

**Datasheet for #sbcw14277 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 #sbcw14277 DN (please note that AlN submount numbering is A0JE8)

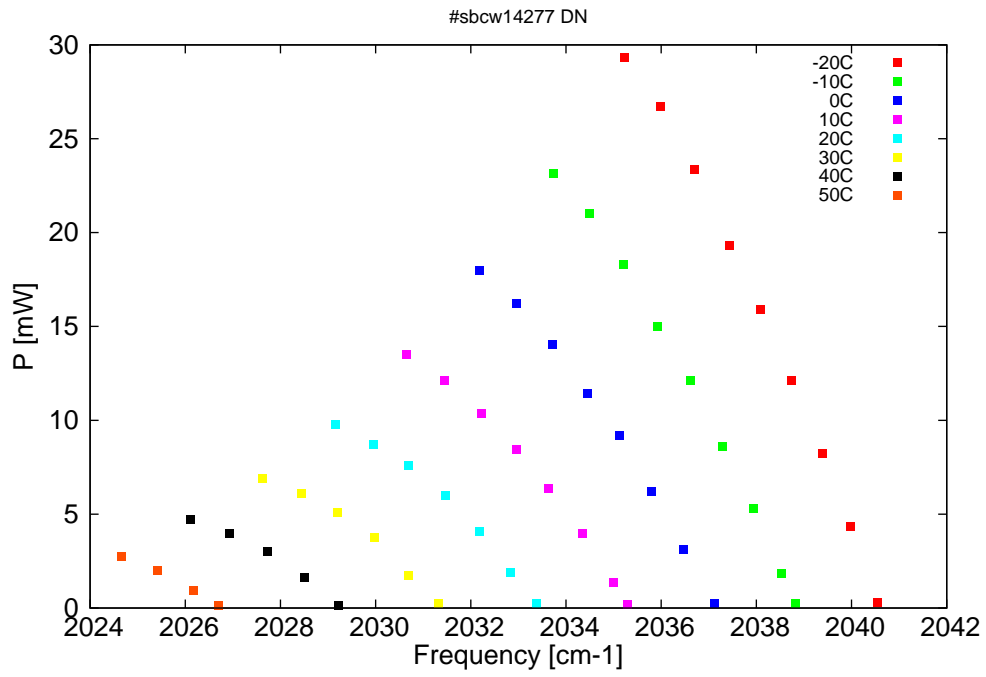


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

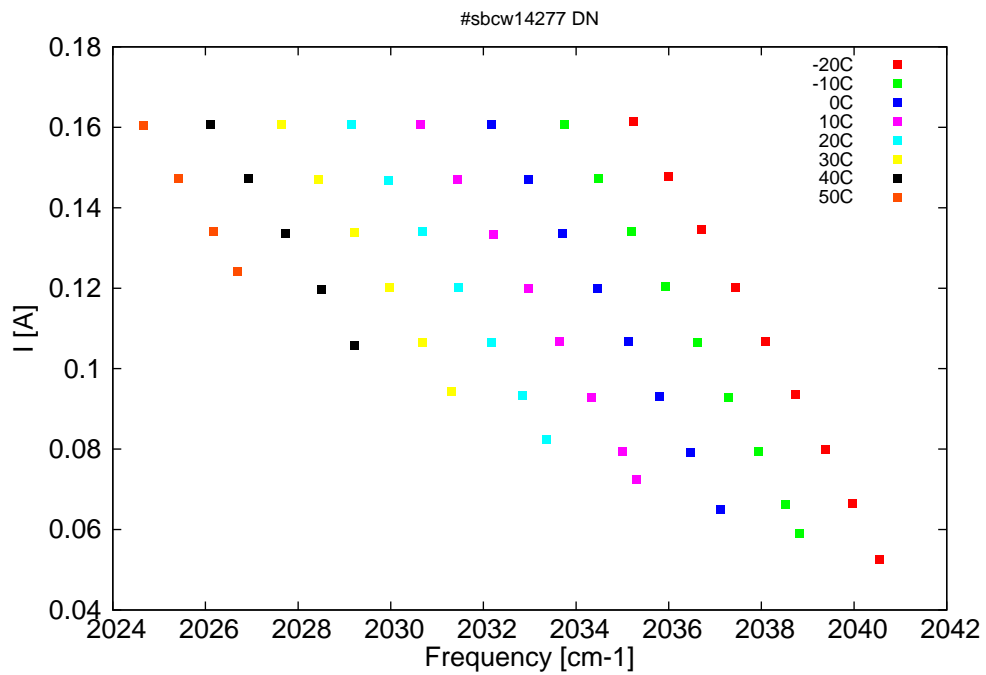


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4900.7	2040.5	0.3	-20	13.5	0.05
4902	2040	4.3	-20	13.9	0.07
4903.4	2039.4	8.3	-20	14.3	0.08
4905	2038.7	12.1	-20	14.7	0.09
4906.6	2038.1	15.9	-20	15	0.11
4908.1	2037.4	19.3	-20	15.3	0.12
4909.9	2036.7	23.4	-20	15.6	0.13
4911.6	2036	26.7	-20	15.8	0.15
4913.4	2035.2	29.3	-20	16.1	0.16
4904.8	2038.8	0.2	-10	13.5	0.06
4905.5	2038.5	1.8	-10	13.7	0.07
4906.9	2037.9	5.3	-10	14.1	0.08
4908.5	2037.3	8.6	-10	14.4	0.09
4910.1	2036.6	12.1	-10	14.7	0.11
4911.8	2035.9	15	-10	15	0.12
4913.5	2035.2	18.3	-10	15.3	0.13
4915.3	2034.5	21	-10	15.6	0.15
4917	2033.7	23.2	-10	15.8	0.16
4908.9	2037.1	0.2	0	13.5	0.07
4910.4	2036.5	3.1	0	13.9	0.08
4912.1	2035.8	6.2	0	14.2	0.09
4913.7	2035.1	9.2	0	14.5	0.11
4915.3	2034.5	11.4	0	14.8	0.12
4917.1	2033.7	14	0	15.1	0.13
