

**Datasheet for #sbcw21044 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 current on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive current on the base contact (= submount, corresponding to the label "base" on the LLH). 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 #sbcw21044 DN

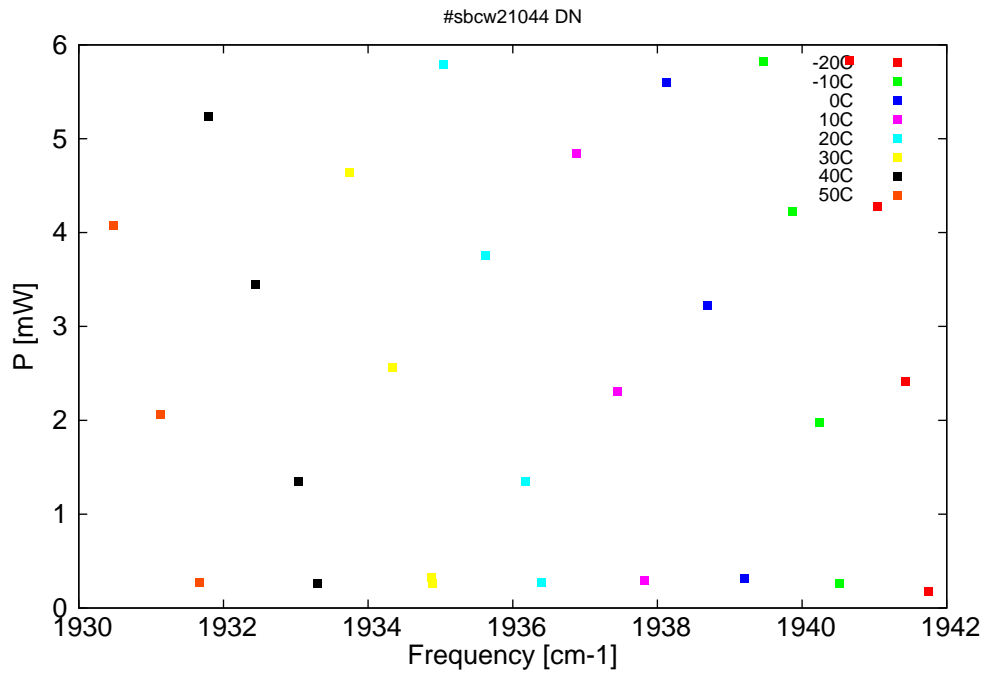


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

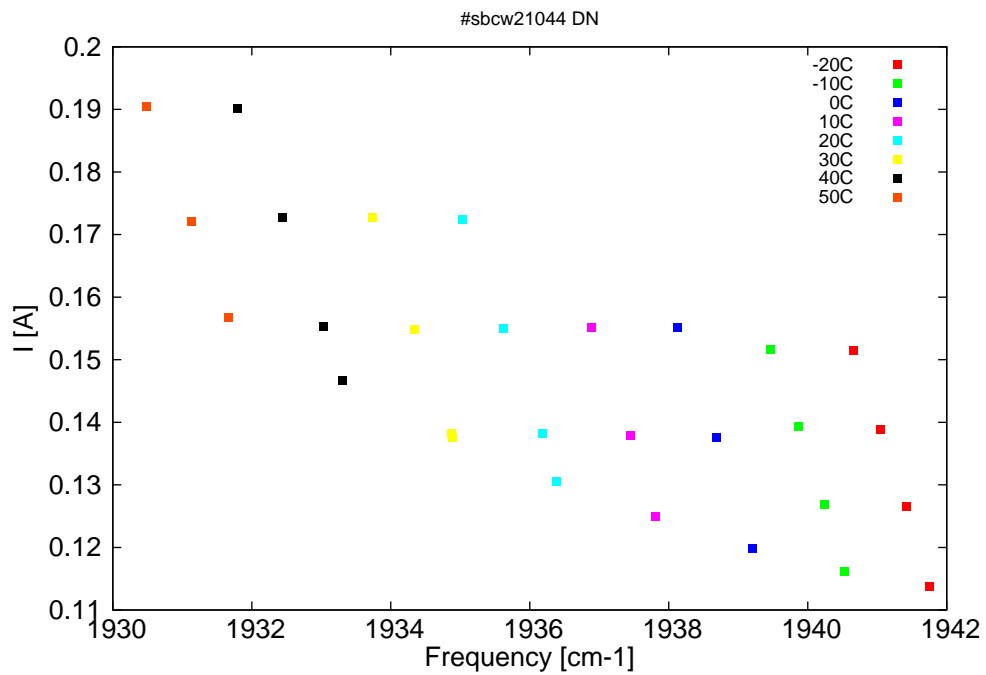


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
5150	1941.7	0.2	-20	12.25	0.114
5150.9	1941.4	2.4	-20	12.52	0.127
5151.9	1941	4.3	-20	12.83	0.139
5152.9	1940.7	5.8	-20	13.16	0.151
5153.2	1940.5	0.3	-10	12.13	0.116
5154	1940.2	2	-10	12.34	0.127
5155	1939.9	4.2	-10	12.62	0.139
5156.1	1939.5	5.8	-10	12.92	0.152
5156.8	1939.2	0.3	0	12.05	0.12
5158.1	1938.7	3.2	0	12.41	0.137
5159.6	1938.1	5.6	0	12.81	0.155
5160.5	1937.8	0.3	10	12	0.125
5161.4	1937.5	2.3	10	12.25	0.138
