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Datasheet for #sbcw8925 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.

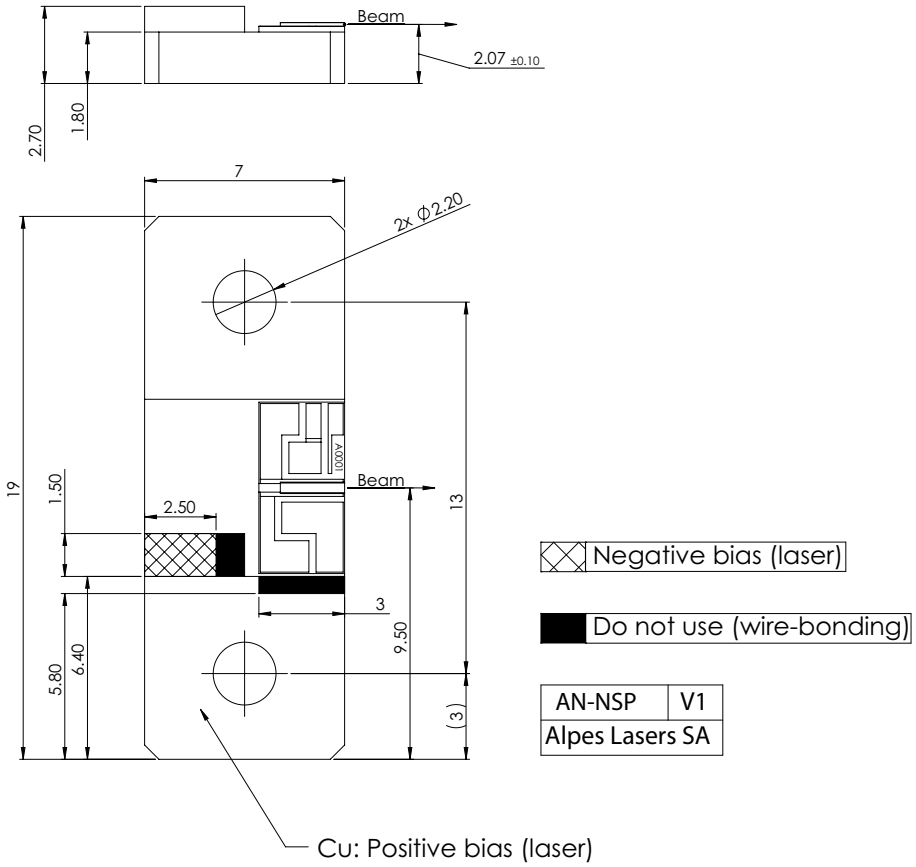

Figure 1: Mechanical and electrical interface for #sbcw8925 DN

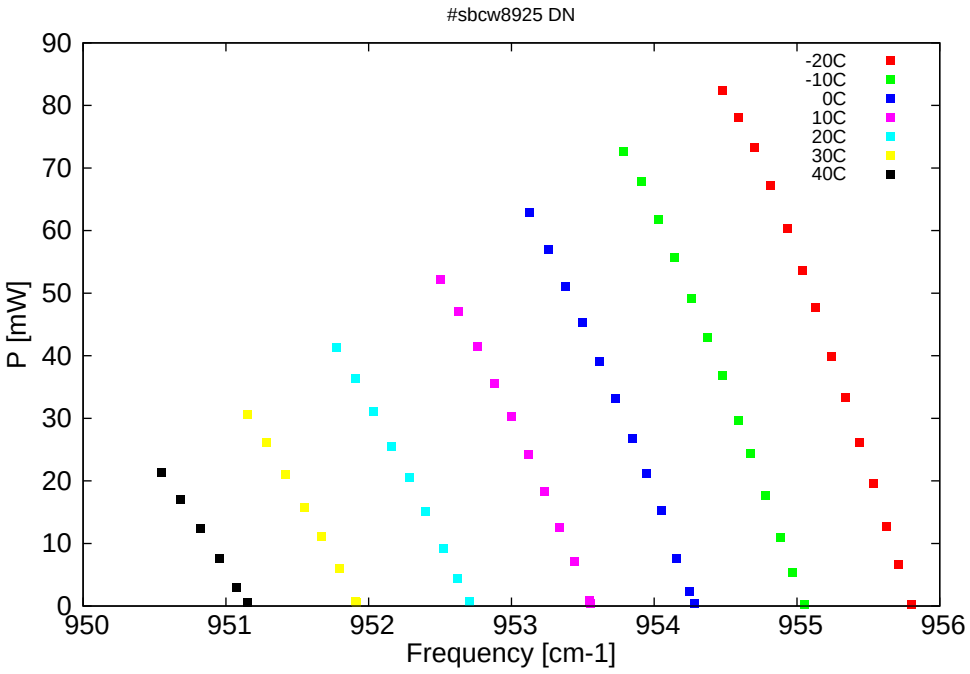

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

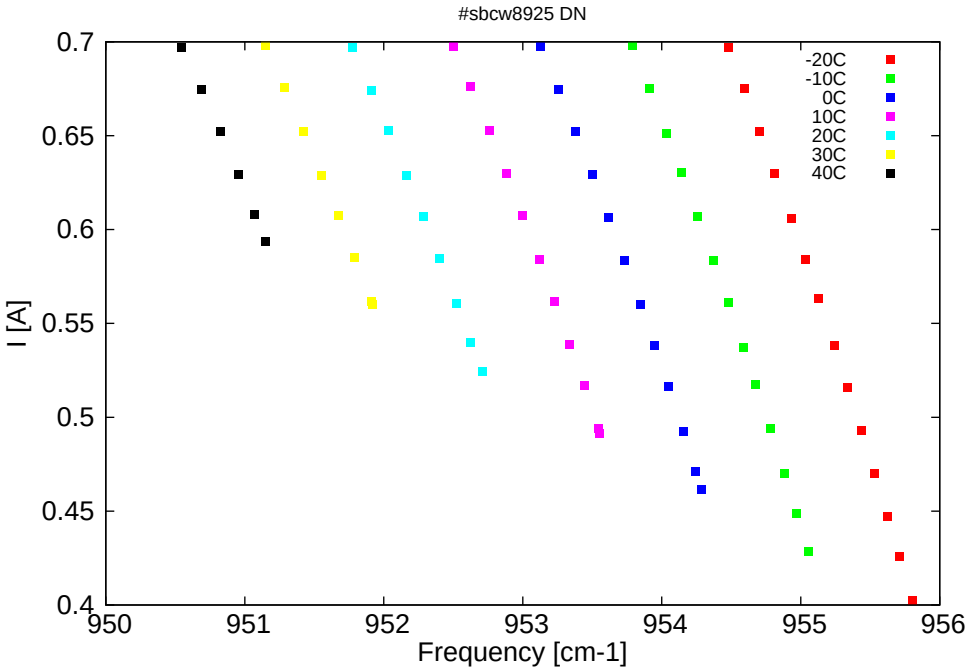

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
10462.4	955.8	0.3	-20	7.68	0.402
10463.4	955.7	6.7	-20	7.77	0.426
10464.3	955.6	12.7	-20	7.84	0.447
10465.4	955.5	19.6	-20	7.93	0.47
10466.4	955.4	26.1	-20	8.01	0.493
10467.5	955.3	33.2	-20	8.09	0.516
10468.6	955.2	39.9	-20	8.17	0.538
10469.8	955.1	47.6	-20	8.26	0.563
10470.8	955	53.7	-20	8.34	0.584
10472	954.9	60.3	-20	8.42	0.606
10473.3	954.8	67.2	-20	8.51	0.63
10474.4	954.7	73.3	-20	8.59	0.652
10475.7	954.6	78.2	-20	8.67	0.675
10476.9	954.5	82.5	-20	8.75	0.697
10470.6	955.1	0.2	-10	7.73	0.429
10471.5	955	5.3	-10	7.8	0.449
10472.5	954.9	11	-10	7.89	0.47
10473.6	954.8	17.6	-10	7.98	0.494
