

Datasheet for #sbcw14542 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.

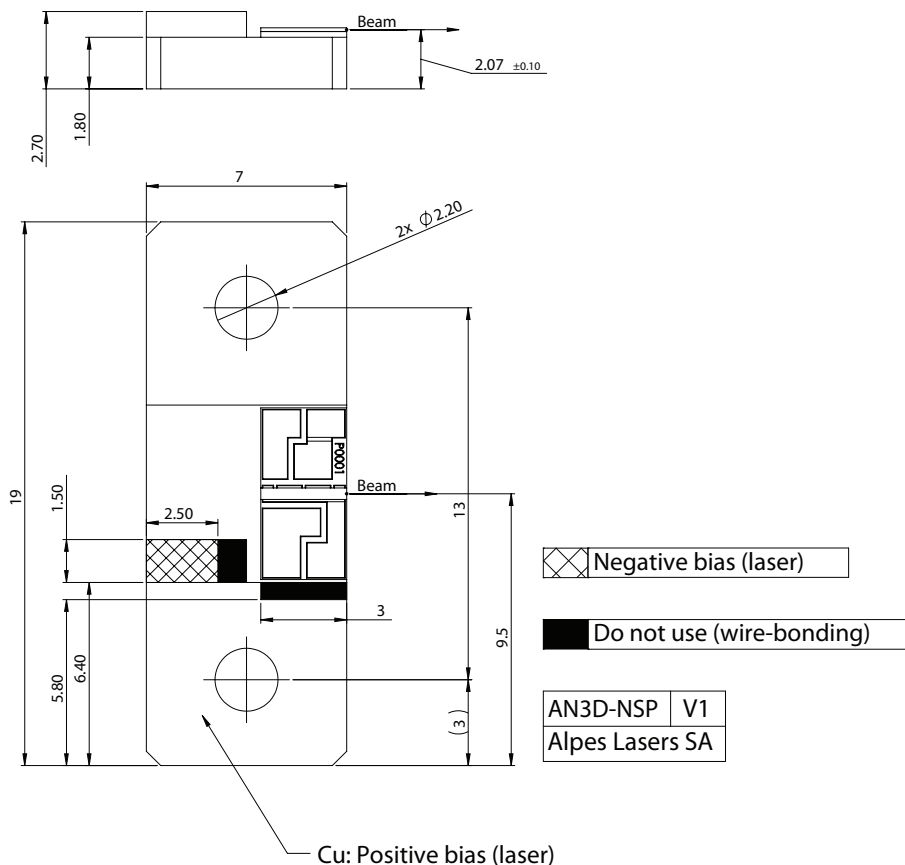


Figure 1: Mechanical and electrical interface for #sbcw14542 DN

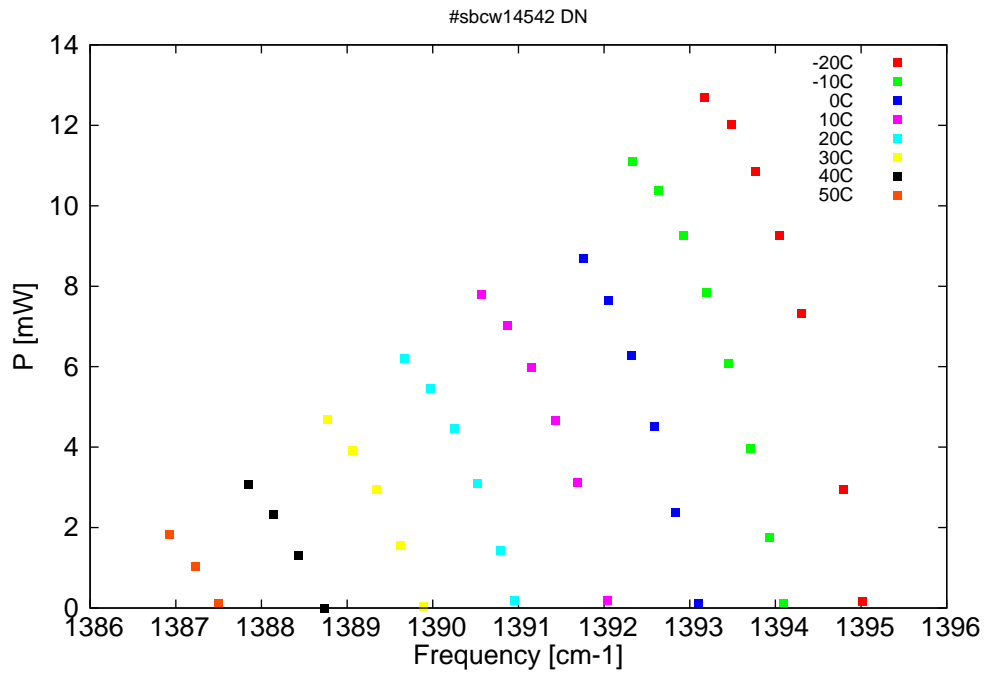


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

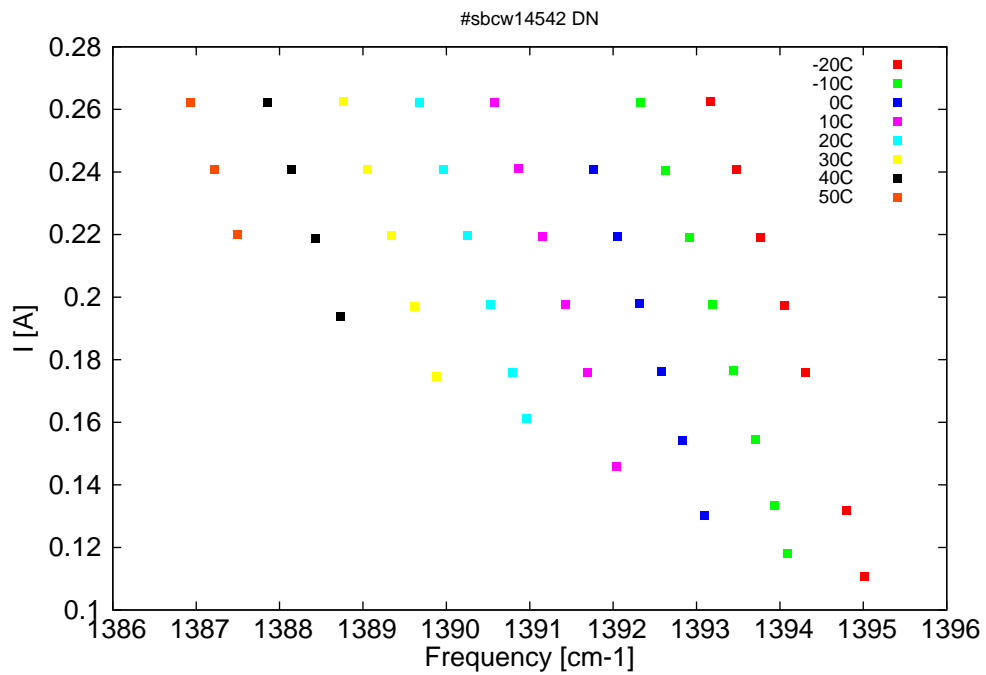


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7168.4	1395	0.2	-20	10.64	0.111
7169.5	1394.8	2.9	-20	11.05	0.132
7172	1394.3	7.3	-20	11.83	0.176
7173.3	1394.1	9.3	-20	12.2	0.197
7174.8	1393.8	10.9	-20	12.57	0.219
7176.3	1393.5	12	-20	12.93	0.241
7177.9	1393.2	12.7	-20	13.3	0.262
7173.1	1394.1	0.1	-10	10.56	0.118
7173.9	1393.9	1.7	-10	10.85	0.133
7175.1	1393.7	4	-10	11.22	0.154
