

**Datasheet for #sbcw20745 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 #sbcw20745 DN (please note that AlN submount numbering is A0RZY)

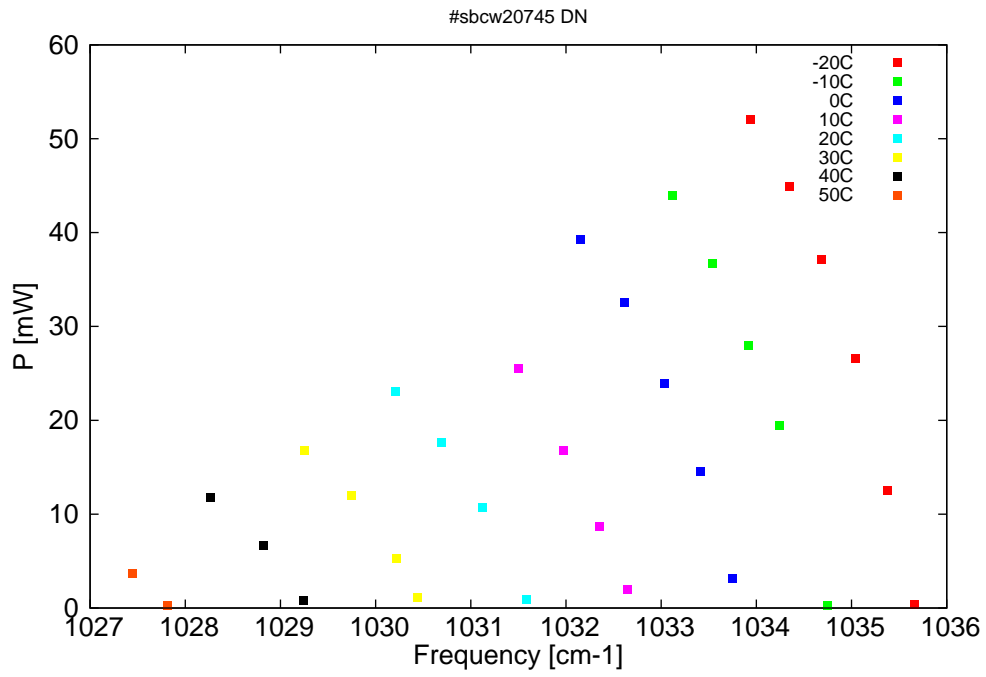


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

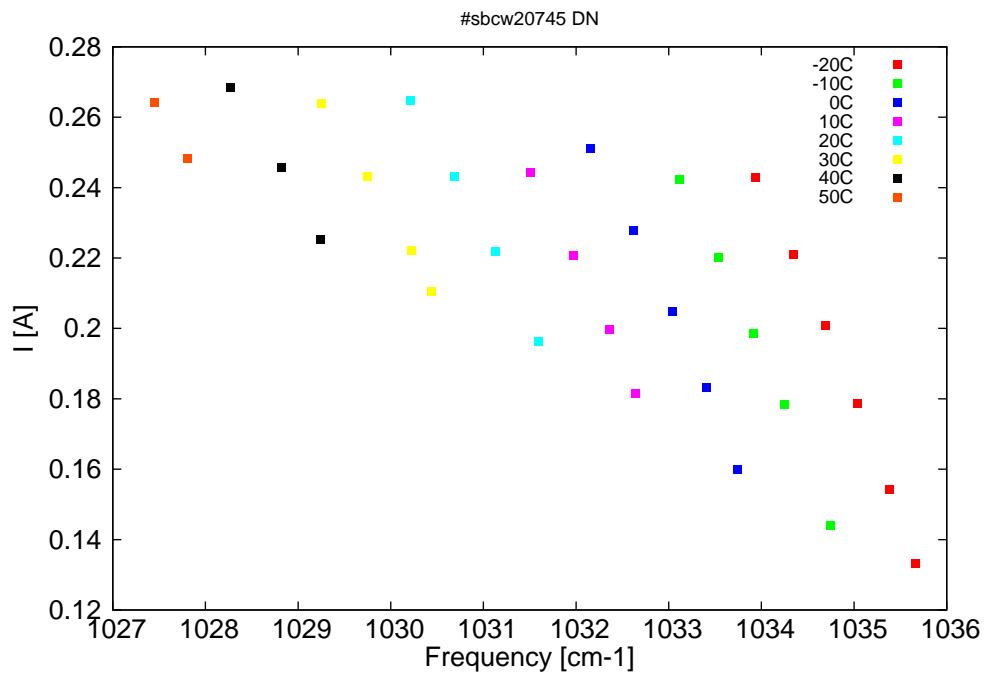


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
9655.6	1035.7	0.3	-20	9.18	0.133
9658.3	1035.4	12.5	-20	9.53	0.154
9661.5	1035	26.6	-20	9.9	0.179
9664.7	1034.7	37.2	-20	10.26	0.201
9668	1034.3	44.9	-20	10.58	0.221
9671.8	1033.9	52.1	-20	10.95	0.243
9664.2	1034.7	0.3	-10	9.27	0.144
9668.9	1034.2	19.4	-10	9.81	0.178
9671.9	1033.9	28	-10	10.13	0.198
9675.5	1033.5	36.7	-10	10.48	0.22
9679.4	1033.1	43.9	-10	10.85	0.242
9673.6	1033.7	3.1	0	9.42	0.16
9676.7	1033.4	14.5	0	9.76	0.183
9680.2	1033	23.9	0	10.1	0.205
9684.1	1032.6	32.6	0	10.47	0.228
9688.4	1032.2	39.2	0	10.85	0.251
