

Datasheet for #sbcw13642 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 #sbcw13642 DN (please note that AlN submount numbering is A0GFD)

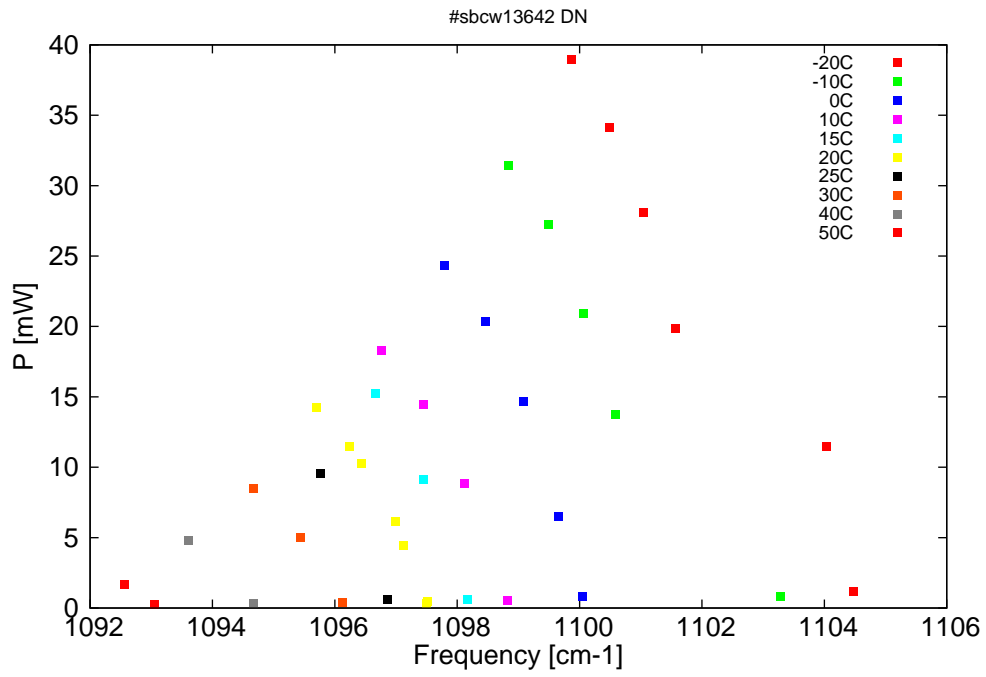


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

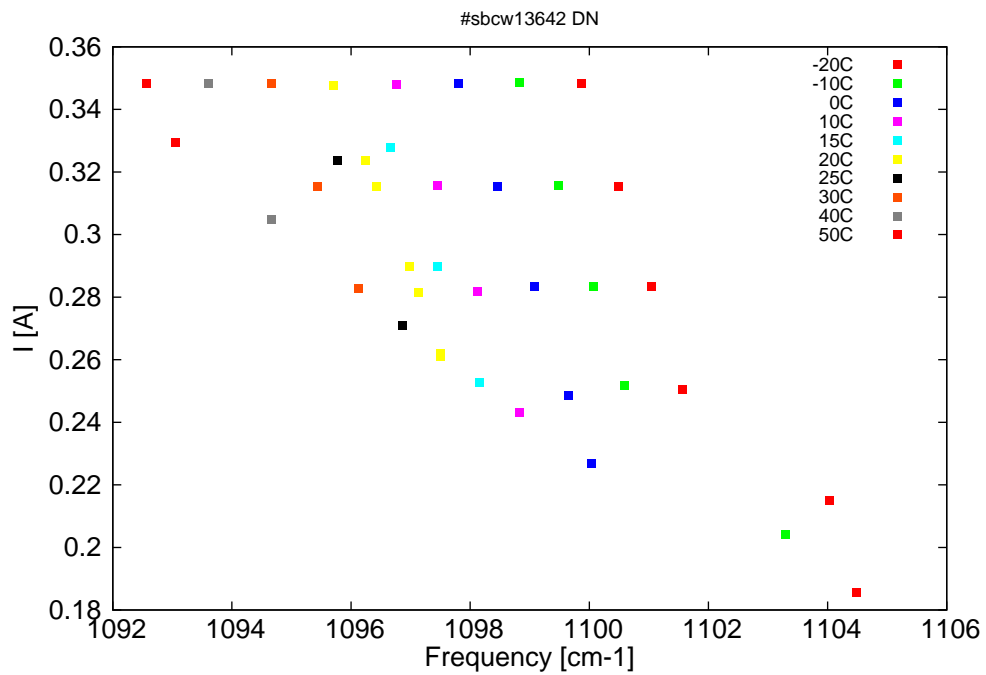


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9054	1104.5	1.2	-20	9.4	0.19
9057.7	1104	11.5	-20	9.7	0.22
9078	1101.6	19.9	-20	10.1	0.25
9082.3	1101	28.1	-20	10.4	0.28
9086.8	1100.5	34.2	-20	10.7	0.32
9092	1099.9	39	-20	11	0.35
9063.8	1103.3	0.8	-10	9.5	0.2
9086	1100.6	13.7	-10	10	0.25
9090.3	1100.1	20.9	-10	10.3	0.28
9095.1	1099.5	27.2	-10	10.6	0.32
9100.6	1098.8	31.4	-10	10.9	0.35
9090.6	1100	0.8	0	9.7	0.23
9093.8	1099.6	6.5	0	9.9	0.25
9098.5	1099.1	14.6	0	10.3	0.28
