

**Datasheet for #sbcw20400 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 #sbcw20400 DN (please note that AlN submount numbering is A0P6A)

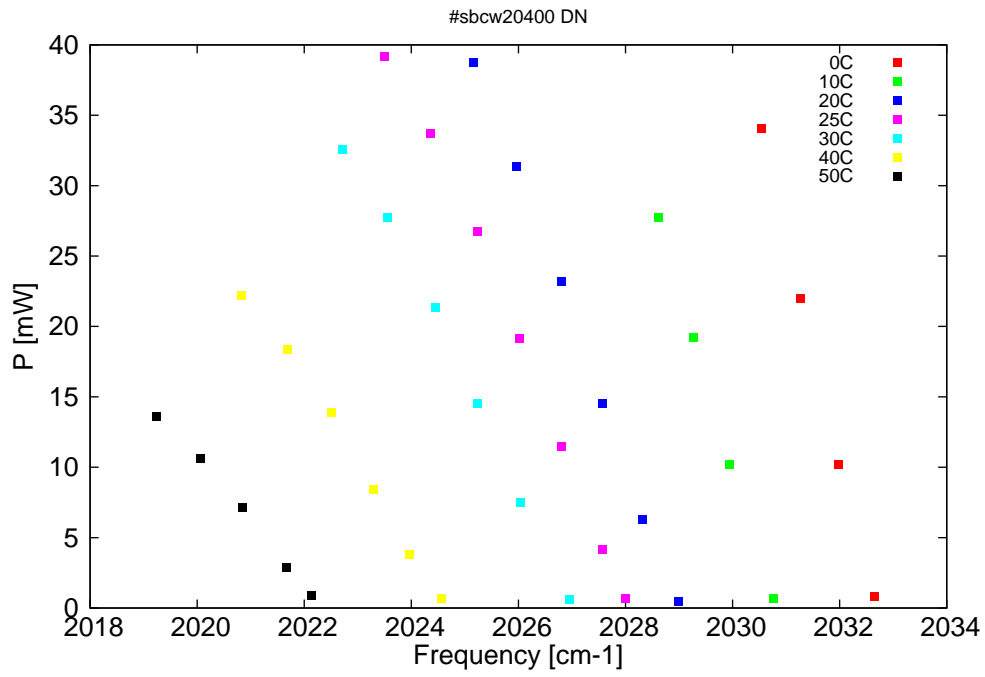


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

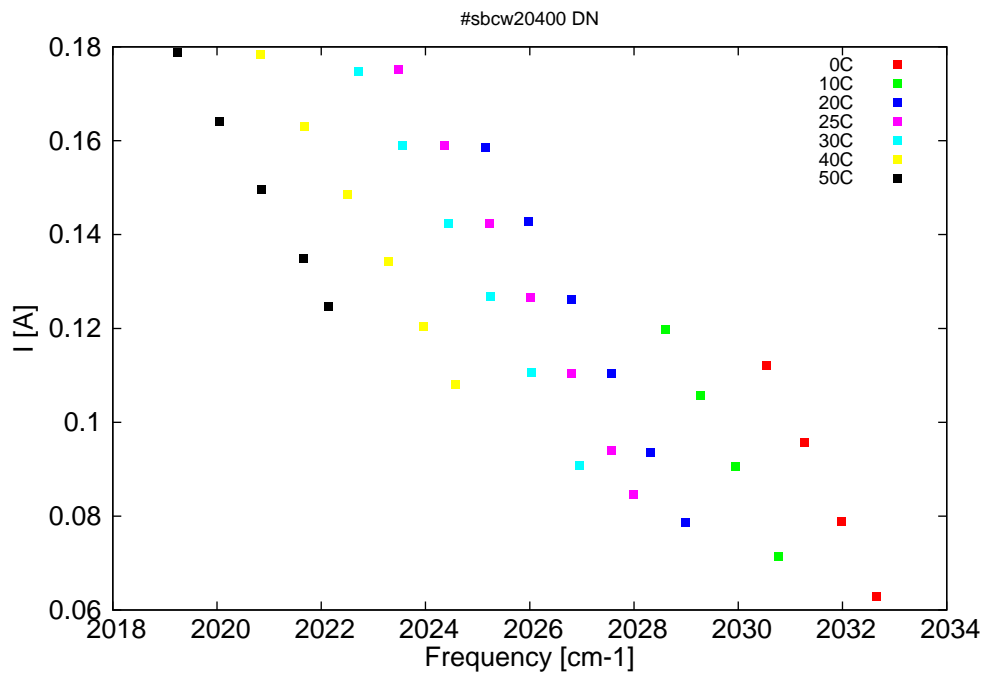


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4919.7	2032.6	0.8	0	12.76	0.063
4921.3	2032	10.2	0	13.23	0.079
4923	2031.3	22	0	13.66	0.096
4924.8	2030.5	34	0	14.03	0.112
4924.2	2030.8	0.7	10	12.78	0.071
4926.2	2029.9	10.2	10	13.28	0.091
4927.9	2029.3	19.2	10	13.64	0.106
4929.5	2028.6	27.7	10	13.95	0.12
4928.6	2029	0.4	20	12.77	0.079
4930.2	2028.3	6.3	20	13.13	0.094
4932	2027.6	14.5	20	13.5	0.11
4933.9	2026.8	23.2	20	13.83	0.126
4935.9	2026	31.4	20	14.13	0.143
4937.9	2025.2	38.7	20	14.4	0.159
4931	2028	0.7	25	12.81	0.085
4932	2027.6	4.2	25	13.03	0.094
4933.9	2026.8	11.5	25	13.39	0.11
4935.8	2026	19.1	25	13.71	0.127
4937.7	2025.2	26.7	25	14	0.142
4939.8	2024.4	33.7	25	14.27	0.159
