

Datasheet for #sbcw20681 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 #sbcw20681 DN

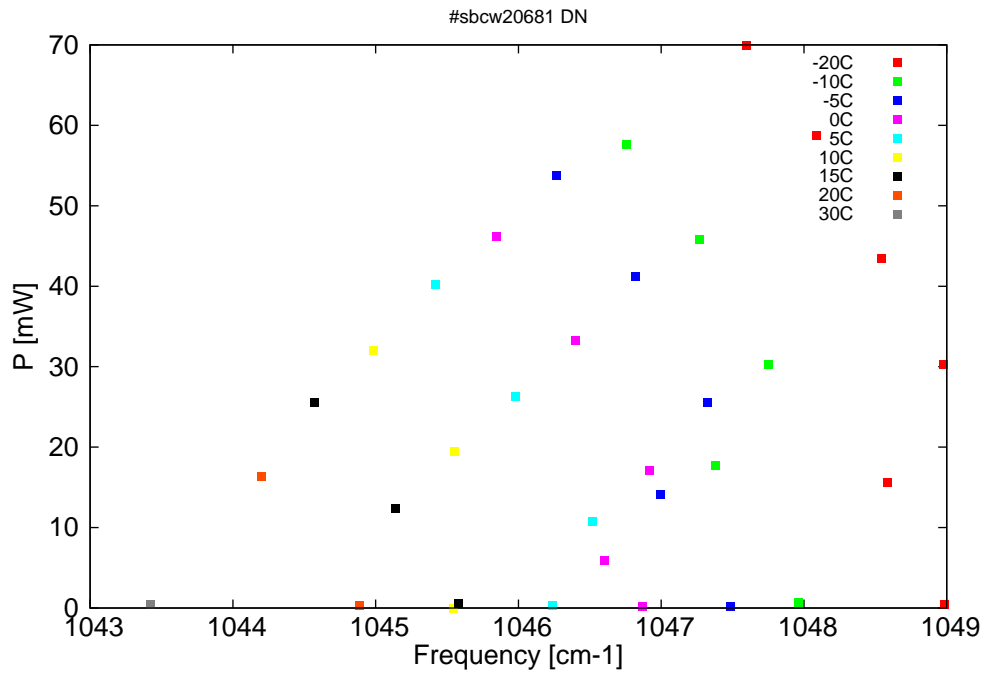


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

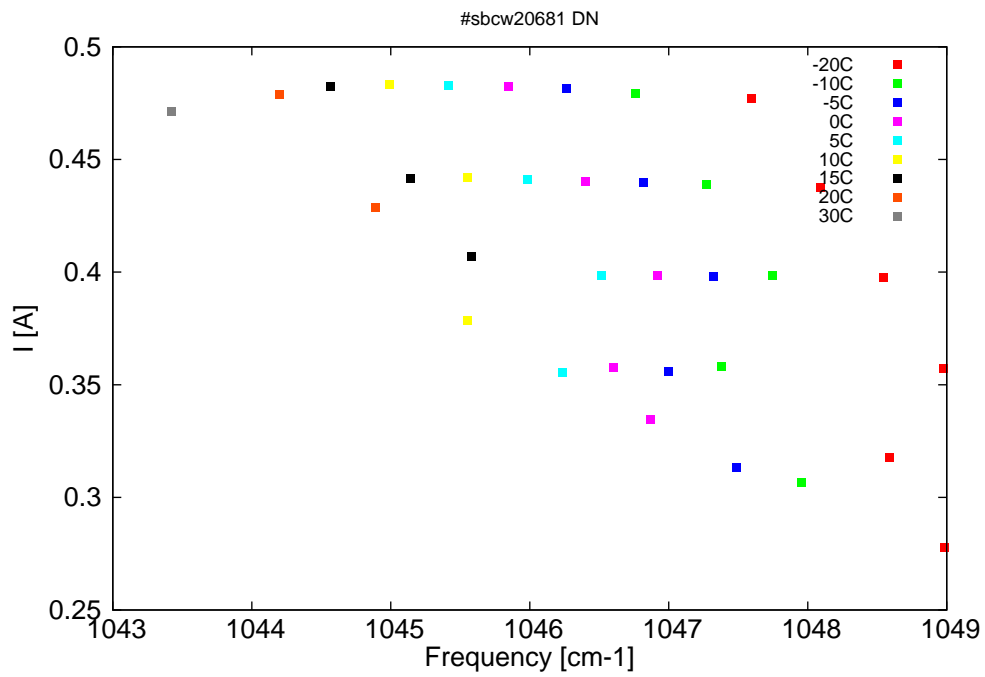


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9533	1049	0.5	-20	9.7	0.278
9536.6	1048.6	15.6	-20	10.02	0.318
9533.1	1049	30.3	-20	10.34	0.357
9537	1048.5	43.4	-20	10.63	0.398
9541.2	1048.1	58.7	-20	10.91	0.437
9545.6	1047.6	70	-20	11.19	0.477
9542.4	1048	0.6	-10	9.83	0.307
9547.6	1047.4	17.7	-10	10.25	0.358
9544.3	1047.7	30.3	-10	10.54	0.399
9548.6	1047.3	45.8	-10	10.83	0.439
9553.3	1046.8	57.7	-10	11.12	0.479
9546.7	1047.5	0.2	-5	9.85	0.313
9551.1	1047	14.1	-5	10.2	0.356
9548.2	1047.3	25.5	-5	10.52	0.398
9552.8	1046.8	41.2	-5	10.82	0.44
