

Datasheet for #sbcw20225 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.

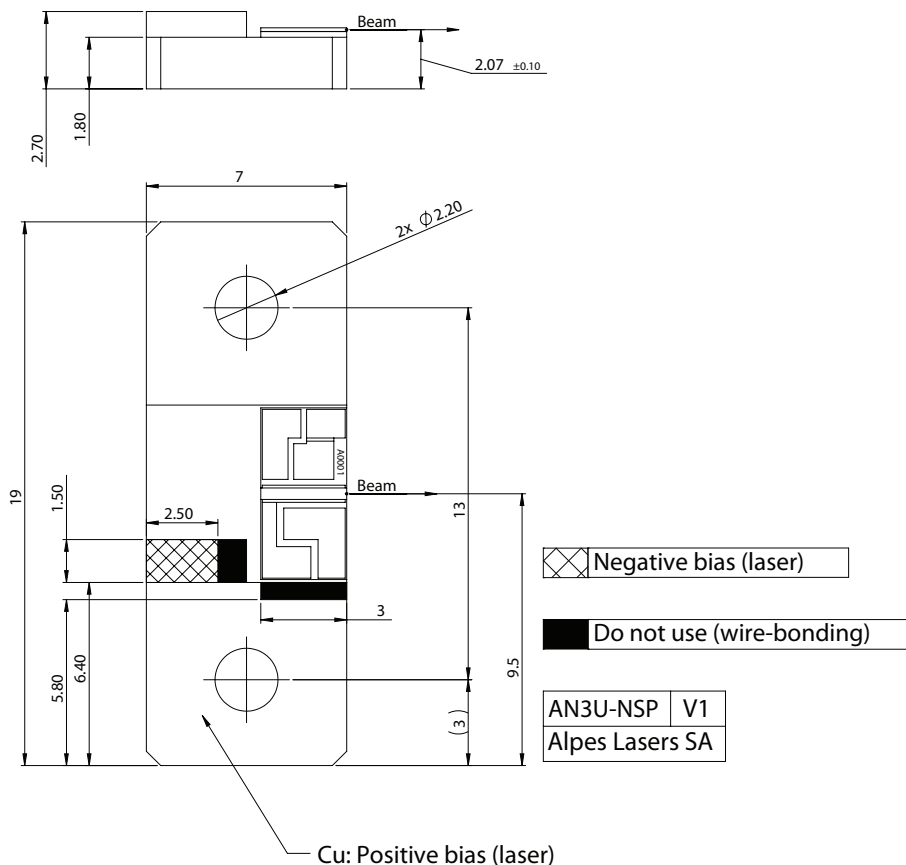


Figure 1: Mechanical and electrical interface for #sbcw20225 DN

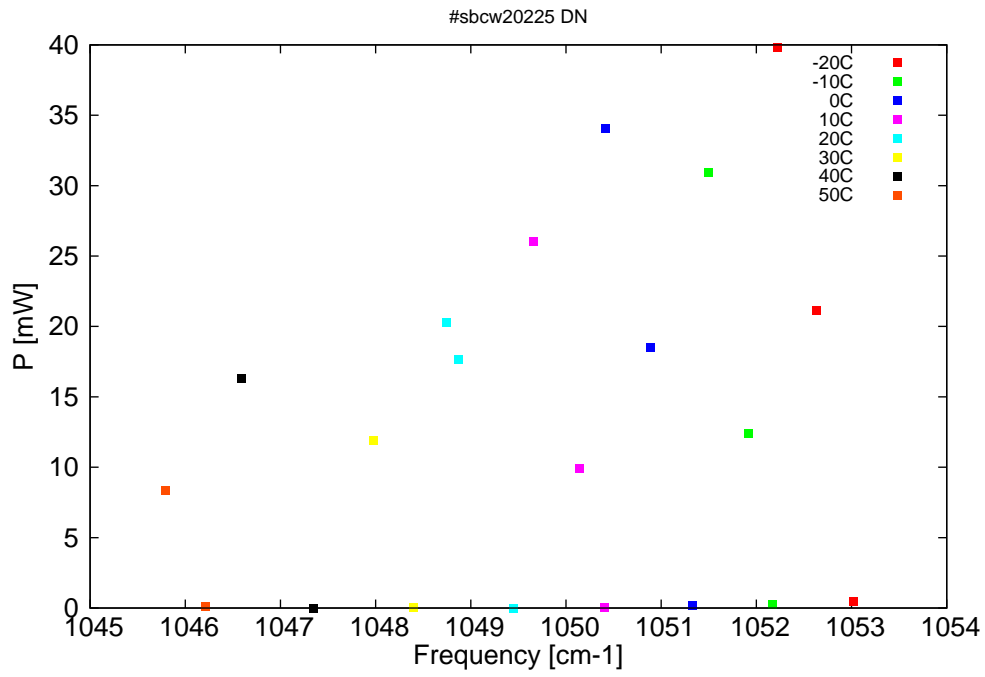


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

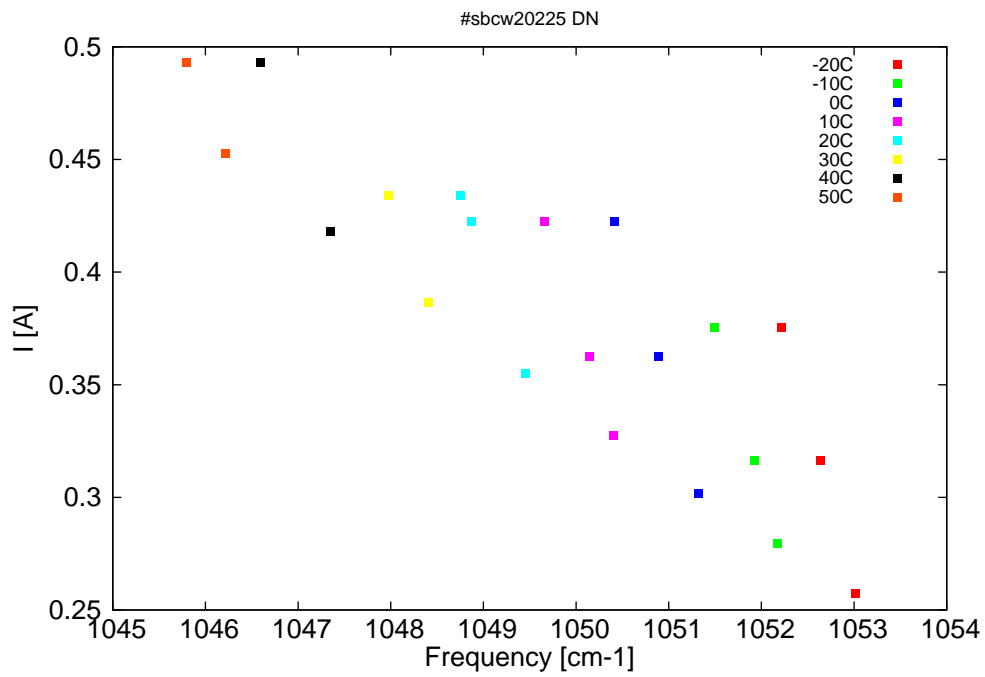


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9496.5	1053	0.5	-20	8.8	0.258
9500	1052.6	21.1	-20	9.17	0.316
9503.7	1052.2	39.8	-20	9.54	0.375
9504.2	1052.2	0.2	-10	8.87	0.28
9506.4	1051.9	12.4	-10	9.1	0.316
9510.3	1051.5	30.9	-10	9.47	0.375
9511.8	1051.3	0.2	0	8.94	0.302
9515.8	1050.9	18.5	0	9.33	0.362
9520.1	1050.4	34.1	0	9.69	0.423
9520.1	1050.4	0	10	9.04	0.328
9522.5	1050.1	9.9	10	9.26	0.362
9526.9	1049.7	26.1	10	9.63	0.423
9528.8	1049.5	0	20	9.14	0.355
9534	1048.9	17.6	20	9.57	0.423
9535.2	1048.7	20.3	20	9.64	0.434
9538.3	1048.4	0	30	9.29	0.387
9542.2	1048	11.9	30	9.58	0.434
9548	1047.3	0	40	9.43	0.418
9554.8	1046.6	16.3	40	9.89	0.493
9558.2	1046.2	0.1	50	9.59	0.453
9562.1	1045.8	8.4	50	9.84	0.493

