

**Datasheet for #sbcw20204 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 #sbcw20204 DN (please note that AlN submount numbering is A0RA8)

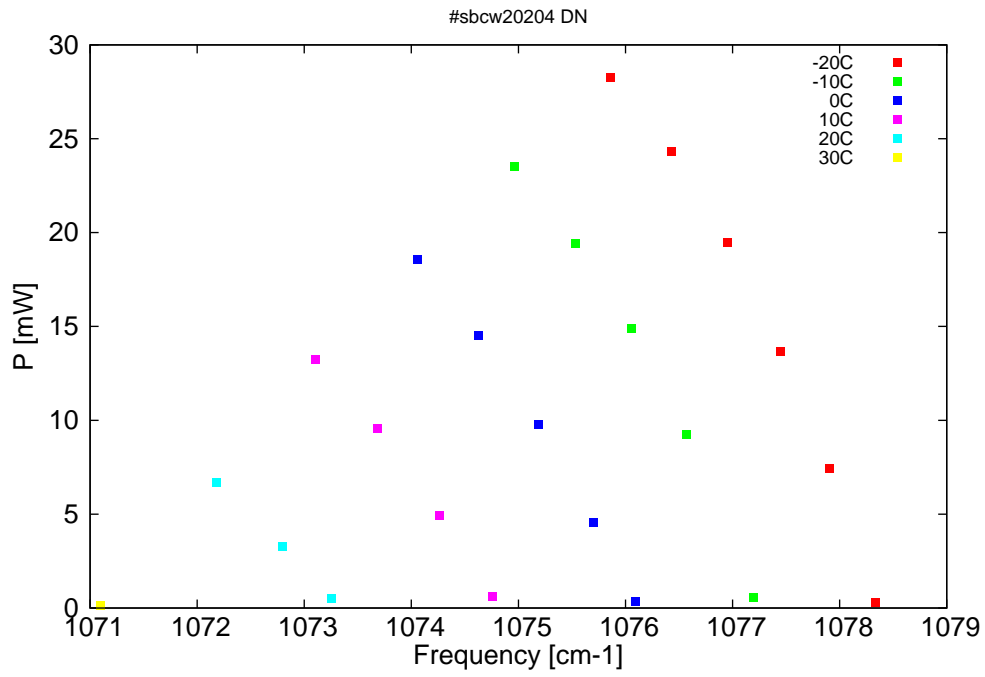


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

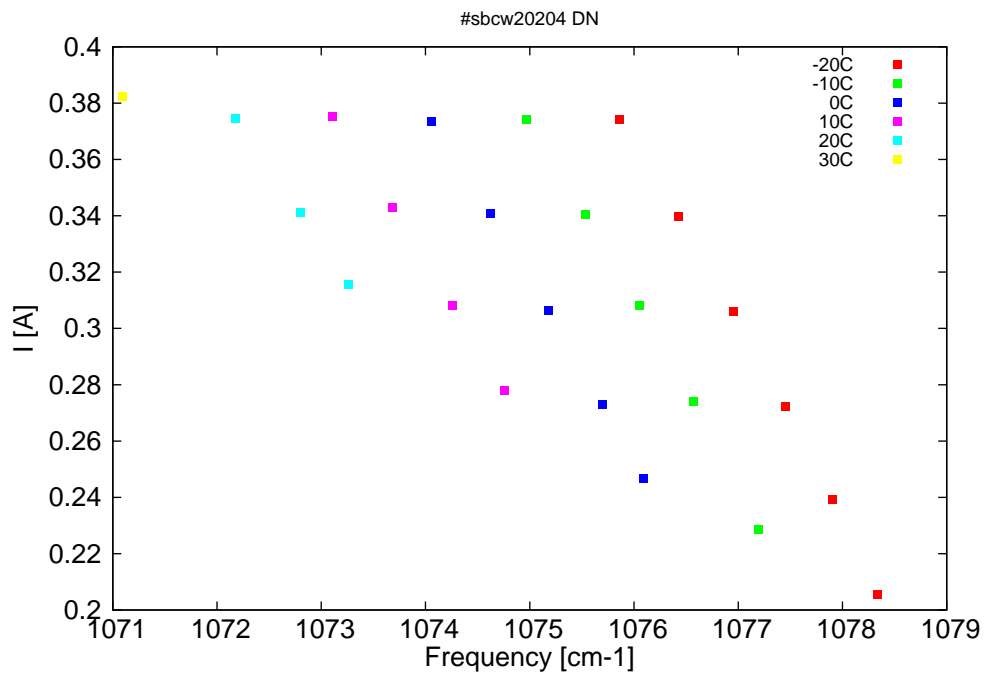


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
9273.5	1078.3	0.3	-20	10.73	0.206
9277.3	1077.9	7.4	-20	11.17	0.239
9281.2	1077.5	13.6	-20	11.58	0.272
9285.4	1077	19.5	-20	11.97	0.306
9290	1076.4	24.3	-20	12.35	0.34
9294.9	1075.9	28.3	-20	12.72	0.374
9283.4	1077.2	0.5	-10	10.91	0.229
9288.8	1076.6	9.2	-10	11.47	0.274
9293.2	1076.1	14.9	-10	11.87	0.308
9297.7	1075.5	19.4	-10	12.23	0.341
9302.6	1075	23.5	-10	12.58	0.374
