

**Datasheet for #sbcw24317 DN**

Recommendations:

Please read the User Manual and have a look at the FAQ at <http://www.alpeslasers.ch/?a=142>

**WARNING:** Operating the laser with higher current or voltage than specified in this document may cause damage and will result in loss of warranty, unless Alpes Lasers has permitted to do so!

**WARNING:** Beware of the polarity of the laser. This laser has to be powered with negative bias and positive bias on the specific zones drawn below. To be used with a high compliance CW laser driver capable of reaching the operating current and voltage indicated in this datasheet, or up to 2.5A/20V.



Figure 1: Mechanical and electrical interface for #sbcw24317 DN (please note that AlN submount numbering is A1106)

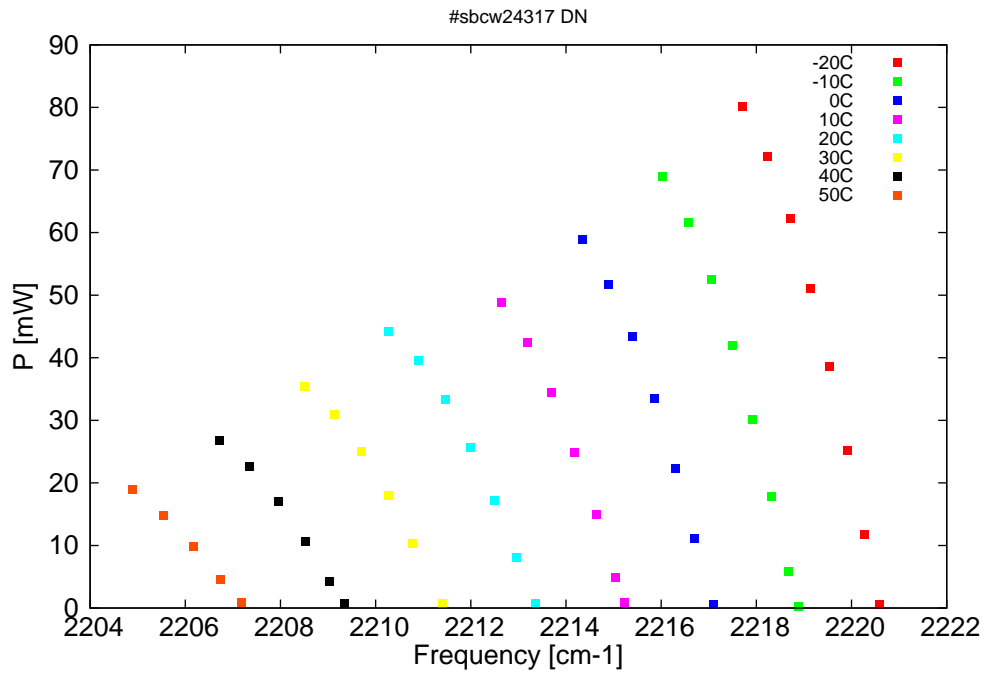


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

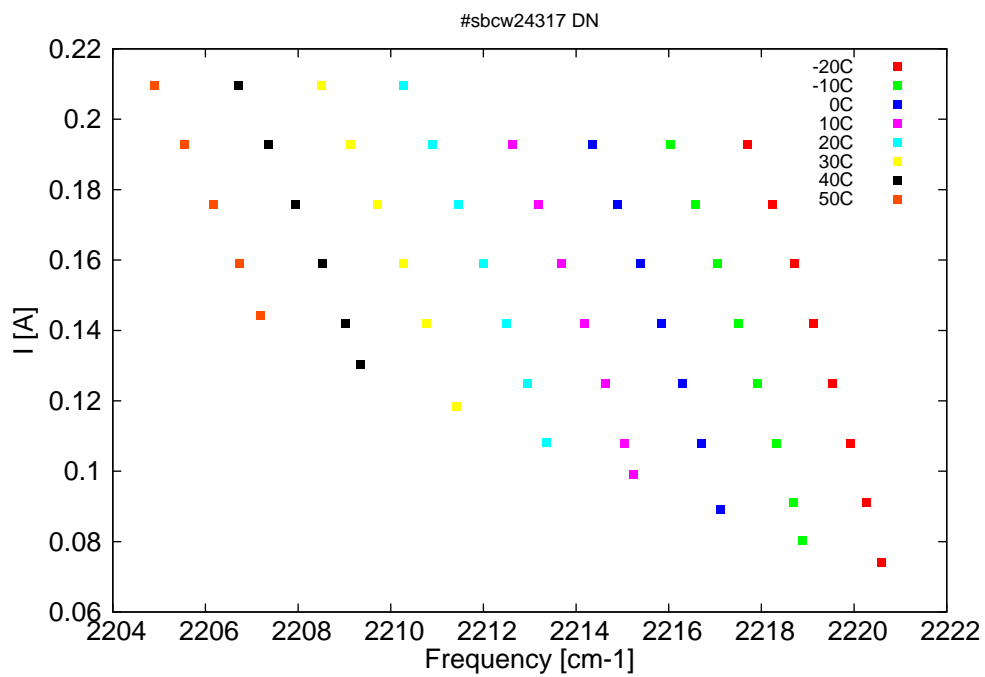


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4503.3	2220.6	0.5	-20	8.43	0.074
4504	2220.3	11.8	-20	8.64	0.091
4504.7	2219.9	25.2	-20	8.84	0.108
4505.5	2219.5	38.6	-20	9.03	0.125
4506.3	2219.1	51.1	-20	9.23	0.142
4507.1	2218.7	62.3	-20	9.42	0.159
4508.1	2218.2	72.2	-20	9.62	0.176
4509.2	2217.7	80.2	-20	9.83	0.193
4506.8	2218.9	0.3	-10	8.46	0.08
4507.2	2218.7	5.9	-10	8.59	0.091
4507.9	2218.3	17.9	-10	8.79	0.108
4508.7	2217.9	30.1	-10	8.99	0.125
4509.6	2217.5	42	-10	9.18	0.142
4510.5	2217.1	52.5	-10	9.39	0.159
4511.5	2216.6	61.6	-10	9.59	0.176
4512.6	2216	69	-10	9.8	0.193
4510.4	2217.1	0.6	0	8.53	0.089
4511.2	2216.7	11.1	0	8.75	0.108
