

**Datasheet for #sbcw24850 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 #sbcw24850 DN

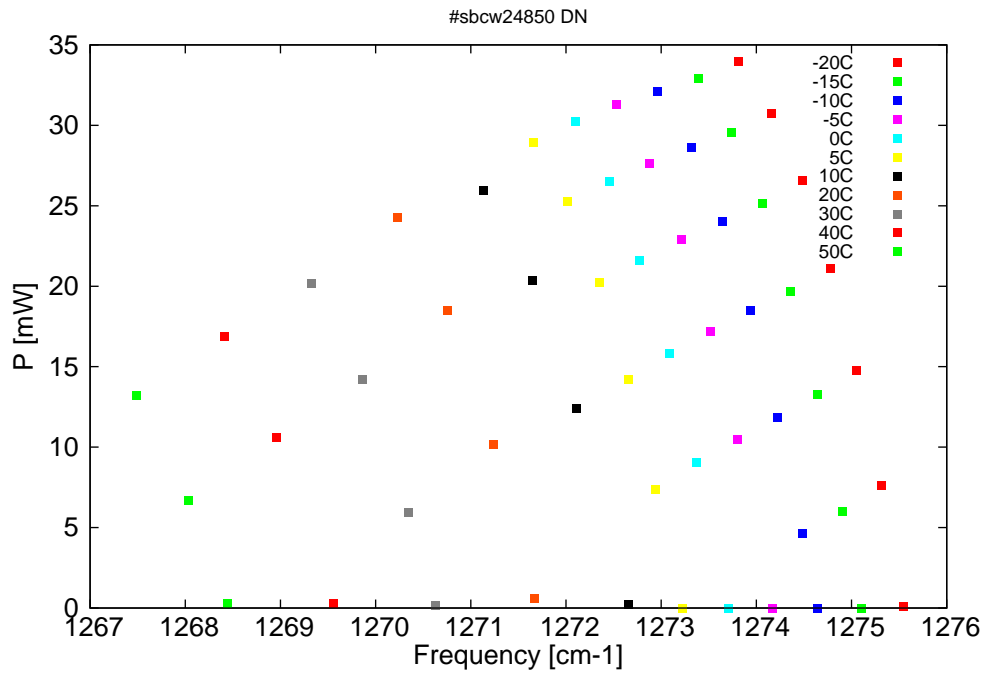


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

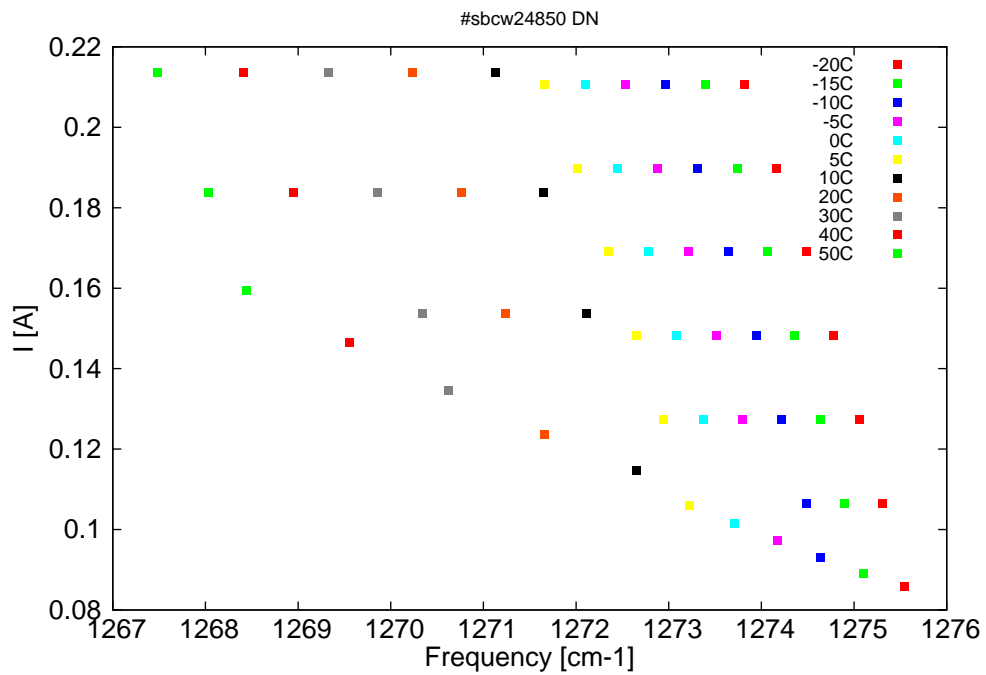


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
7839.8	1275.5	0.1	-20	7.91	0.086
7841.2	1275.3	7.6	-20	8.21	0.107
7842.8	1275.1	14.8	-20	8.49	0.127
7844.5	1274.8	21.1	-20	8.77	0.148
7846.3	1274.5	26.5	-20	9.04	0.169
7848.3	1274.2	30.8	-20	9.31	0.19
7850.4	1273.8	33.9	-20	9.57	0.211
7842.5	1275.1	0	-15	7.9	0.089
7843.7	1274.9	6	-15	8.16	0.107
7845.4	1274.6	13.3	-15	8.44	0.127
7847.1	1274.4	19.7	-15	8.71	0.148
7848.9	1274.1	25.1	-15	8.98	0.169
7850.9	1273.7	29.6	-15	9.24	0.19
7853	1273.4	32.9	-15	9.51	0.211
7845.3	1274.6	0	-10	7.91	0.093
7846.3	1274.5	4.6	-10	8.1	0.107
7847.9	1274.2	11.9	-10	8.38	0.127
7849.6	1273.9	18.5	-10	8.66	0.148
7851.5	1273.6	24	-10	8.92	0.169
7853.5	1273.3	28.6	-10	9.18	0.19
7855.7	1273	32.1	-10	9.44	0.211
7848.2	1274.2	0	-5	7.92	0.097
7850.5	1273.8	10.5	-5	8.33	0.127
7852.3	1273.5	17.2	-5	8.6	0.148
7854.2	1273.2	22.9	-5	8.86	0.169
7856.2	1272.9	27.7	-5	9.12	0.19
7858.3	1272.5	31.3	-5	9.38	0.211
7851.1	1273.7	0	0	7.92	0.101
7853.1	1273.4	9.1	0	8.28	0.127
7854.9	1273.1	15.8	0	8.55	0.148
