

Datasheet for #sbcw23116 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 #sbcw23116 DN

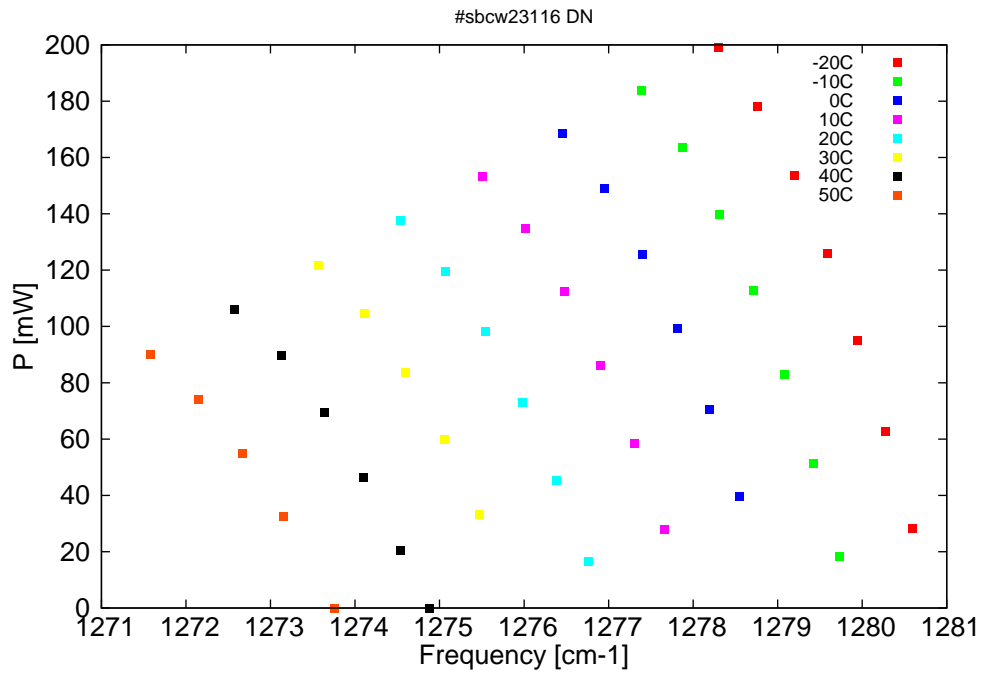


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

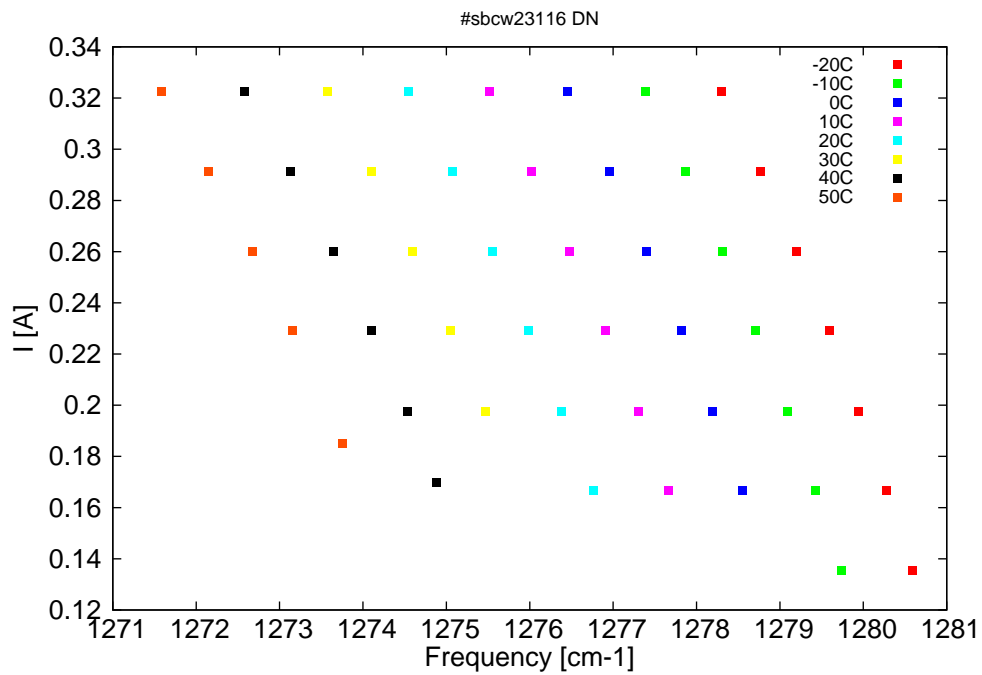


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7808.9	1280.6	28.2	-20	7.99	0.135
7810.8	1280.3	62.7	-20	8.24	0.167
7812.8	1279.9	95.1	-20	8.48	0.198
7815	1279.6	125.8	-20	8.71	0.229
7817.4	1279.2	153.4	-20	8.93	0.26
7820	1278.8	178	-20	9.15	0.291
7822.9	1278.3	198.9	-20	9.38	0.323
7814.1	1279.7	18.2	-10	7.88	0.135
7816	1279.4	51.5	-10	8.13	0.167
7818.1	1279.1	82.8	-10	8.37	0.198
7820.4	1278.7	112.7	-10	8.6	0.229
7822.8	1278.3	139.7	-10	8.82	0.26
7825.5	1277.9	163.6	-10	9.04	0.291
7828.4	1277.4	183.8	-10	9.28	0.323
7821.4	1278.5	39.6	0	8.03	0.167
7823.5	1278.2	70.4	0	8.27	0.198
7825.9	1277.8	99.2	0	8.5	0.229
7828.4	1277.4	125.6	0	8.73	0.26
7831.1	1277	149.1	0	8.95	0.291
7834.2	1276.5	168.7	0	9.18	0.323
7826.8	1277.7	28.1	10	7.94	0.167
7829	1277.3	58.4	10	8.18	0.198
7831.4	1276.9	86.3	10	8.41	0.229
7834	1276.5	112.3	10	8.64	0.26
7836.9	1276	134.8	10	8.86	0.291
