

Datasheet for #sbcw24840 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 #sbcw24840 DN (please note that AlN submount numbering is A0ZG5)

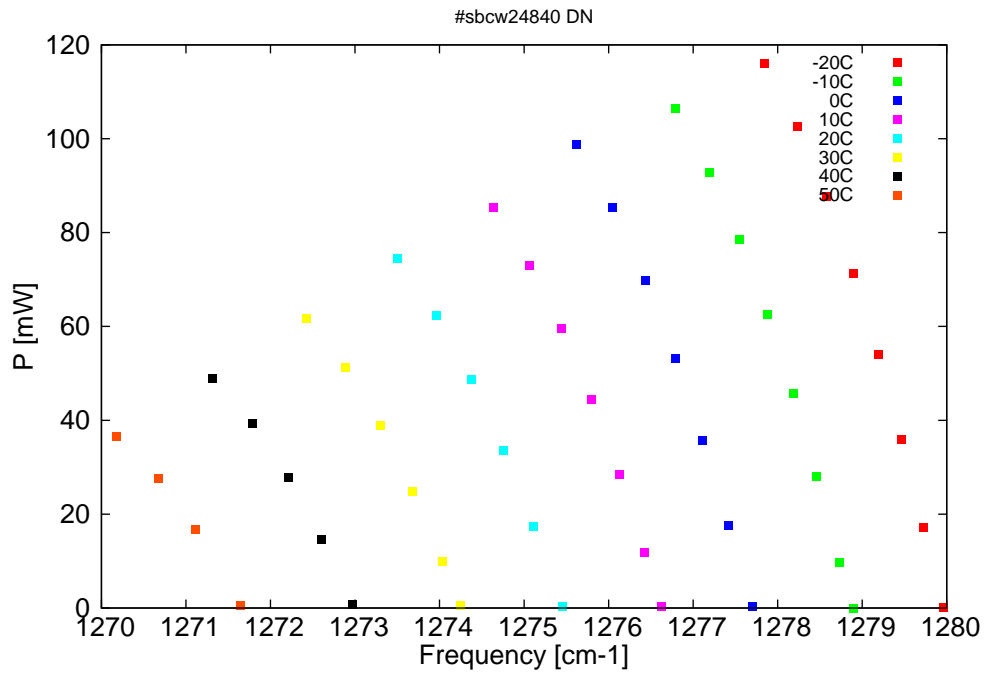


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

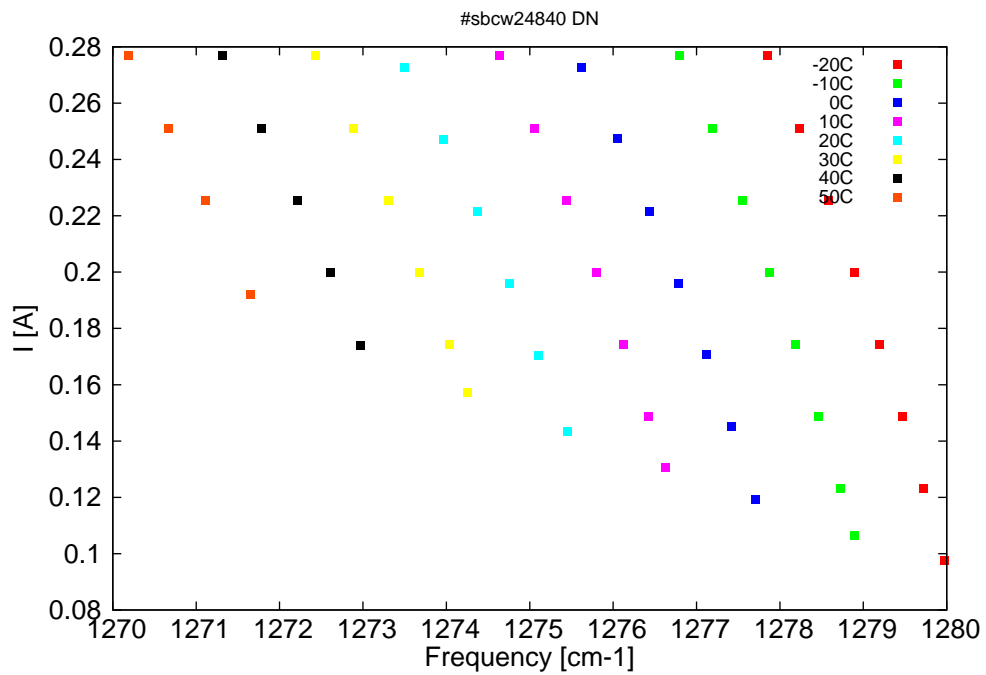


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7812.7	1280	0	-20	7.79	0.098
7814.2	1279.7	17.3	-20	8.03	0.123
7815.7	1279.5	35.9	-20	8.26	0.149
7817.4	1279.2	54	-20	8.48	0.174
7819.2	1278.9	71.2	-20	8.7	0.2
7821.2	1278.6	87.7	-20	8.92	0.226
7823.3	1278.2	102.5	-20	9.15	0.251
7825.7	1277.8	116	-20	9.4	0.277
7819.2	1278.9	0	-10	7.75	0.107
7820.3	1278.7	9.7	-10	7.9	0.123
7821.9	1278.5	28	-10	8.13	0.149
7823.6	1278.2	45.7	-10	8.35	0.174
7825.5	1277.9	62.4	-10	8.56	0.2
7827.5	1277.5	78.4	-10	8.78	0.226
7829.7	1277.2	92.8	-10	9.01	0.251
7832.1	1276.8	106.4	-10	9.24	0.277
7826.5	1277.7	0.2	0	7.93	0.119
7828.3	1277.4	17.5	0	8.2	0.145
7830.1	1277.1	35.8	0	8.46	0.171
7832.2	1276.8	53.2	0	8.72	0.196
7834.3	1276.4	69.8	0	8.97	0.222
7836.7	1276.1	85.4	0	9.23	0.247
7839.3	1275.6	98.8	0	9.5	0.273
7833.1	1276.6	0.3	10	7.82	0.131
7834.4	1276.4	11.8	10	7.99	0.149