7856.8	1272.8	21.6	0	8.81	0.169
7858.8	1272.5	26.5	0	9.06	0.19
7861	1272.1	30.2	0	9.32	0.211
7854.1	1273.2	0	5	7.94	0.106
7855.8	1272.9	7.4	5	8.23	0.127
7857.6	1272.7	14.2	5	8.49	0.148
7859.5	1272.4	20.2	5	8.75	0.169
7861.5	1272	25.3	5	9.01	0.19
7863.8	1271.7	28.9	5	9.26	0.211
7857.6	1272.7	0.2	10	8.01	0.115
7860.9	1272.1	12.4	10	8.51	0.154
7863.8	1271.6	20.4	10	8.87	0.184
7867	1271.1	25.9	10	9.23	0.214
7863.7	1271.7	0.6	20	8.04	0.124
7866.4	1271.2	10.2	20	8.41	0.154
7869.3	1270.8	18.5	20	8.77	0.184
7872.6	1270.2	24.3	20	9.12	0.214
7870.1	1270.6	0.2	30	8.08	0.135
7871.9	1270.3	5.9	30	8.32	0.154

*continued on next page*

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
7874.9	1269.9	14.2	30	8.67	0.184
7878.2	1269.3	20.2	30	9.02	0.214
7876.8	1269.6	0.3	40	8.15	0.146
7880.5	1269	10.6	40	8.58	0.184
7883.9	1268.4	16.9	40	8.93	0.214
7883.7	1268.4	0.3	50	8.22	0.159
7886.2	1268	6.7	50	8.5	0.184
7889.6	1267.5	13.2	50	8.84	0.214

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

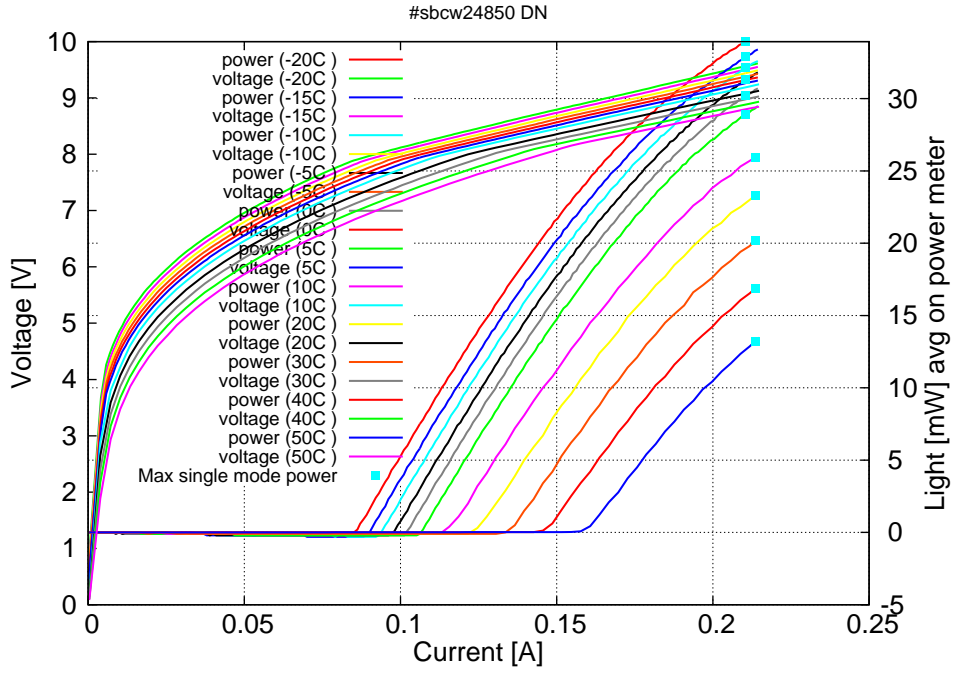


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.08A$  /  $V_{th}=7.9V$  (2-wires measurements). Maximum operation current: 0.21A between -20C and 0C, 0.215A between 10C and 50C.

Figure 3: spectra at different temperatures for various DC currents