9557.8	1046.3	53.8	-5	11.12	0.482
9552.3	1046.9	0.2	0	9.98	0.335
9554.7	1046.6	5.9	0	10.16	0.358
9551.8	1046.9	17	0	10.48	0.399
9556.5	1046.4	33.2	0	10.79	0.44
9561.7	1045.8	46.2	0	11.09	0.482
9558.1	1046.2	0.3	5	10.1	0.355
9555.5	1046.5	10.8	5	10.44	0.399
9560.4	1046	26.4	5	10.75	0.441
9565.6	1045.4	40.2	5	11.06	0.483
9564.4	1045.5	0	10	10.25	0.378
9564.3	1045.6	19.5	10	10.72	0.442
9569.5	1045	32	10	11.03	0.483
9564.1	1045.6	0.5	15	10.43	0.407
9568.1	1045.1	12.4	15	10.68	0.442
9573.3	1044.6	25.6	15	10.99	0.482
9570.4	1044.9	0.4	20	10.54	0.429
9576.7	1044.2	16.4	20	10.91	0.479
9583.9	1043.4	0.5	30	10.8	0.471

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

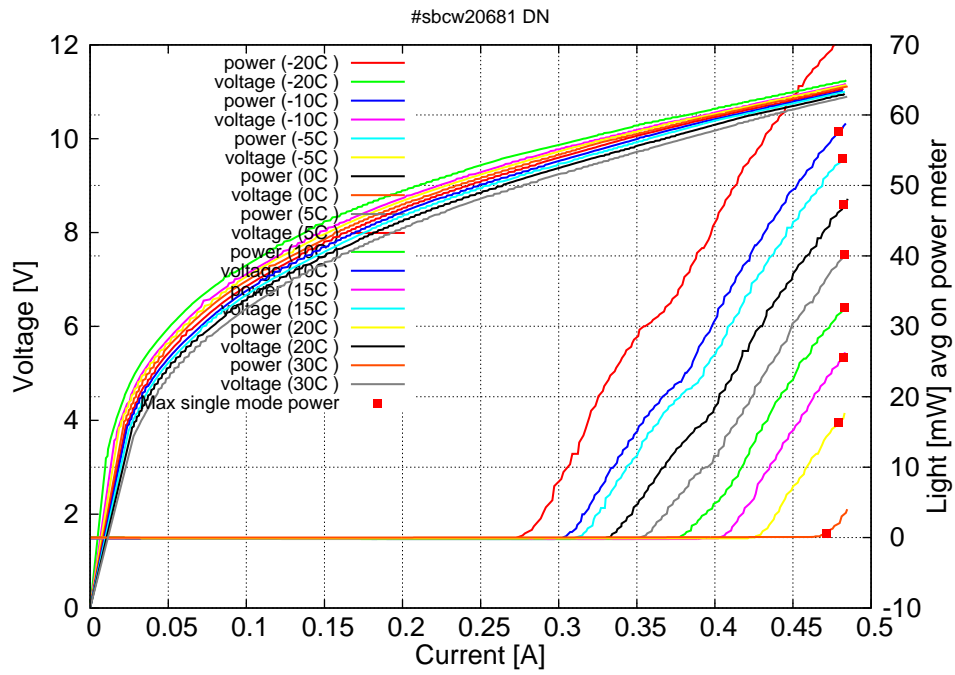
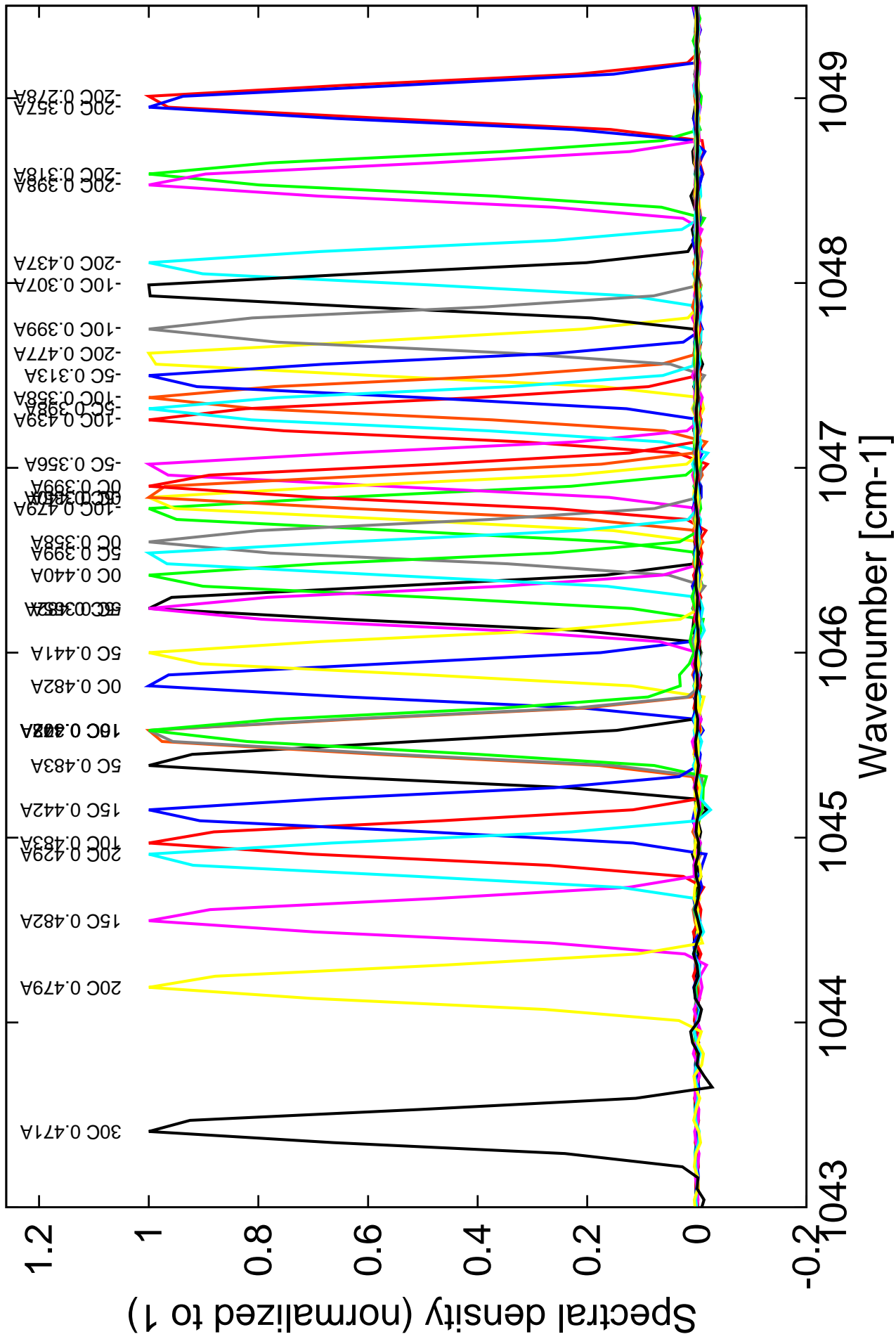


