SIEMENS

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(Al)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 SPL BG94 SPL BG98	25 W .. 30 W cw	808 nm 940 nm 980 nm	Q62702-P1654 Q62702-P1733 Q62702-P3259
SPL BS79 SPL BS81 SPL BS94	50 W .. 100 W qcw	794 nm 808 nm 940 nm	Q62702-P3257 Q62702-P1719 Q62702-P3258

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

Characterictics
(T_A = 25 °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}	≤ 808nm ≥ 940nm	> 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)	$\theta_{\perp} \times \theta_{\parallel}$	≤ 808nm ≥ 940nm	45° × 12° 38° × 12°		Deg.
Standard pulse wavelength [2), 3)]	λ_{pulse}	≤ 808nm ≥ 940nm	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.