10474.8	954.7	24.3	-10	8.06	0.518
10475.7	954.6	29.7	-10	8.14	0.537
10476.9	954.5	36.9	-10	8.23	0.561
10478.1	954.4	42.9	-10	8.31	0.583
10479.3	954.3	49.2	-10	8.4	0.607
10480.6	954.1	55.7	-10	8.49	0.63
10481.8	954	61.8	-10	8.57	0.651
10483.2	953.9	67.9	-10	8.66	0.675
10484.5	953.8	72.6	-10	8.75	0.698
10479.1	954.3	0.4	0	7.82	0.461
10479.5	954.2	2.2	0	7.86	0.471
10480.5	954.2	7.6	0	7.94	0.492
10481.7	954	15.2	0	8.03	0.516
10482.8	953.9	21.2	0	8.11	0.538
10483.9	953.8	26.8	0	8.2	0.56
10485.1	953.7	33.1	0	8.28	0.583
10486.4	953.6	39.1	0	8.37	0.606
10487.7	953.5	45.4	0	8.46	0.629
10489	953.4	51	0	8.55	0.652
10490.3	953.3	56.9	0	8.64	0.675
10491.8	953.1	62.9	0	8.74	0.698
10487.1	953.6	0.5	10	7.91	0.491
10487.2	953.5	1	10	7.92	0.494
10488.3	953.4	7.1	10	8.01	0.517
10489.5	953.3	12.5	10	8.09	0.539
10490.7	953.2	18.3	10	8.18	0.561
10491.9	953.1	24.3	10	8.27	0.584
10493.2	953	30.2	10	8.36	0.608
10494.5	952.9	35.5	10	8.45	0.63
10495.8	952.8	41.4	10	8.54	0.653
10497.3	952.6	47.1	10	8.63	0.676