9292.9	1076.1	0.3	0	11	0.247
9296.3	1075.7	4.6	0	11.33	0.273
9300.7	1075.2	9.8	0	11.71	0.306
9305.5	1074.6	14.5	0	12.08	0.341
9310.5	1074.1	18.6	0	12.42	0.374
9304.4	1074.8	0.6	10	11.26	0.278
9308.7	1074.3	4.9	10	11.61	0.308
9313.7	1073.7	9.6	10	11.98	0.343
9318.8	1073.1	13.3	10	12.32	0.375
9317.4	1073.3	0.5	20	11.57	0.316
9321.4	1072.8	3.3	20	11.85	0.341
9326.8	1072.2	6.7	20	12.19	0.374
9336.3	1071.1	0.1	30	12.16	0.382

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

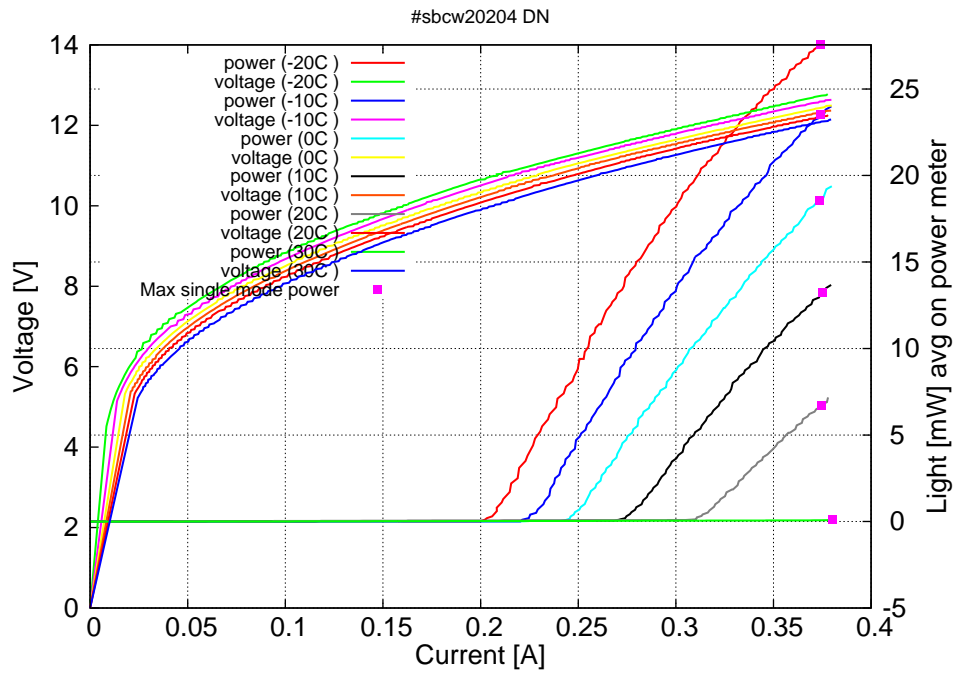


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.20A$  /  $V_{th}=10.7V$  (2-wires measurements). Maximum operation current: 0.38A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