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

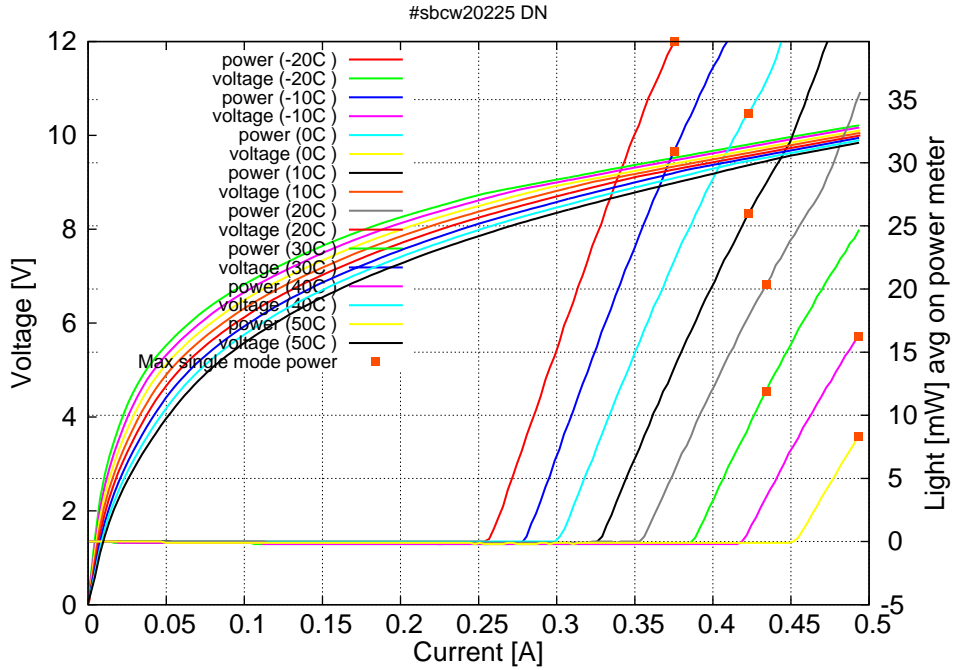


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

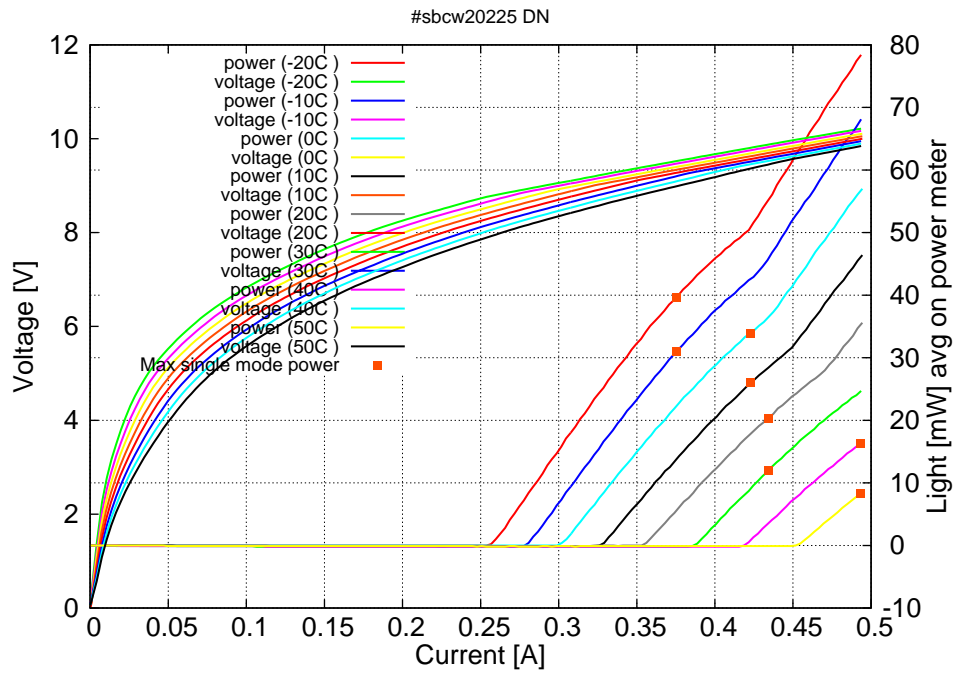


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at -20C: $I_{th}=0.25A$ / $V_{th}=8.8V$ (2-wires measurements). Maximum operation current: 0.375A between -20C and -10C, 0.425A between 0C and 10C, 0.435A between 20C and 30C, 0.495A between 40C and 50C / laser becomes bimode for higher currents.

Figure 4: spectra at different temperatures for various DC currents