9103.6	1098.5	20.4	0	10.6	0.32
9109.2	1097.8	24.4	0	10.9	0.35
9100.7	1098.8	0.5	10	9.8	0.24
9106.5	1098.1	8.9	10	10.2	0.28
9112	1097.5	14.5	10	10.5	0.32
9117.8	1096.8	18.3	10	10.8	0.35
9106.1	1098.2	0.6	15	10.1	0.25
9112	1097.5	9.1	15	10.5	0.29
9118.6	1096.7	15.2	15	10.9	0.33
9111.6	1097.5	0.4	20	10.1	0.26
9111.5	1097.5	0.5	20	9.9	0.26
9114.7	1097.1	4.5	20	10.1	0.28
9115.9	1097	6.2	20	10.4	0.29
9120.5	1096.4	10.3	20	10.5	0.32
9122.1	1096.2	11.5	20	10.8	0.32
9126.5	1095.7	14.2	20	10.8	0.35
9116.9	1096.9	0.6	25	10.2	0.27
9126	1095.8	9.5	25	10.8	0.32
9123	1096.1	0.4	30	10.1	0.28
9128.8	1095.4	5	30	10.4	0.32
9135.2	1094.7	8.5	30	10.8	0.35
9135.2	1094.7	0.3	40	10.3	0.3
9144.1	1093.6	4.8	40	10.7	0.35
9148.7	1093.1	0.2	50	10.5	0.33
9152.8	1092.6	1.7	50	10.7	0.35