7176.4	1393.4	6.1	-10	11.6	0.177
7177.7	1393.2	7.8	-10	11.95	0.198
7179.2	1392.9	9.3	-10	12.3	0.219
7180.7	1392.6	10.4	-10	12.65	0.241
7182.2	1392.3	11.1	-10	13.01	0.262
7178.2	1393.1	0.1	0	10.58	0.13
7179.6	1392.8	2.4	0	10.99	0.154
7180.9	1392.6	4.5	0	11.36	0.176
7182.3	1392.3	6.3	0	11.71	0.198
7183.7	1392	7.6	0	12.05	0.219
7185.1	1391.8	8.7	0	12.39	0.241
7183.7	1392	0.2	10	10.64	0.146
7185.5	1391.7	3.1	10	11.14	0.176
7186.8	1391.4	4.7	10	11.47	0.198
7188.3	1391.2	6	10	11.81	0.219
7189.8	1390.9	7	10	12.14	0.241
7191.3	1390.6	7.8	10	12.46	0.262
7189.3	1391	0.2	20	10.69	0.161
7190.2	1390.8	1.4	20	10.93	0.176
7191.5	1390.5	3.1	20	11.26	0.198
7192.9	1390.3	4.5	20	11.58	0.22
7194.4	1390	5.5	20	11.89	0.241