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.28A$ / $V_{th}=9.7V$ (2-wires measurements). Maximum operation current: 0.485A for all temperatures. With mode jumping between -20C and 10C.

Figure 3: spectra at different temperatures for various DC currents



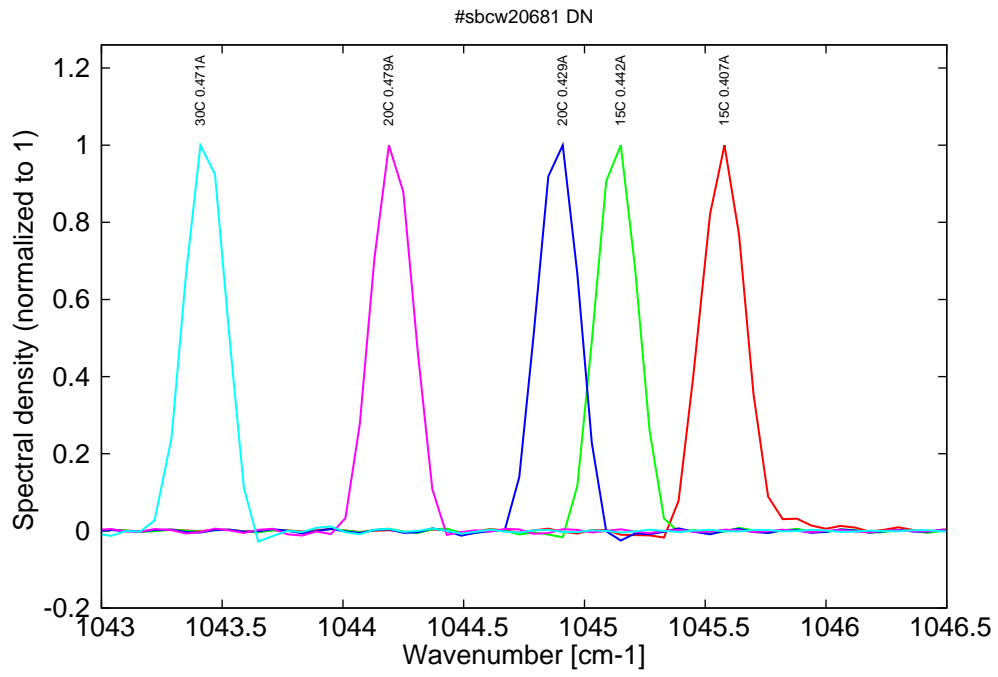


Figure 5: spectra for various DC currents between 15C and 30C (monomode without mode jumping)