continued on next page

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
10498.6	952.5	52.1	10	8.72	0.697
10496.4	952.7	0.7	20	8.01	0.525
10497.3	952.6	4.3	20	8.07	0.54
10498.4	952.5	9.1	20	8.15	0.56
10499.8	952.4	15	20	8.25	0.585
10501.1	952.3	20.5	20	8.33	0.607
10502.4	952.2	25.5	20	8.42	0.629
10503.8	952	31.2	20	8.52	0.653
10505.2	951.9	36.3	20	8.61	0.674
10506.7	951.8	41.4	20	8.71	0.697
10505.1	951.9	0.5	30	8.13	0.56
10505.2	951.9	0.7	30	8.13	0.562
10506.5	951.8	6	30	8.23	0.585
10507.8	951.7	11.1	30	8.32	0.608
10509.1	951.6	15.8	30	8.41	0.629
10510.6	951.4	20.9	30	8.51	0.652
10512.1	951.3	26.1	30	8.6	0.676
10513.6	951.1	30.7	30	8.7	0.698
10513.6	951.2	0.6	40	8.25	0.593
10514.4	951.1	3	40	8.31	0.608
10515.8	951	7.5	40	8.4	0.629
10517.2	950.8	12.4	40	8.49	0.652
10518.7	950.7	17	40	8.59	0.675
10520.3	950.5	21.4	40	8.69	0.697

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

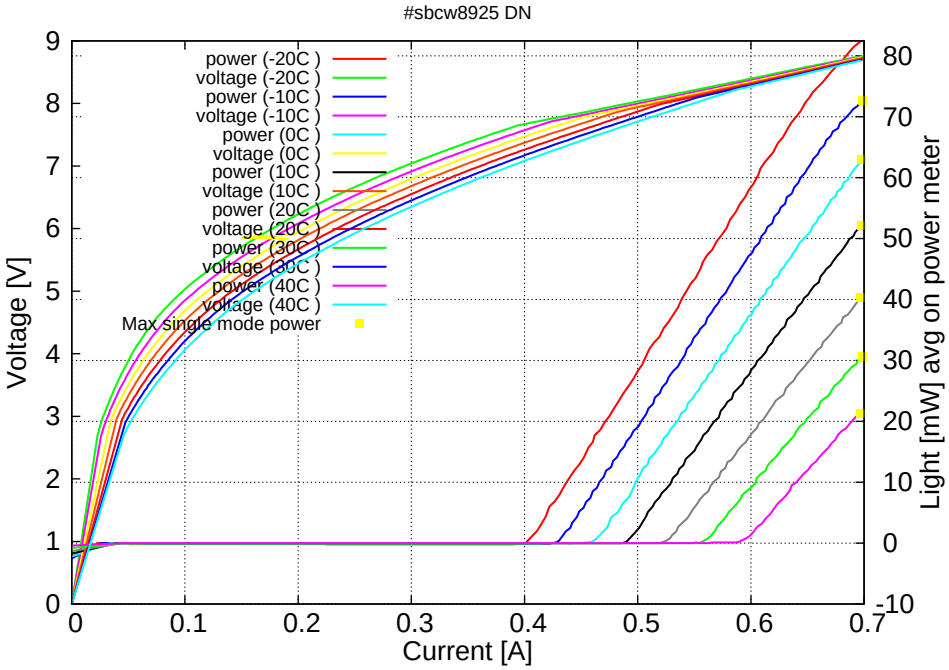

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.40A / Vth=7.68V (2-wires measurements). Maximum operation current: 0.700A for all temperatures.

