

Datasheet for #sbcw21111 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 #sbcw21111 DN

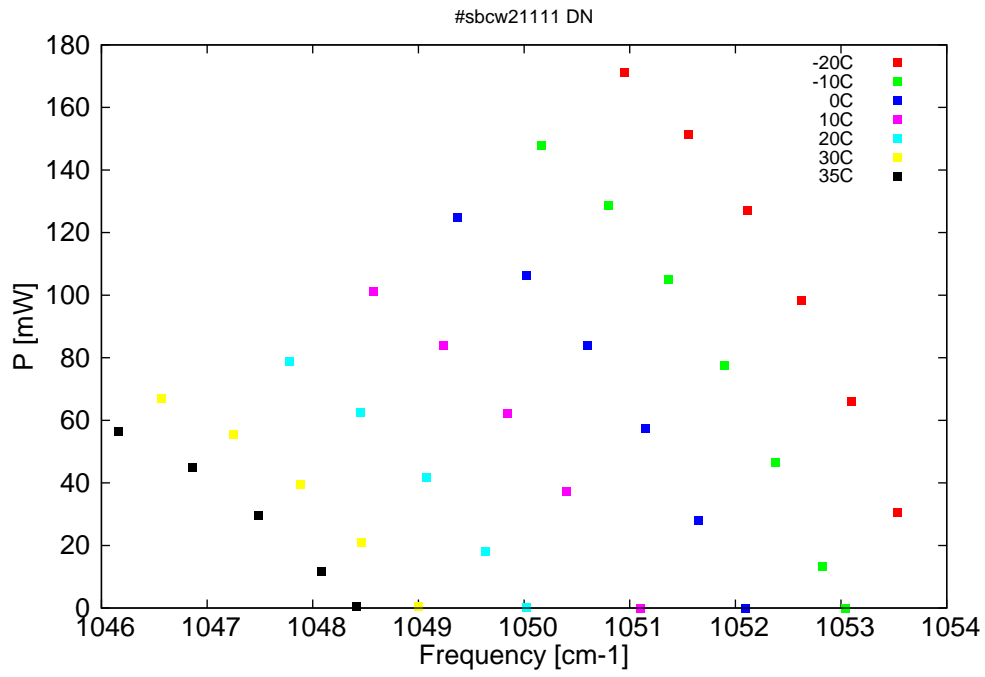


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

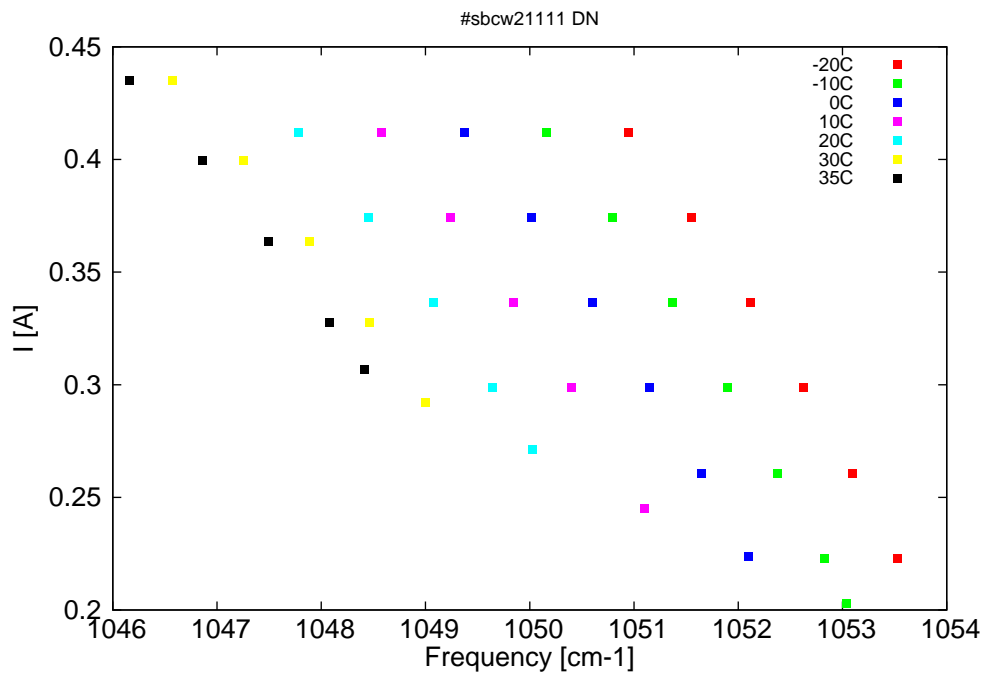


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9491.9	1053.5	30.7	-20	9.8	0.223
9495.8	1053.1	66.1	-20	10.16	0.261
9500	1052.6	98.2	-20	10.52	0.299
9504.6	1052.1	127	-20	10.86	0.337
9509.7	1051.6	151.4	-20	11.2	0.374
9515.2	1050.9	171.3	-20	11.54	0.412
9496.3	1053	0	-10	9.5	0.203
9498.3	1052.8	13.2	-10	9.7	0.223
9502.3	1052.4	46.5	-10	10.07	0.261
9506.7	1051.9	77.6	-10	10.43	0.299
9511.4	1051.4	105.1	-10	10.78	0.337
9516.6	1050.8	128.6	-10	11.12	0.374
9522.3	1050.2	147.9	-10	11.47	0.412
9504.8	1052.1	0	0	9.61	0.224
9508.9	1051.6	27.8	0	9.98	0.261
9513.4	1051.2	57.5	0	10.34	0.299
9518.3	1050.6	83.8	0	10.69	0.336
9523.6	1050	106.2	0	11.04	0.374
9529.5	1049.4	124.7	0	11.38	0.412
9513.8	1051.1	0	10	9.72	0.245
9520.2	1050.4	37.2	10	10.24	0.299
