

**Datasheet for #sbcw24805 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 #sbcw24805 DN (please note that AlN submount numbering is A0ZM3)

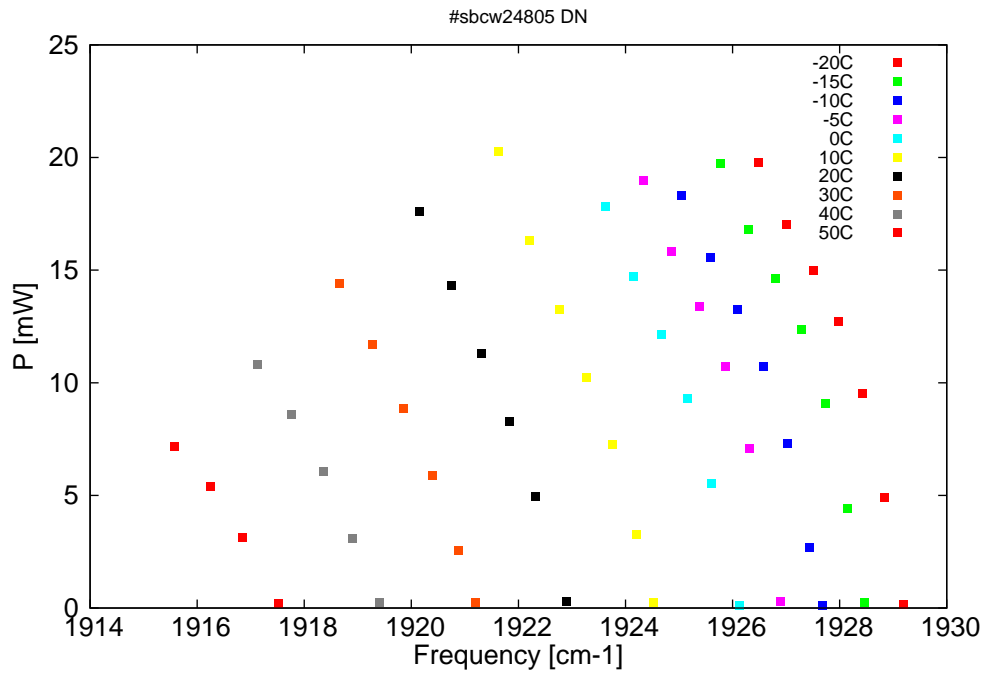


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

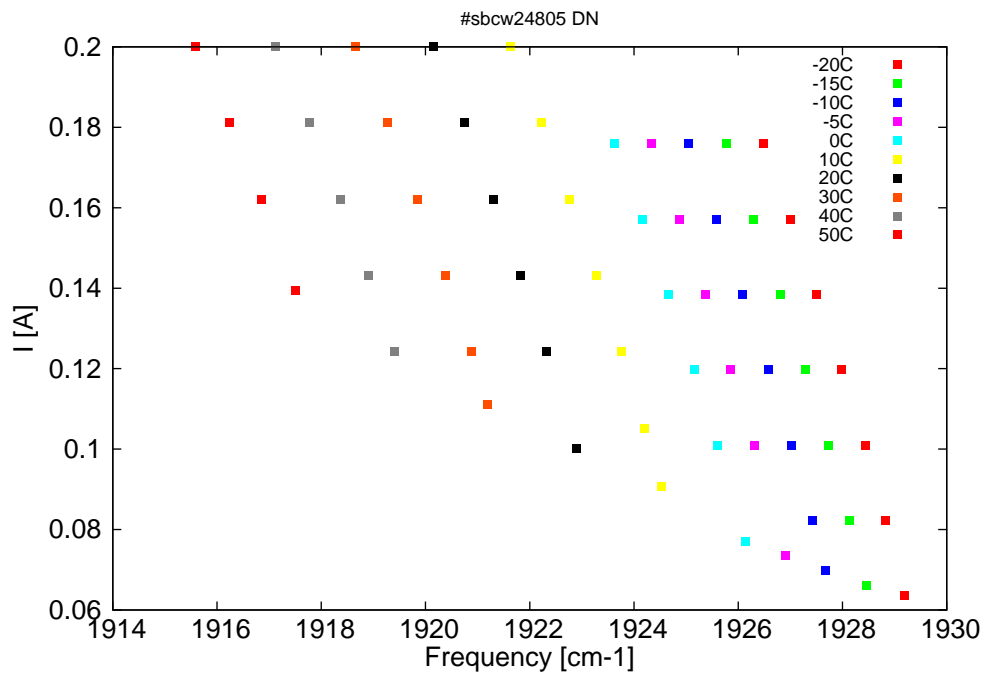


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
5183.5	1929.2	0.2	-20	7.61	0.064
5184.5	1928.8	4.9	-20	7.86	0.082
5185.6	1928.4	9.5	-20	8.11	0.101
5186.8	1928	12.7	-20	8.36	0.12
5188	1927.5	15	-20	8.62	0.139
5189.4	1927	17	-20	8.89	0.157
5190.8	1926.5	19.8	-20	9.17	0.176
5185.5	1928.5	0.2	-15	7.62	0.066
5186.4	1928.1	4.4	-15	7.83	0.082
5187.4	1927.7	9.1	-15	8.08	0.101
5188.7	1927.3	12.4	-15	8.32	0.12
5189.9	1926.8	14.7	-15	8.57	0.139
5191.3	1926.3	16.8	-15	8.84	0.157
5192.7	1925.8	19.8	-15	9.11	0.176
5187.6	1927.7	0.1	-10	7.63	0.07
5188.3	1927.4	2.7	-10	7.79	0.082
5189.4	1927	7.3	-10	8.04	0.101
5190.6	1926.6	10.7	-10	8.28	0.12
5191.9	1926.1	13.3	-10	8.53	0.139
5193.2	1925.6	15.5	-10	8.79	0.157
5194.7	1925.1	18.3	-10	9.06	0.176
5189.7	1926.9	0.3	-5	7.65	0.074
5191.3	1926.3	7.1	-5	8.01	0.101
5192.5	1925.9	10.7	-5	8.25	0.12
5193.8	1925.4	13.4	-5	8.5	0.139
5195.2	1924.9	15.9	-5	8.75	0.157
5196.6	1924.3	19	-5	9.01	0.176
5191.8	1926.1	0.1	0	7.68	0.077
5193.2	1925.6	5.6	0	7.99	0.101
5194.4	1925.2	9.3	0	8.23	0.12
5195.7	1924.7	12.2	0	8.47	0.139
5197.1	1924.2	14.7	0	8.73	0.157
