

**Datasheet for #sbcw22378 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.

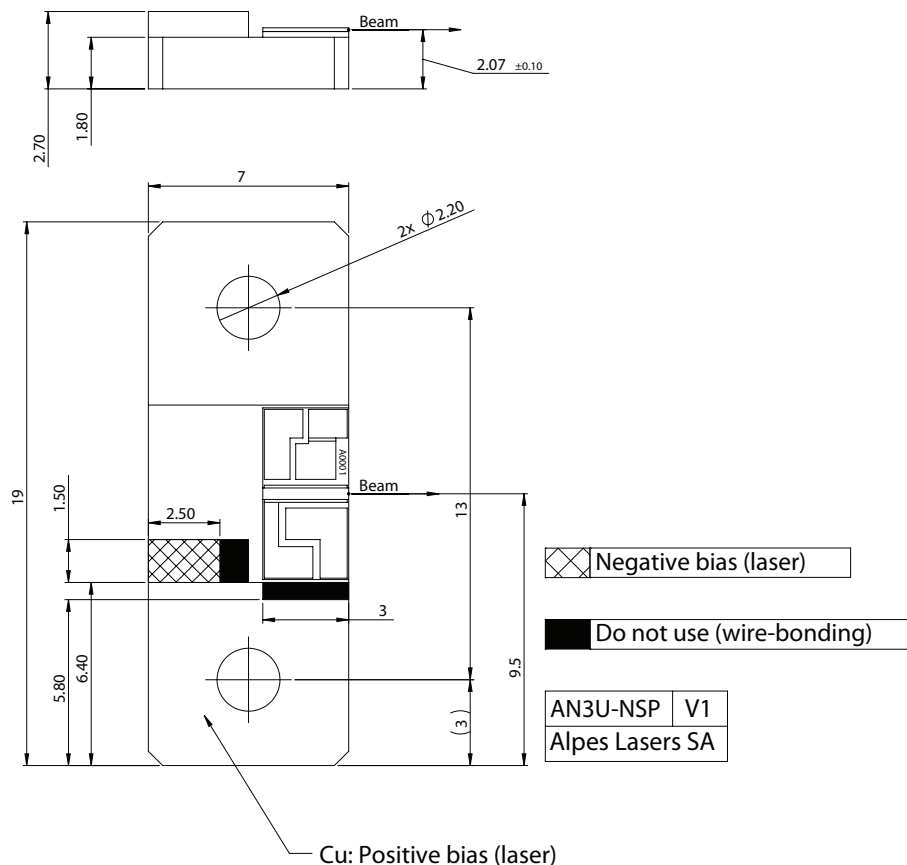


Figure 1: Mechanical and electrical interface for #sbcw22378 DN

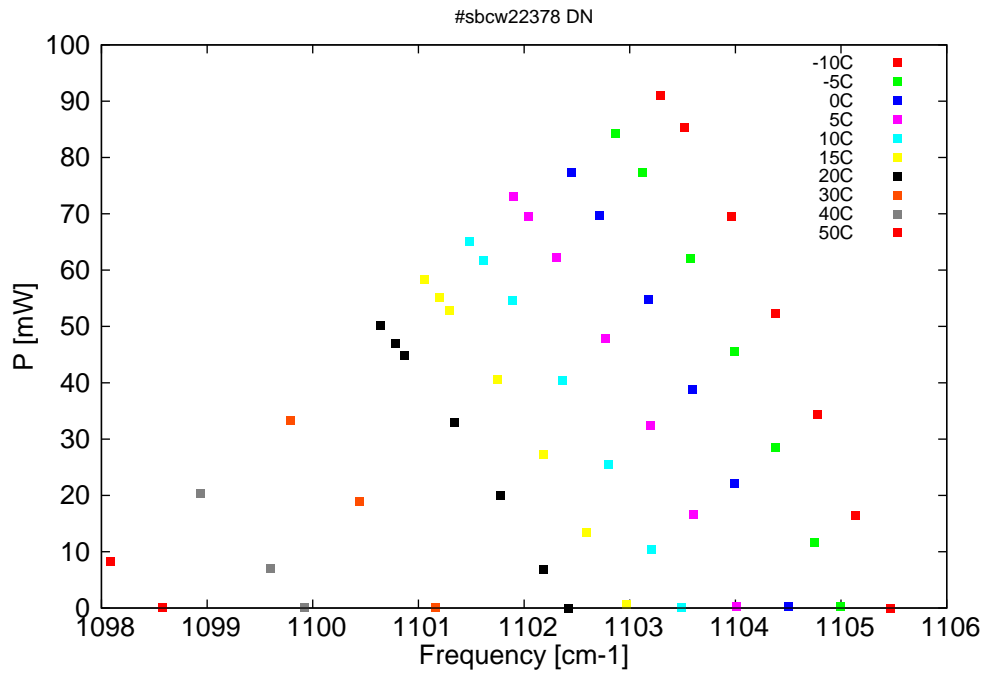


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

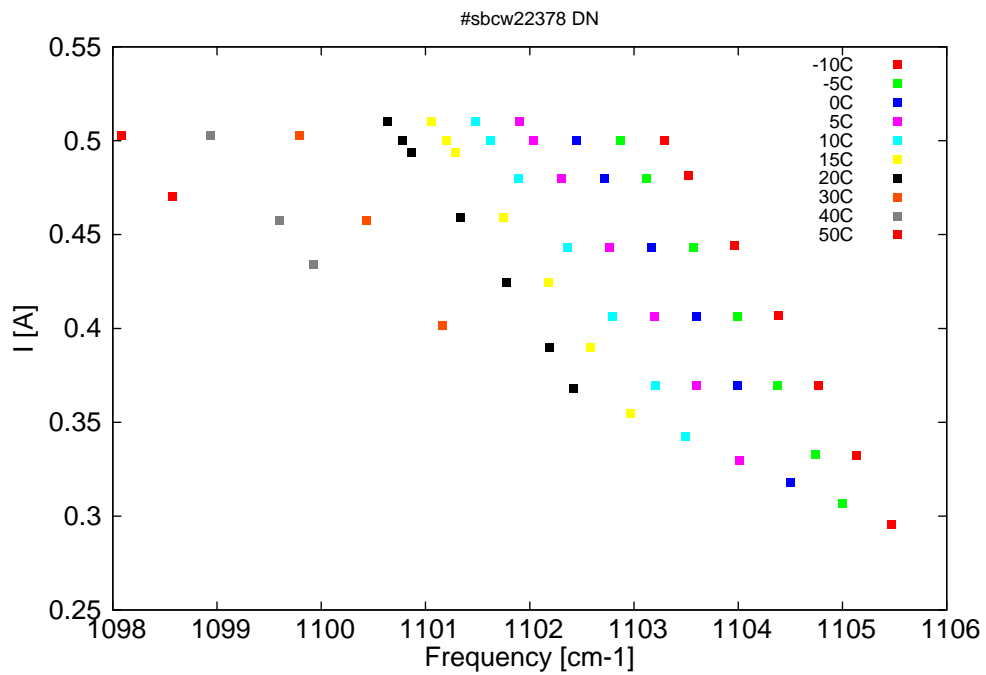


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
9045.9	1105.5	0	-10	9.59	0.295
9048.7	1105.1	16.4	-10	9.9	0.333
9051.6	1104.8	34.5	-10	10.2	0.37
9054.8	1104.4	52.3	-10	10.5	0.407
9058.2	1104	69.6	-10	10.79	0.444
9061.9	1103.5	85.4	-10	11.09	0.481
9063.8	1103.3	91.1	-10	11.24	0.5
9049.8	1105	0.3	-5	9.65	0.307
9051.9	1104.7	11.6	-5	9.87	0.333
9054.8	1104.4	28.6	-5	10.17	0.37
9058	1104	45.5	-5	10.46	0.407
9061.5	1103.6	62	-5	10.75	0.443
9065.2	1103.1	77.3	-5	11.04	0.48
9067.3	1102.9	84.3	-5	11.21	0.5
9053.8	1104.5	0.2	0	9.71	0.318
9058	1104	22.2	0	10.14	0.37
9061.3	1103.6	38.8	0	10.43	0.407
9064.8	1103.2	54.7	0	10.72	0.443