9525.2	1049.8	62.1	10	10.6	0.336
9530.7	1049.2	84	10	10.95	0.374
9536.7	1048.6	101.2	10	11.3	0.412
9523.6	1050	0.3	20	9.88	0.271
9527.1	1049.6	18	20	10.15	0.299
9532.2	1049.1	41.7	20	10.51	0.336
9537.9	1048.5	62.3	20	10.86	0.374
9544	1047.8	78.9	20	11.21	0.412
9532.8	1049	0.5	30	10.01	0.292
9537.8	1048.5	21	30	10.35	0.328
9543.1	1047.9	39.6	30	10.68	0.364
9548.8	1047.3	55.4	30	11.01	0.399
9555	1046.6	67.1	30	11.35	0.435
9538.2	1048.4	0.5	35	10.09	0.307
9541.2	1048.1	11.7	35	10.29	0.328
9546.6	1047.5	29.6	35	10.63	0.364
9552.4	1046.9	44.9	35	10.96	0.399
9558.7	1046.2	56.4	35	11.3	0.435

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

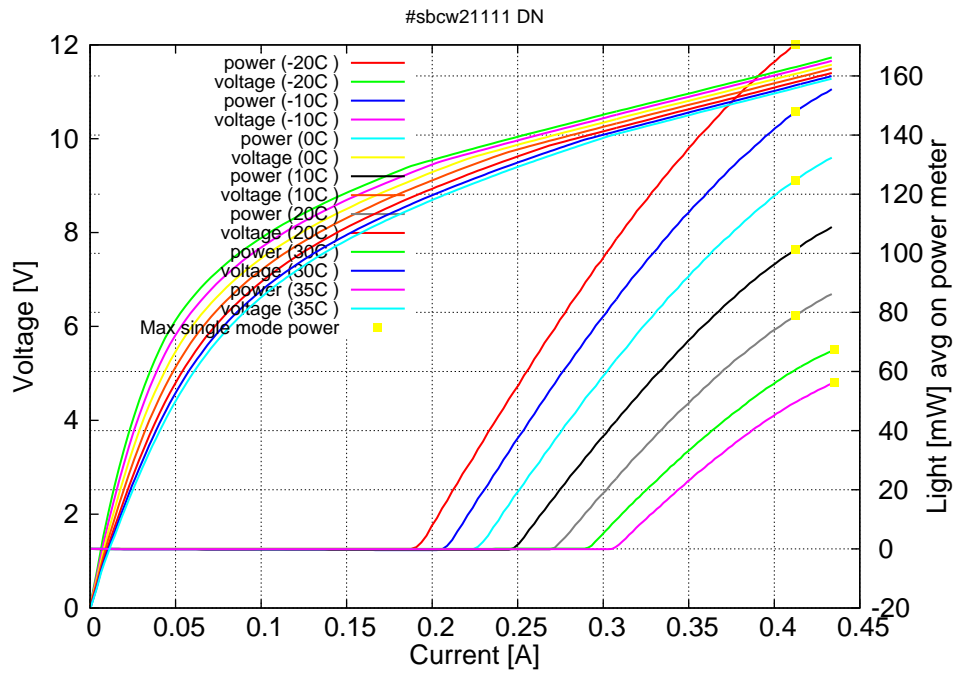


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.19A$ / $V_{th}=9.4V$ (2-wires measurements). Maximum operation current: 0.415A between -20C and 20C, 0.435A between 30C and 35C / laser doing mode jumping for temperatures higher than 35C.

Figure 3: spectra at different temperatures for various DC currents