5162.9	1936.9	4.8	10	12.63	0.155
5164.2	1936.4	0.3	20	11.98	0.13
5164.8	1936.2	1.3	20	12.12	0.138
5166.3	1935.6	3.8	20	12.47	0.155
5167.9	1935	5.8	20	12.85	0.172
5168.3	1934.9	0.3	30	12	0.138
5168.3	1934.9	0.3	30	12.01	0.138
5169.7	1934.3	2.6	30	12.33	0.155
5171.3	1933.7	4.6	30	12.69	0.173
5172.5	1933.3	0.3	40	12.05	0.147
5173.2	1933	1.3	40	12.2	0.155
5174.8	1932.4	3.4	40	12.54	0.173
5176.5	1931.8	5.2	40	12.9	0.19
5176.9	1931.7	0.3	50	12.12	0.157
5178.3	1931.1	2.1	50	12.4	0.172
5180.1	1930.5	4.1	50	12.74	0.19

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

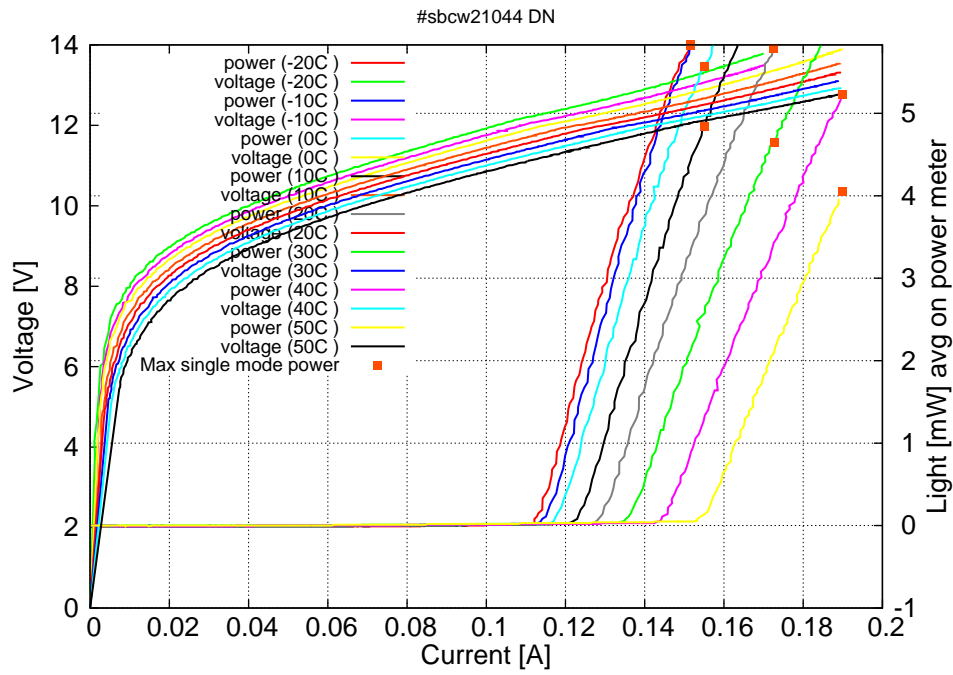


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.11A$  /  $V_{th}=12.2V$  (2-wires measurements). Maximum operation current: 0.15A between -20C and -10C, 0.155A between 0C and 10C, 0.175A between 20C and 30C, 0.19A between 40C and 50C.

Figure 3: spectra at different temperatures for various DC currents