9068.5	1102.7	69.8	0	11.02	0.48
9070.7	1102.5	77.4	0	11.19	0.5
9057.9	1104	0.2	5	9.77	0.33
9061.3	1103.6	16.6	5	10.1	0.37
9064.6	1103.2	32.4	5	10.4	0.407
9068.1	1102.8	47.8	5	10.7	0.443
9071.9	1102.3	62.3	5	10.99	0.48
9074.1	1102	69.6	5	11.16	0.5
9075.2	1101.9	73	5	11.24	0.51
9062.1	1103.5	0	10	9.84	0.342
9064.5	1103.2	10.3	10	10.07	0.37
9067.9	1102.8	25.5	10	10.37	0.407
9071.5	1102.4	40.4	10	10.67	0.443
9075.3	1101.9	54.6	10	10.96	0.48
9077.5	1101.6	61.8	10	11.14	0.5
9078.7	1101.5	65.1	10	11.22	0.51
9066.4	1103	0.6	15	9.92	0.355
9069.6	1102.6	13.5	15	10.2	0.39
9072.9	1102.2	27.3	15	10.49	0.424
9076.5	1101.8	40.6	15	10.77	0.459
9080.3	1101.3	52.8	15	11.05	0.494
9081	1101.2	55.2	15	11.11	0.5
9082.1	1101.1	58.3	15	11.19	0.51
9070.9	1102.4	0	20	10	0.368
9072.9	1102.2	6.9	20	10.17	0.39
9076.3	1101.8	20.1	20	10.46	0.424
9079.9	1101.3	32.9	20	10.74	0.459
9083.7	1100.9	44.9	20	11.03	0.494
9084.5	1100.8	47	20	11.08	0.5
9085.6	1100.6	50.2	20	11.17	0.51
9081.3	1101.2	0.1	30	10.21	0.402