4942	2023.5	39.1	25	14.52	0.175
4933.5	2027	0.6	30	12.84	0.091
4935.8	2026	7.5	30	13.27	0.111
4937.7	2025.2	14.5	30	13.59	0.127
4939.6	2024.4	21.3	30	13.87	0.142
4941.8	2023.6	27.8	30	14.15	0.159
4943.9	2022.7	32.5	30	14.38	0.175
4939.3	2024.6	0.7	40	12.98	0.108
4940.8	2024	3.8	40	13.22	0.12
4942.5	2023.3	8.4	40	13.46	0.134
4944.4	2022.5	13.9	40	13.71	0.148
4946.4	2021.7	18.3	40	13.94	0.163
4948.5	2020.8	22.2	40	14.16	0.178
4945.2	2022.1	0.9	50	13.08	0.125
4946.4	2021.7	2.8	50	13.25	0.135
4948.4	2020.9	7.2	50	13.49	0.15
4950.4	2020.1	10.6	50	13.71	0.164
4952.4	2019.2	13.6	50	13.91	0.179

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

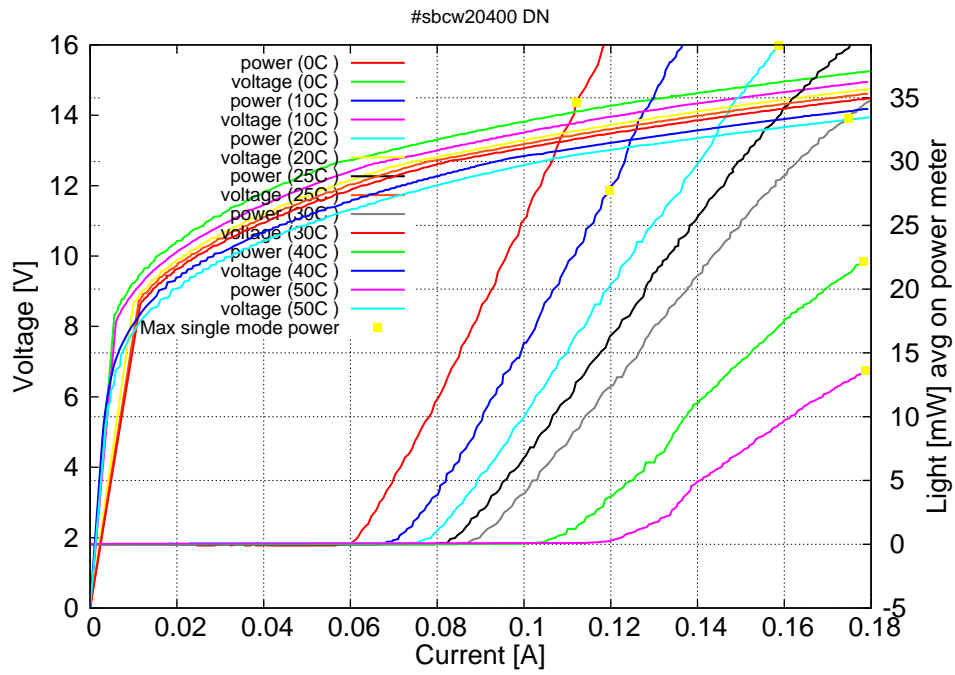


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at 0C:  $I_{th}=0.06A$  /  $V_{th}=12.7V$  (2-wires measurements). Maximum operation current: 0.12A between 0C and 10C, 0.16A at 20C, 0.18A between 25C and 50C.

Figure 3: spectra at different temperatures for various DC currents