5198.5	1923.6	17.8	0	8.98	0.176
5196.1	1924.5	0.2	10	7.76	0.091
5196.9	1924.2	3.2	10	7.94	0.105
5198.2	1923.8	7.3	10	8.18	0.124
5199.5	1923.3	10.2	10	8.41	0.143
5200.9	1922.8	13.2	10	8.66	0.162
5202.3	1922.2	16.3	10	8.89	0.181
5203.9	1921.6	20.3	10	9.12	0.2
5200.5	1922.9	0.3	20	7.82	0.1
5202	1922.3	4.9	20	8.11	0.124
5203.4	1921.8	8.3	20	8.34	0.143
5204.8	1921.3	11.3	20	8.57	0.162
5206.3	1920.8	14.3	20	8.8	0.181
5207.9	1920.1	17.6	20	9.03	0.2
5205.1	1921.2	0.2	30	7.98	0.111
5205.9	1920.9	2.5	30	8.14	0.124
5207.3	1920.4	5.9	30	8.36	0.143

*continued on next page*

$\lambda$ [nm]	$\nu$ [ $\text{cm}^{-1}$ ]	P[mW]	Temp[ $^{\circ}\text{C}$ ]	$U_{LASER}$ [V]	I[A]
5208.7	1919.8	8.8	30	8.59	0.162
5210.3	1919.3	11.7	30	8.81	0.181
5212	1918.7	14.4	30	9.03	0.2
5209.9	1919.4	0.2	40	8.09	0.124
5211.3	1918.9	3.1	40	8.31	0.143
5212.8	1918.4	6.1	40	8.54	0.162
5214.4	1917.8	8.6	40	8.77	0.181
5216.1	1917.1	10.8	40	8.98	0.2
5215.1	1917.5	0.2	50	8.2	0.139
5216.9	1916.9	3.1	50	8.46	0.162
5218.5	1916.2	5.4	50	8.68	0.181
5220.4	1915.6	7.2	50	8.9	0.2

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

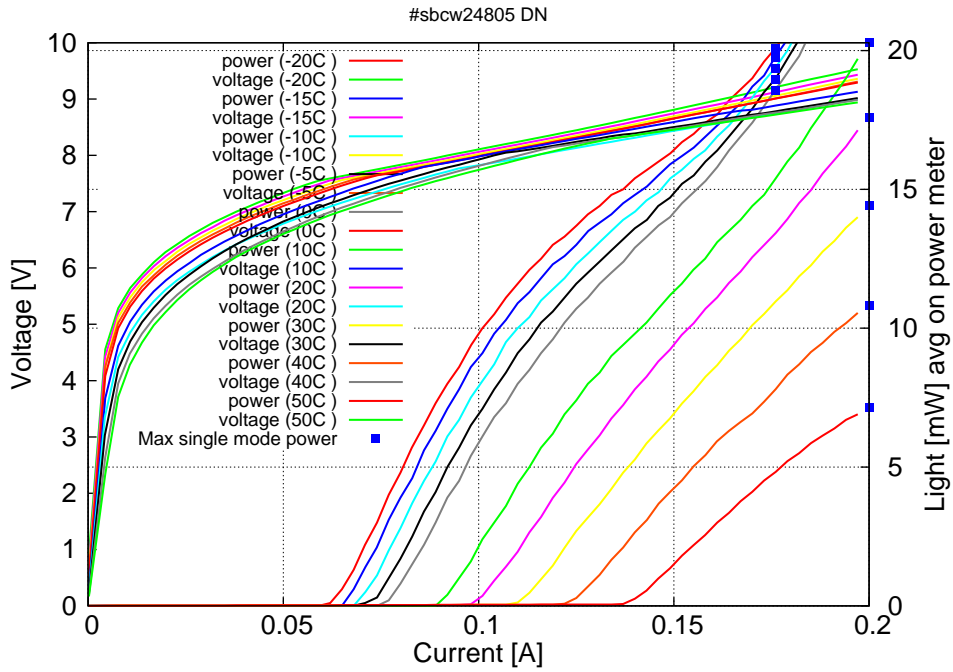


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.06\text{A}$  /  $V_{th}=7.6\text{V}$  (2-wires measurements). Maximum operation current: 0.175A between -20C and 0C, 0.20A between 10C and 50C.

Figure 3: spectra at different temperatures for various DC currents