4512	2216.3	22.3	0	8.95	0.125
4512.9	2215.9	33.4	0	9.14	0.142
4513.9	2215.4	43.3	0	9.35	0.159
4514.9	2214.9	51.8	0	9.55	0.176
4516	2214.4	58.9	0	9.76	0.193
4514.2	2215.2	0.8	10	8.61	0.099
4514.6	2215	4.9	10	8.71	0.108
4515.4	2214.6	15	10	8.9	0.125
4516.3	2214.2	24.9	10	9.1	0.142
4517.3	2213.7	34.4	10	9.31	0.159
4518.4	2213.2	42.4	10	9.51	0.176
4519.5	2212.6	48.8	10	9.71	0.193
4518	2213.4	0.7	20	8.69	0.108
4518.8	2213	8	20	8.87	0.125
4519.8	2212.5	17.2	20	9.07	0.142
4520.8	2212	25.7	20	9.27	0.159
4521.9	2211.5	33.3	20	9.48	0.176
4523	2210.9	39.5	20	9.69	0.193
4524.3	2210.3	44.2	20	9.91	0.21
4522	2211.4	0.7	30	8.78	0.118
4523.3	2210.8	10.3	30	9.04	0.142
4524.3	2210.3	18	30	9.24	0.159
4525.5	2209.7	25	30	9.45	0.176
4526.7	2209.1	30.9	30	9.66	0.193
4528	2208.5	35.3	30	9.88	0.21
4526.2	2209.4	0.7	40	8.9	0.13
4526.9	2209	4.2	40	9.02	0.142
4527.9	2208.5	10.7	40	9.22	0.159
4529.1	2207.9	17	40	9.43	0.176
4530.3	2207.4	22.6	40	9.63	0.193
4531.6	2206.7	26.8	40	9.85	0.21

*continued on next page*

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4530.7	2207.2	0.8	50	9.06	0.144
4531.6	2206.7	4.6	50	9.21	0.159
4532.8	2206.2	9.9	50	9.41	0.176
4534	2205.5	14.8	50	9.62	0.193
4535.4	2204.9	18.9	50	9.84	0.21

Table 1: Singlemode optical output power as function of operating parameters.

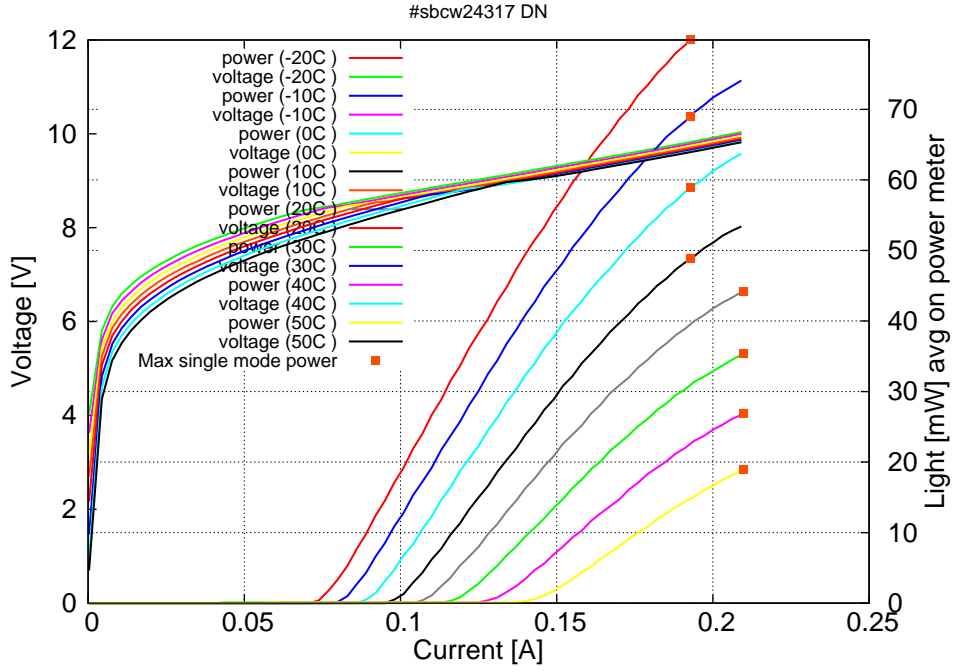


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.07A$  /  $V_{th}=8.4V$  (2-wires measurements). Maximum operation current: 0.195A between -20C and 10C, 0.21A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