4918.9	2033	16.2	0	15.3	0.15
4920.8	2032.2	18	0	15.6	0.16
4913.3	2035.3	0.2	10	13.5	0.07
4914	2035	1.4	10	13.7	0.08
4915.6	2034.3	4	10	14	0.09
4917.3	2033.6	6.4	10	14.3	0.11
4918.9	2033	8.4	10	14.6	0.12
4920.7	2032.2	10.4	10	14.8	0.13
4922.6	2031.4	12.1	10	15.1	0.15
4924.5	2030.6	13.5	10	15.3	0.16
4917.9	2033.4	0.2	20	13.6	0.08
4919.2	2032.8	1.9	20	13.8	0.09
4920.8	2032.2	4.1	20	14.1	0.11
4922.6	2031.5	6	20	14.3	0.12
4924.4	2030.7	7.6	20	14.6	0.13
4926.2	2030	8.7	20	14.8	0.15
4928.2	2029.1	9.8	20	15	0.16
4922.9	2031.3	0.3	30	13.6	0.09
4924.4	2030.7	1.7	30	13.9	0.11
4926.2	2030	3.8	30	14.1	0.12
4928	2029.2	5.1	30	14.4	0.13
4929.9	2028.4	6.1	30	14.6	0.15
4931.9	2027.6	6.9	30	14.8	0.16
4928	2029.2	0.1	40	13.6	0.11
4929.7	2028.5	1.6	40	13.9	0.12

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$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4931.6	2027.7	3	40	14.1	0.13
4933.6	2026.9	4	40	14.4	0.15
4935.5	2026.1	4.7	40	14.6	0.16
4934.1	2026.7	0.1	50	13.8	0.12
4935.4	2026.2	0.9	50	13.9	0.13
4937.2	2025.4	2	50	14.1	0.15
4939.1	2024.7	2.7	50	14.3	0.16