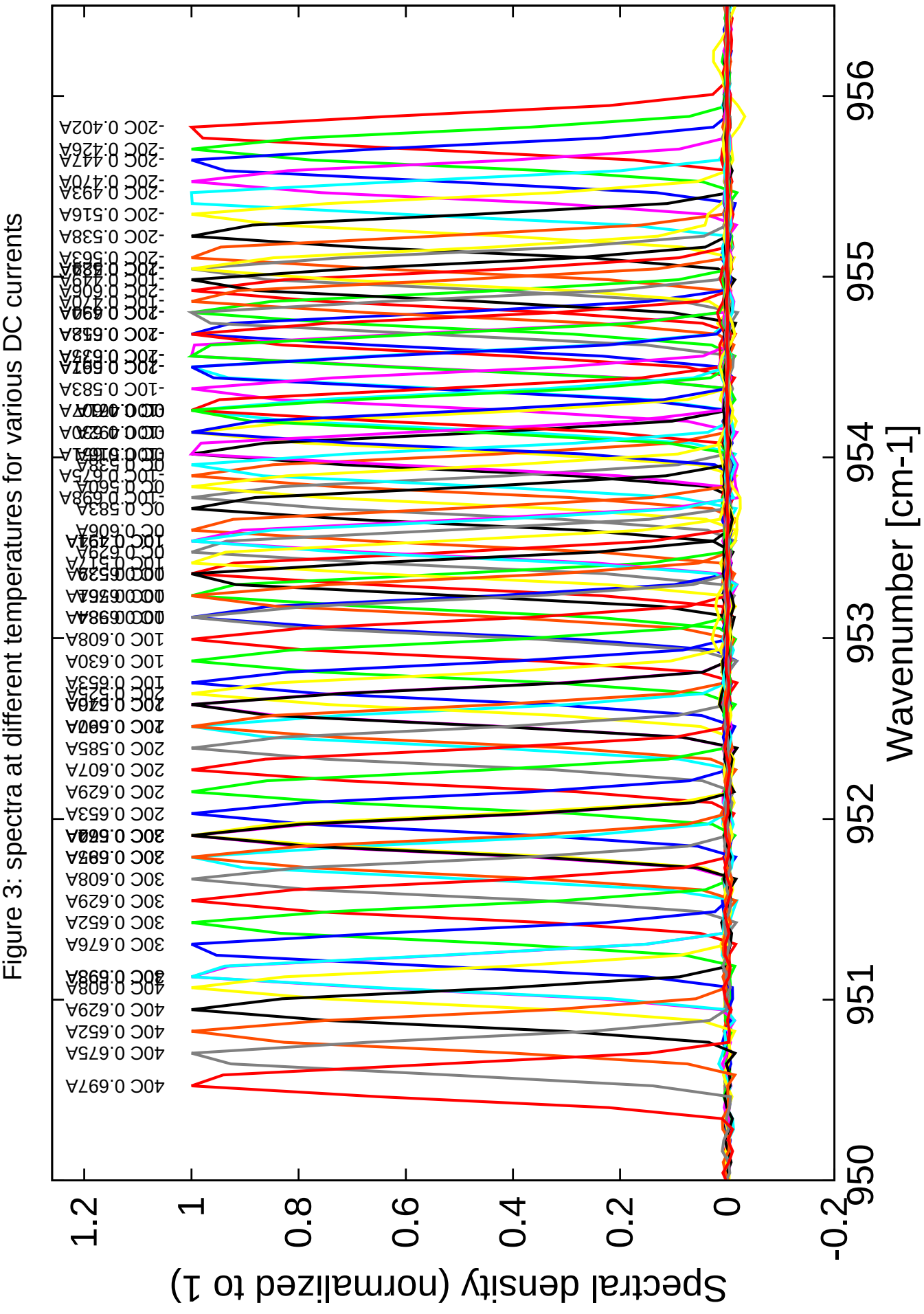

Figure 3: spectra at different temperatures for various DC currents