

**Datasheet for #sbcw20404 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 #sbcw20404 DN (please note that AlN submount numbering is A0P6N)

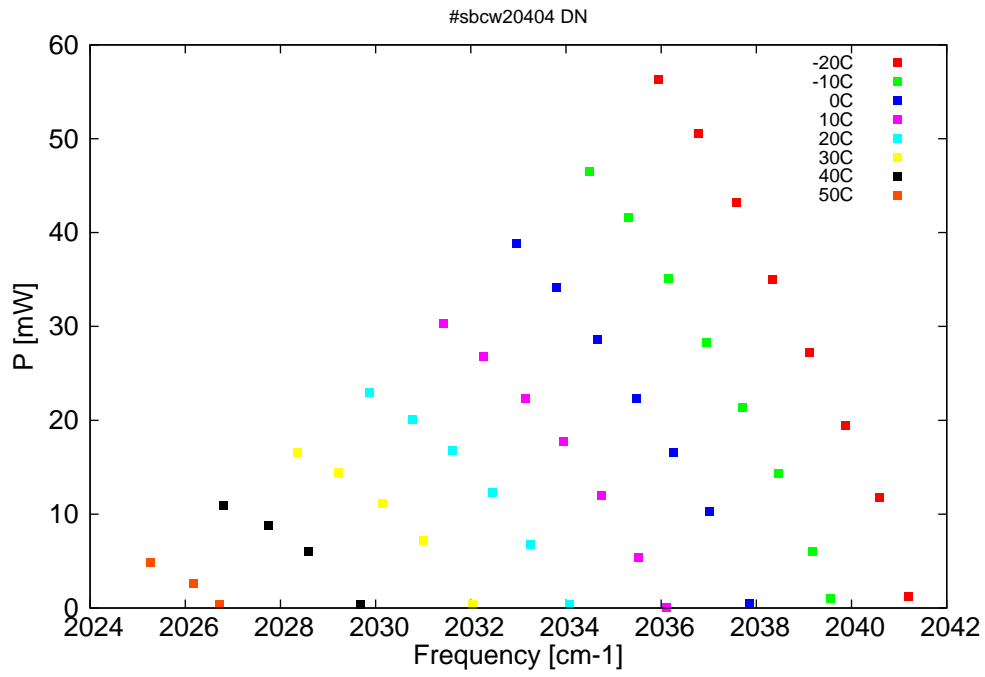


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

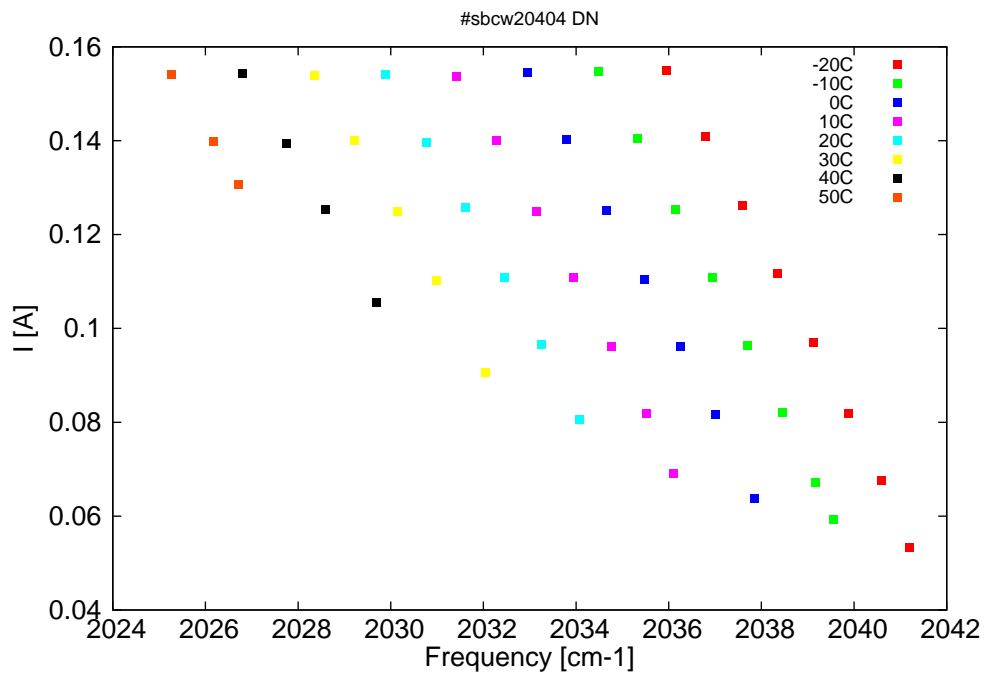


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4899.1	2041.2	1.2	-20	13.32	0.053
4900.5	2040.6	11.7	-20	13.76	0.068
4902.2	2039.9	19.5	-20	14.17	0.082
4904.1	2039.1	27.3	-20	14.56	0.097
4906	2038.3	35	-20	14.93	0.112
4907.8	2037.6	43.2	-20	15.26	0.126
4909.7	2036.8	50.6	-20	15.59	0.141
4911.7	2036	56.3	-20	15.9	0.155
4903	2039.5	1	-10	13.29	0.059
4904	2039.2	6	-10	13.55	0.067
4905.7	2038.5	14.4	-10	13.97	0.082
4907.5	2037.7	21.3	-10	14.34	0.096
4909.3	2037	28.3	-10	14.68	0.111
4911.2	2036.1	35.1	-10	15.03	0.125
4913.2	2035.3	41.6	-10	15.35	0.14
4915.2	2034.5	46.5	-10	15.65	0.155
4907.1	2037.9	0.5	0	13.27	0.064
4909.2	2037	10.3	0	13.77	0.082
4911	2036.3	16.6	0	14.13	0.096
4912.8	2035.5	22.3	0	14.47	0.11
4914.8	2034.7	28.6	0	14.8	0.125
4916.9	2033.8	34.2	0	15.11	0.14
4918.9	2033	38.9	0	15.4	0.155
4911.3	2036.1	0.1	10	13.26	0.069
4912.8	2035.5	5.4	10	13.59	0.082
4914.6	2034.8	12	10	13.94	0.096
