

Unmounted Laser Bars 20 W cw ... 100 W qcw

SPL Bxxx

Features

- Unmounted monolithic linear array
- High efficiency MOVPE-grown quantum well structure
- Highly reliable strained layer InGa(AI)As/GaAs material
- Standard wavelength selection is ± 3 nm, others on request
- Solderable p- and n-side metalization



Applications

- Pumping of solid state lasers (Nd: YAG, Yb: YAG, ...)
- Direct industrial applications (soldering, surface treatment, marking, ...)
- Heating, illumination
- Medical and printing application

Type	Power	Wavelength ¹⁾	Ordering Code
SPL BG81	25 W .. 30 W cw	808 nm	Q62702-P1654
SPL BG94		940 nm	Q62702-P1733
SPL BG98		980 nm	Q62702-P3259
SPL BS79	50 W .. 100 W qcw	794 nm	Q62702-P3257
SPL BS81		808 nm	Q62702-P1719
SPL BS94		940 nm	Q62702-P3258

1) Other wavelengths in the range of 780 ... 980 nm are available on request.

Characteristics

($T_A = 25\text{ °C}$)

Parameter	Symbol	Wave-length	Typical Values		Unit
			BGxx	BSxx	
Recommended output power ¹⁾	P_{opt}	–	20 ... 30 cw	50 ... 100 qcw	W
Catastrophic optical damage limit ^{1), 2)}	P_{COD}	$\leq 808\text{nm}$ $\geq 940\text{nm}$	> 80 > 130	> 110 > 200	W
Threshold current ²⁾	I_{th}	–	< 11	< 17	A
Differential quantum efficiency ²⁾	η	–	> 0.85		W/A
Total conversion efficiency ¹⁾	η_{tot}	–	> 35		%
Beam divergence (FWHM)	$\theta_{\perp} \times \theta_{\parallel}$	$\leq 808\text{nm}$ $\geq 940\text{nm}$	$45^{\circ} \times 12^{\circ}$ $38^{\circ} \times 12^{\circ}$		Deg.
Standard pulse wavelength ^{2), 3)}	λ_{pulse}	$\leq 808\text{nm}$ $\geq 940\text{nm}$	802 934	804 935	nm
Spectral width (FWHM)	$\Delta\lambda$	–	< 4		nm
Fill factor	F	–	50	80	%
Emitter width (Structure)	w	–	200 (20 × 3)	100 –	μm μm
Pitch	p	–	400	126	μm
Bar width (Emitters per bar)	W	–	10.0 25	10.0 77	mm
Cavity length	L	–	600		μm
Bar thickness	H	–	115 ± 10		μm

1) Depending on mounting technique, i.e. on the resulting thermal resistance.

2) Calculated from measurements on one emitter of an unmounted bar (1 μs pulses at 1 kHz repetition rate).

3) Differing pulse wavelengths are available on request.