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

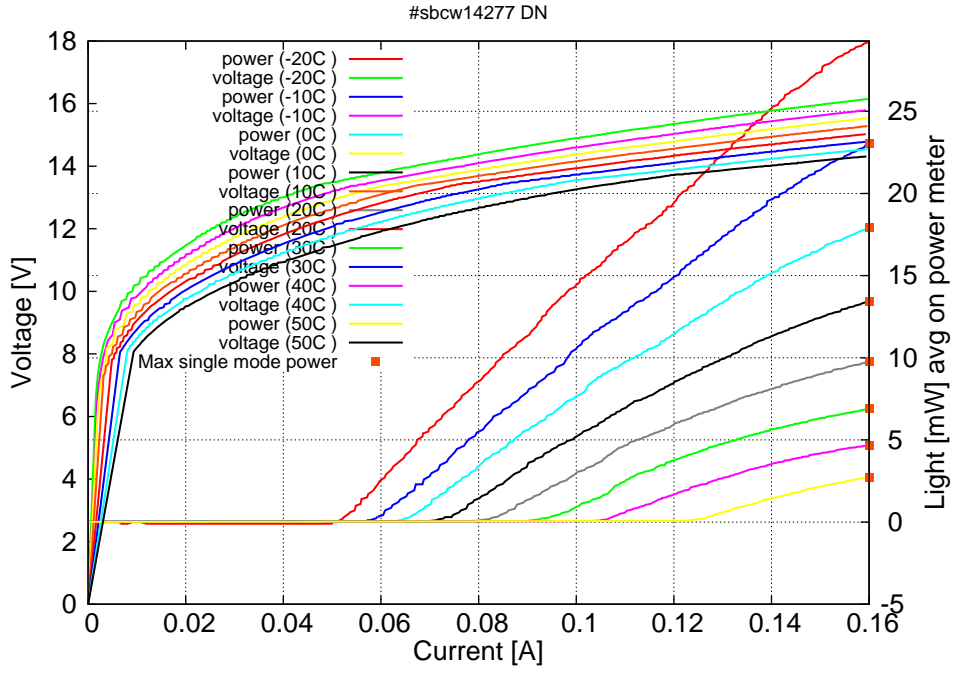


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.05A$  /  $V_{th}=13.5V$  (2-wires measurements). Maximum operation current: 0.160A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

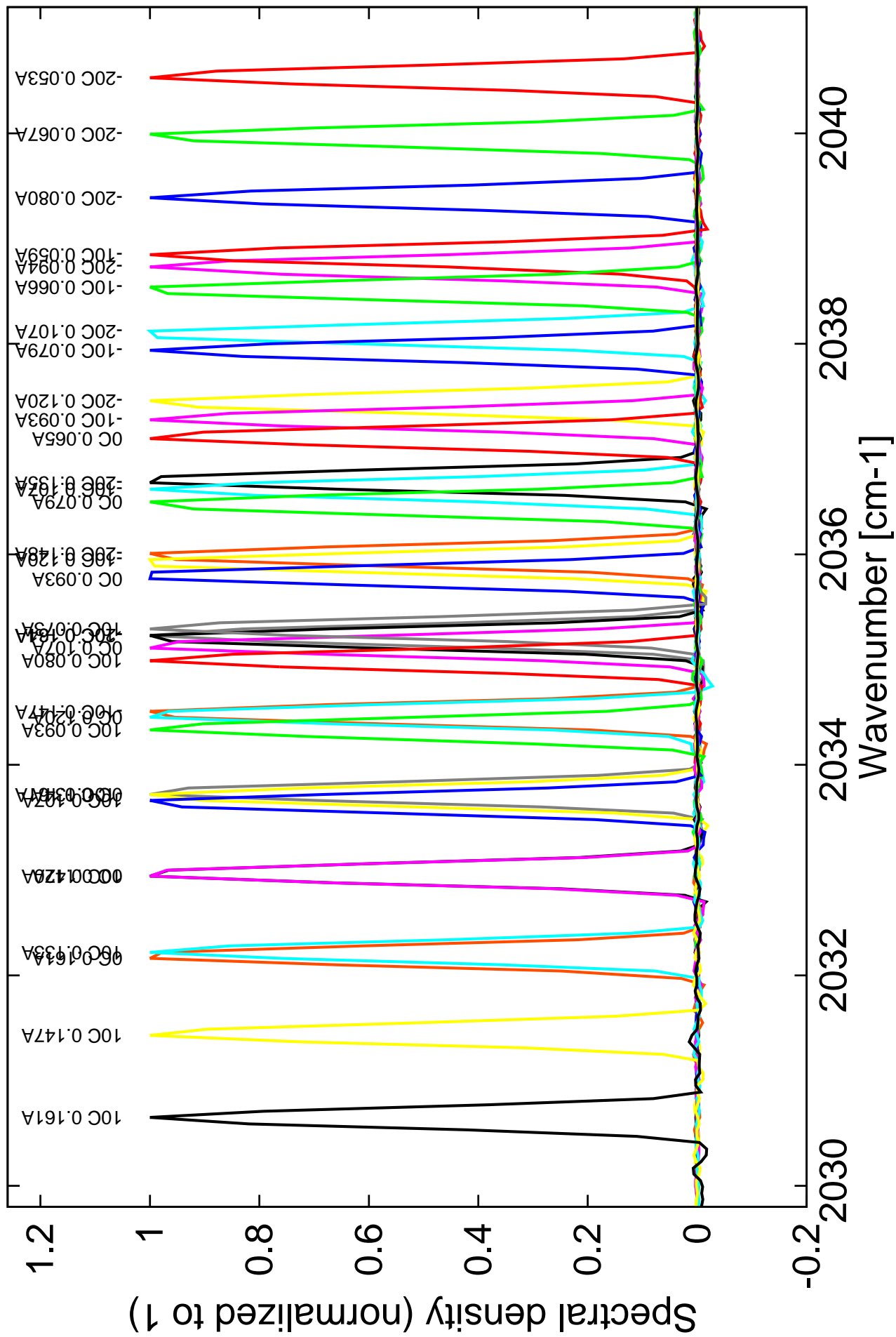


Figure 4: spectra at different temperatures for various DC currents