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

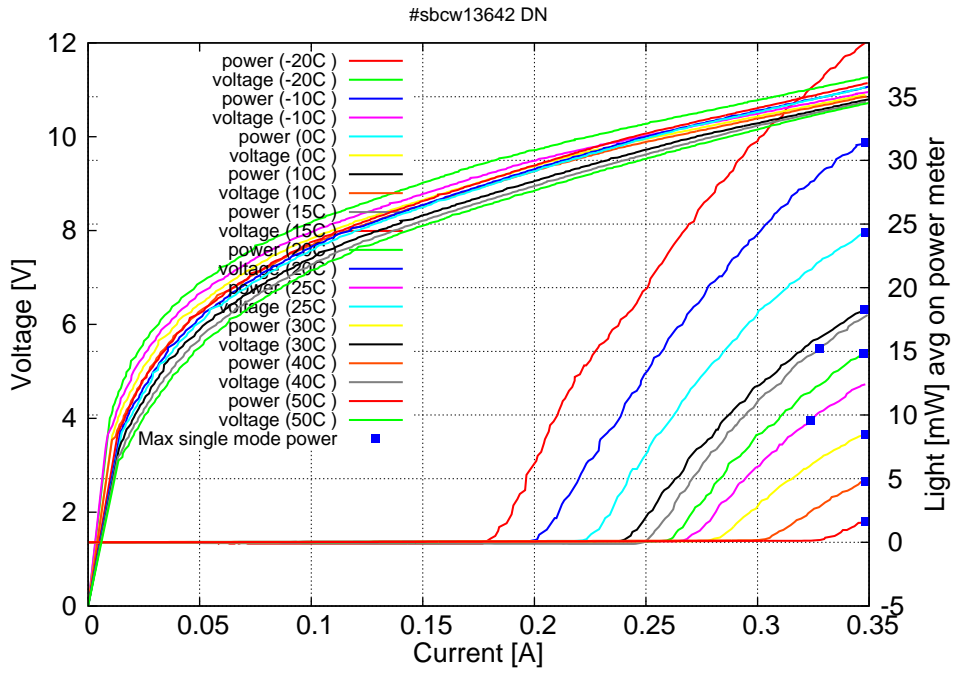
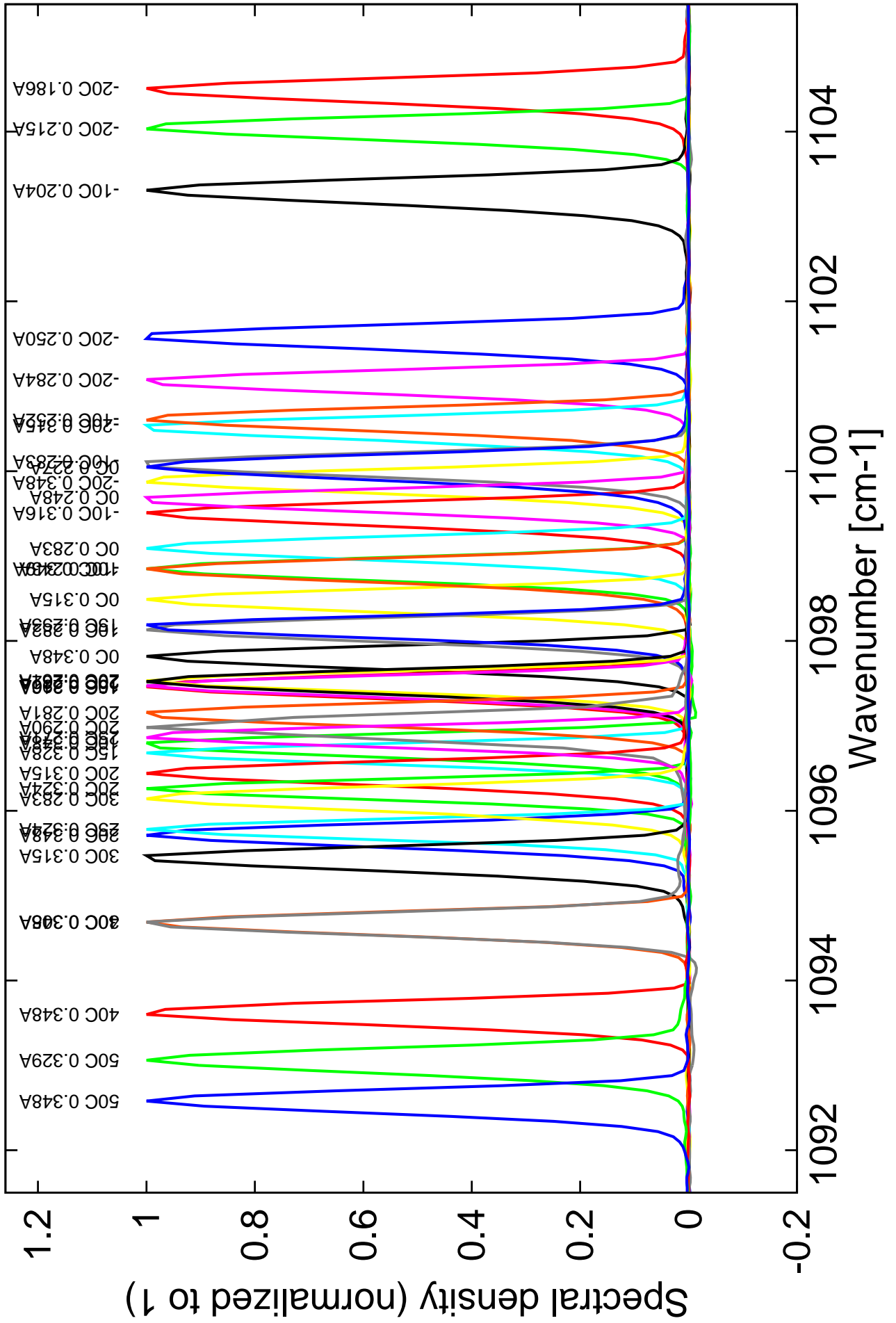


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.18A$ / $V_{th}=9.4V$ (2-wires measurements). Maximum operation current: 0.350A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