7195.9	1389.7	6.2	20	12.21	0.262
7194.8	1389.9	0	30	10.7	0.174
7196.2	1389.6	1.5	30	11.04	0.197
7197.7	1389.3	3	30	11.36	0.22
7199.1	1389.1	3.9	30	11.66	0.241
7200.6	1388.8	4.7	30	11.97	0.262
7200.8	1388.7	0	40	10.79	0.194
7202.4	1388.4	1.3	40	11.14	0.219
7203.9	1388.1	2.3	40	11.44	0.241
7205.4	1387.8	3.1	40	11.73	0.262
7207.2	1387.5	0.1	50	10.96	0.22
7208.6	1387.2	1	50	11.23	0.241
7210.2	1386.9	1.8	50	11.51	0.262

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

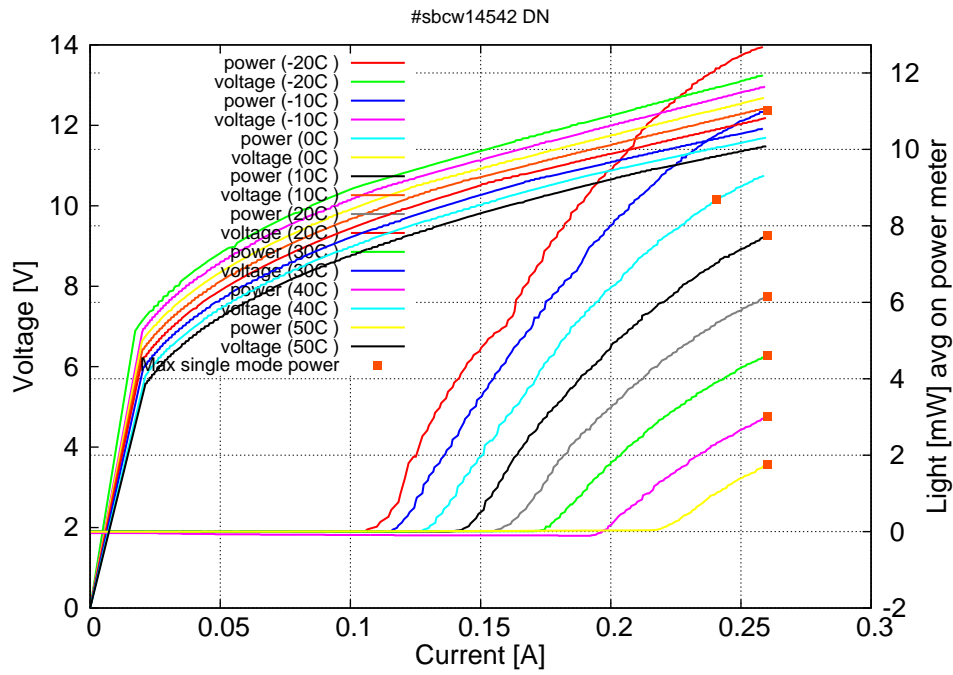


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.11A$ / $V_{th}=10.6V$ (2-wires measurements). Maximum operation current: 0.26A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

