC-Standard 60825-1 describes the safety regulations to be taken to avoid personal injury.

Power - Current - Voltage - Characteristics*



Spectral Characteristic*