7840	1275.5	153.3	10	9.09	0.323
7832.3	1276.8	16.5	20	7.86	0.167
7834.6	1276.4	45.3	20	8.1	0.198
7837.1	1276	73.1	20	8.33	0.229
7839.8	1275.5	98.1	20	8.56	0.26
7842.7	1275.1	119.7	20	8.79	0.291
7846	1274.5	137.7	20	9.02	0.323
7840.2	1275.5	33.3	30	8.03	0.198
7842.8	1275.1	59.9	30	8.26	0.229
7845.6	1274.6	83.8	30	8.49	0.26
7848.6	1274.1	104.6	30	8.72	0.291
7851.9	1273.6	121.8	30	8.95	0.323
7843.9	1274.9	0	40	7.75	0.17
7846	1274.5	20.6	40	7.96	0.198
7848.7	1274.1	46.5	40	8.2	0.229
7851.5	1273.6	69.3	40	8.43	0.26
7854.6	1273.1	89.6	40	8.66	0.291
7858.1	1272.6	106	40	8.89	0.323
7850.8	1273.8	0	50	7.81	0.185
7854.5	1273.2	32.7	50	8.14	0.229
7857.5	1272.7	55	50	8.37	0.26
7860.7	1272.1	74	50	8.6	0.291
7864.2	1271.6	90	50	8.84	0.323

continued on next page

Table 1: λ [nm] ν [cm^{-1}] P[mW] Temp[$^{\circ}\text{C}$] U_{LASER} [V] I[A]

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

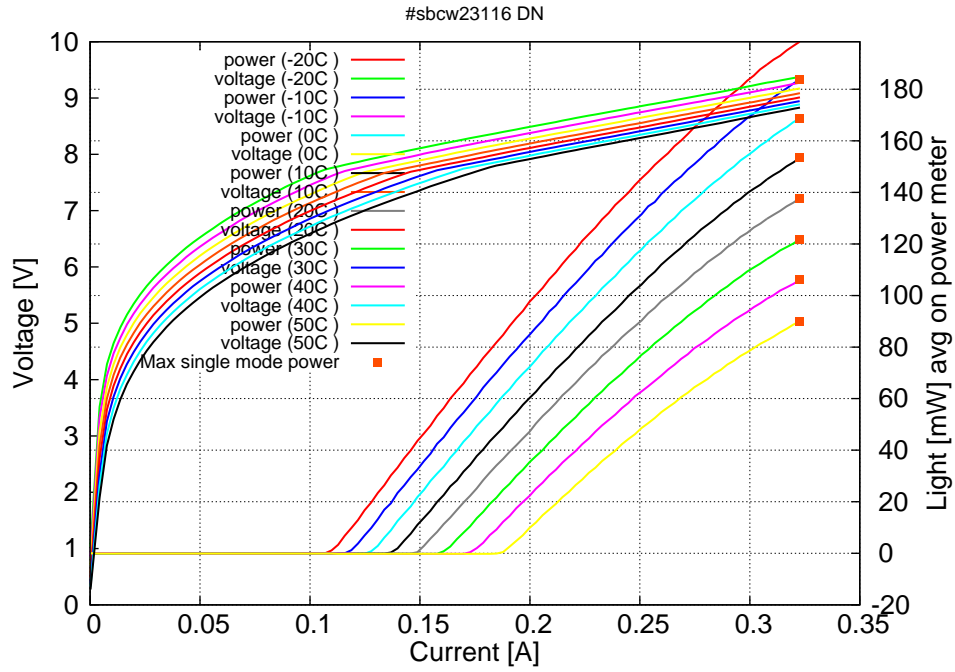


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.11\text{A}$ / $V_{th}=7.7\text{V}$ (2-wires measurements). Maximum operation current: 0.325A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