7836.2	1276.1	28.5	10	8.28	0.174
7838.2	1275.8	44.3	10	8.51	0.2
7840.4	1275.4	59.5	10	8.75	0.226
7842.8	1275.1	73	10	8.99	0.251
7845.4	1274.6	85.4	10	9.24	0.277
7840.3	1275.5	0.4	20	8.04	0.144
7842.5	1275.1	17.4	20	8.31	0.171
7844.6	1274.8	33.5	20	8.55	0.196
7847	1274.4	48.6	20	8.8	0.222
7849.5	1274	62.4	20	9.04	0.247
7852.4	1273.5	74.4	20	9.3	0.273
7847.7	1274.3	0.6	30	7.88	0.157
7849.1	1274	10	30	8.03	0.174
7851.3	1273.7	24.9	30	8.25	0.2
7853.6	1273.3	38.8	30	8.46	0.226
7856.2	1272.9	51.2	30	8.69	0.251
7859	1272.4	61.6	30	8.92	0.277
7855.6	1273	0.7	40	7.96	0.174
7857.9	1272.6	14.6	40	8.18	0.2
7860.3	1272.2	27.9	40	8.4	0.226
7863	1271.8	39.3	40	8.62	0.251
7865.9	1271.3	48.9	40	8.86	0.277
7863.8	1271.6	0.6	50	8.06	0.192
7867.1	1271.1	16.8	50	8.34	0.226

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7869.9	1270.7	27.5	50	8.57	0.251
7872.9	1270.2	36.5	50	8.8	0.277

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

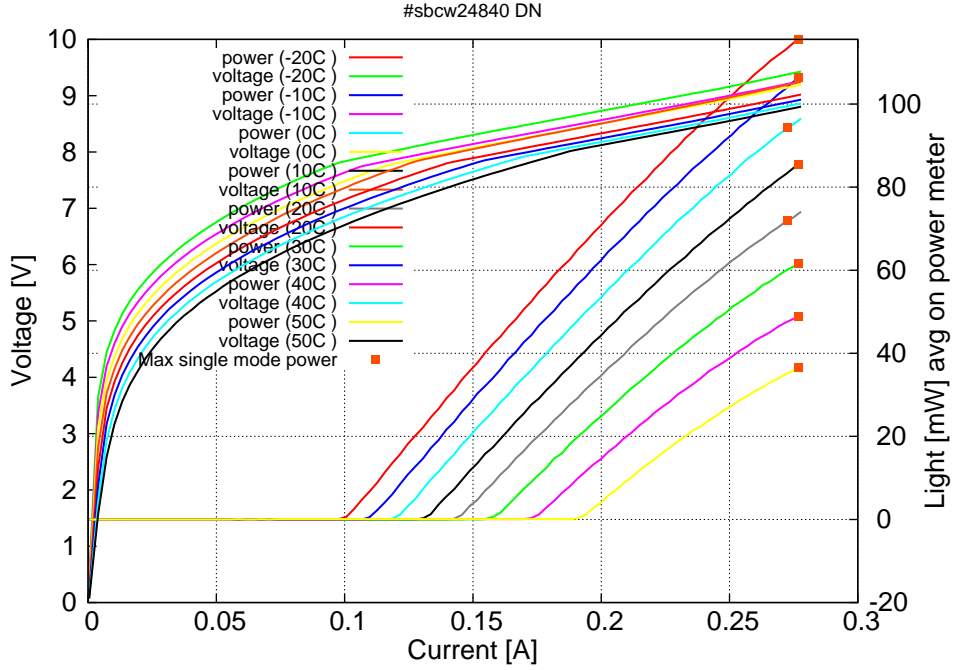


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.10A$ / $V_{th}=7.8V$ (2-wires measurements). Maximum operation current: 0.28A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