4916.5	2034	17.7	10	14.28	0.111
4918.5	2033.2	22.3	10	14.58	0.125
4920.6	2032.3	26.8	10	14.89	0.14
4922.6	2031.4	30.3	10	15.17	0.154
4916.2	2034.1	0.4	20	13.4	0.081
4918.2	2033.3	6.8	20	13.78	0.097
4920.1	2032.5	12.4	20	14.09	0.111
4922.2	2031.6	16.8	20	14.4	0.126
4924.2	2030.8	20	20	14.69	0.14
4926.4	2029.9	23	20	14.96	0.154
4921.2	2032	0.3	30	13.48	0.091
4923.7	2031	7.2	30	13.89	0.11
4925.8	2030.1	11.2	30	14.18	0.125
4928	2029.2	14.5	30	14.48	0.14
4930.1	2028.3	16.5	30	14.74	0.154
4926.9	2029.7	0.4	40	13.62	0.106
4929.5	2028.6	6	40	14	0.125
4931.6	2027.7	8.8	40	14.26	0.139
4933.9	2026.8	10.9	40	14.52	0.154
4934.1	2026.7	0.4	50	13.96	0.131
4935.4	2026.2	2.6	50	14.11	0.14
4937.6	2025.3	4.9	50	14.34	0.154

*continued on next page*

$\lambda[\text{nm}]$     $\nu[\text{cm}^{-1}]$     $P[\text{mW}]$     $\text{Temp}[\text{°C}]$     $U_{LASER}[\text{V}]$     $I[\text{A}]$   
 Table 1: Singlemode optical output power as function of operating parameters.

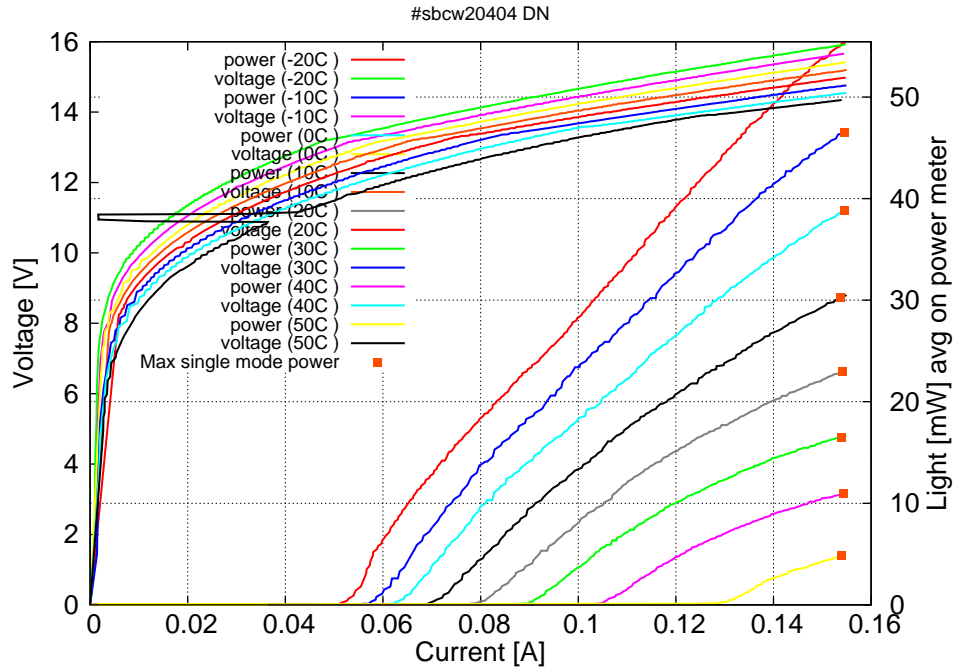


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.05\text{A}$  /  $V_{th}=13.2\text{V}$  (2-wires measurements). Maximum operation current: 0.155A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