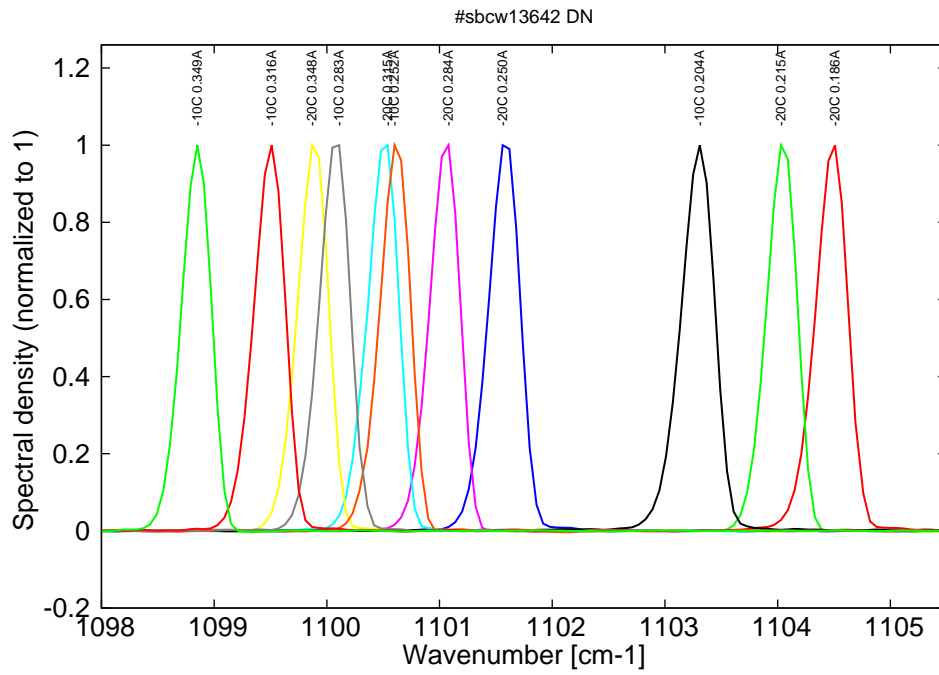


Figure 5: Spectra at -20C to -10C for various DC currents (monomode on mode 1 up to 0.22A then jumps on mode 2)

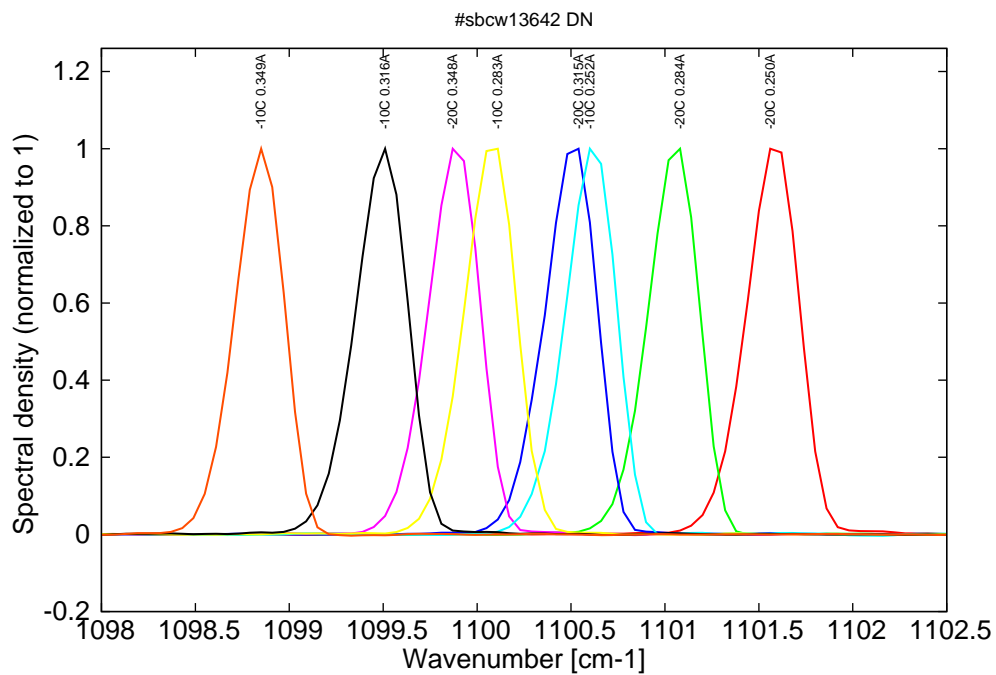


Figure 6: Spectra at -20C to -10C for various DC currents (monomode range on mode 2)

Figure 6: Spectra at 0C to 50C for various DC currents (monomode on mode 2)