*continued on next page*

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
9087.3	1100.4	18.8	30	10.67	0.458
9092.6	1099.8	33.4	30	11.04	0.503
9091.5	1099.9	0.1	40	10.42	0.434
9094.2	1099.6	7	40	10.62	0.458
9099.7	1098.9	20.4	40	10.99	0.503
9102.7	1098.6	0.1	50	10.67	0.47
9106.8	1098.1	8.3	50	10.94	0.503

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

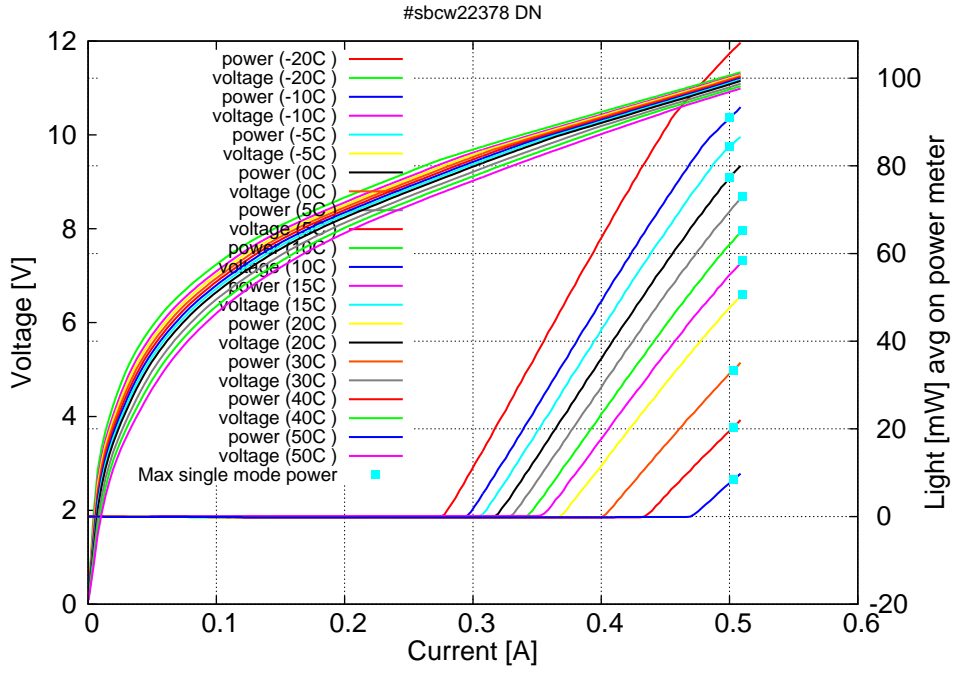


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -10C:  $I_{th}=0.29A$  /  $V_{th}=9.5V$  (2-wires measurements). Maximum operation current: 0.50A between -10C and 5C, 0.51A between 10C and 50C.

Figure 3: spectra at different temperatures for various DC currents