9683.9	1032.6	2	10	9.63	0.181
9686.6	1032.4	8.7	10	9.9	0.2
9690.2	1032	16.8	10	10.23	0.221
9694.6	1031.5	25.5	10	10.61	0.244
9693.8	1031.6	0.9	20	9.78	0.196
9698.1	1031.1	10.7	20	10.19	0.222
9702.2	1030.7	17.6	20	10.53	0.243
9706.8	1030.2	23.1	20	10.89	0.265
9704.6	1030.4	1.1	30	10.01	0.21
9706.7	1030.2	5.3	30	10.18	0.222
9711.1	1029.7	12	30	10.55	0.243
9715.8	1029.2	16.8	30	10.91	0.264
9715.9	1029.2	0.8	40	10.25	0.225
9719.9	1028.8	6.6	40	10.57	0.246
9725.1	1028.3	11.8	40	10.96	0.268
9729.4	1027.8	0.3	50	10.56	0.248
9732.9	1027.4	3.7	50	10.81	0.264

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

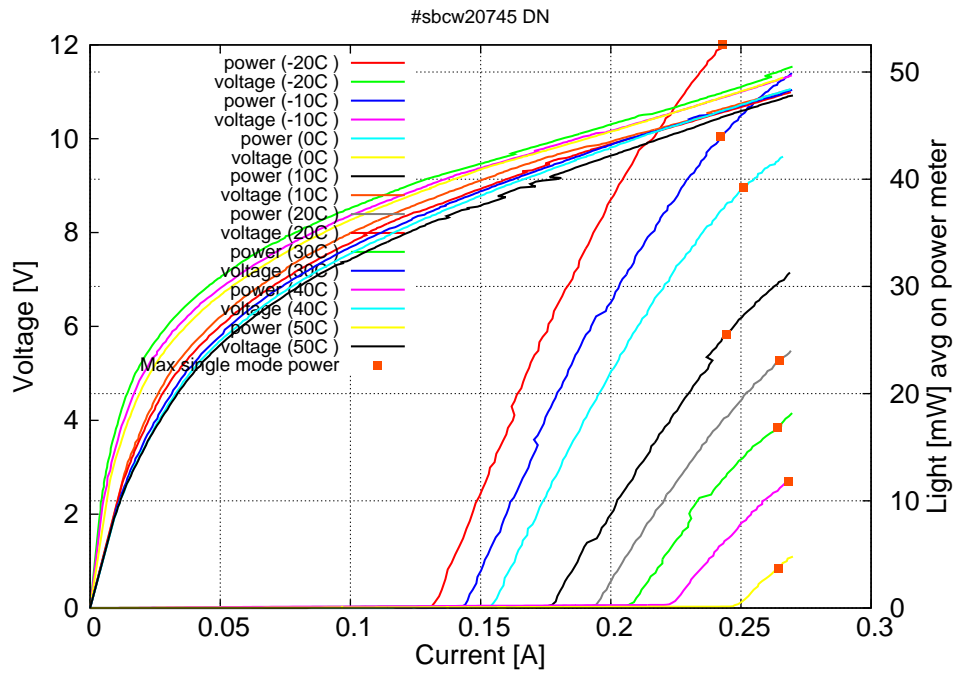


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.13A$  /  $V_{th}=9.1V$  (2-wires measurements). Maximum operation current: 0.25A between -20C and 10C, 0.27A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

