

**Datasheet for #sbcw20019 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.

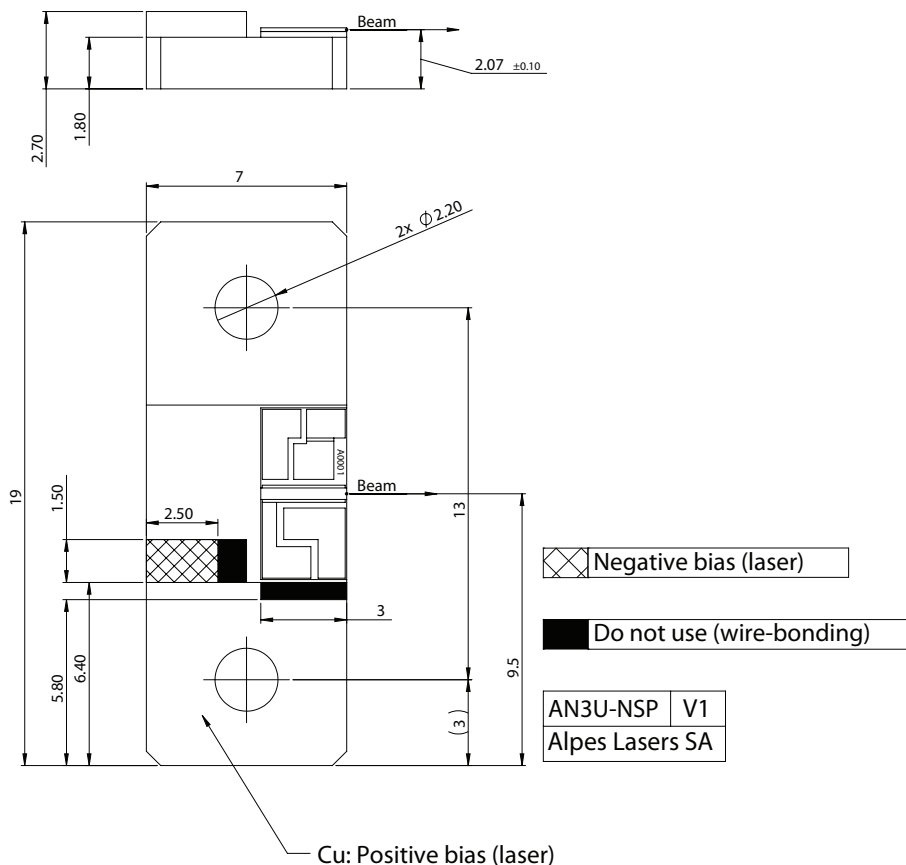


Figure 1: Mechanical and electrical interface for #sbcw20019 DN

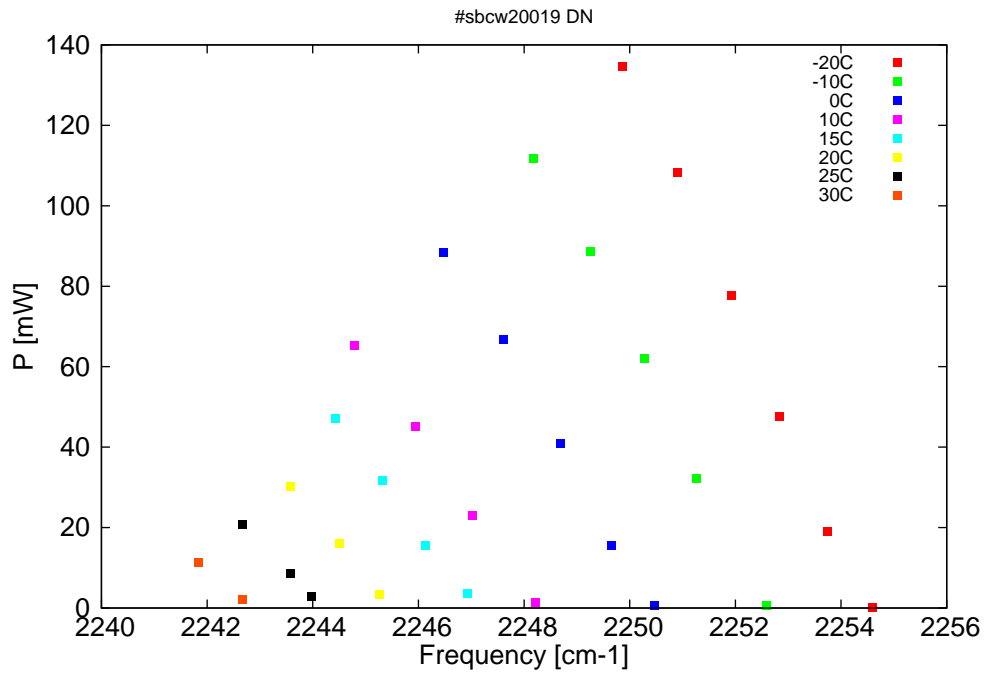


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

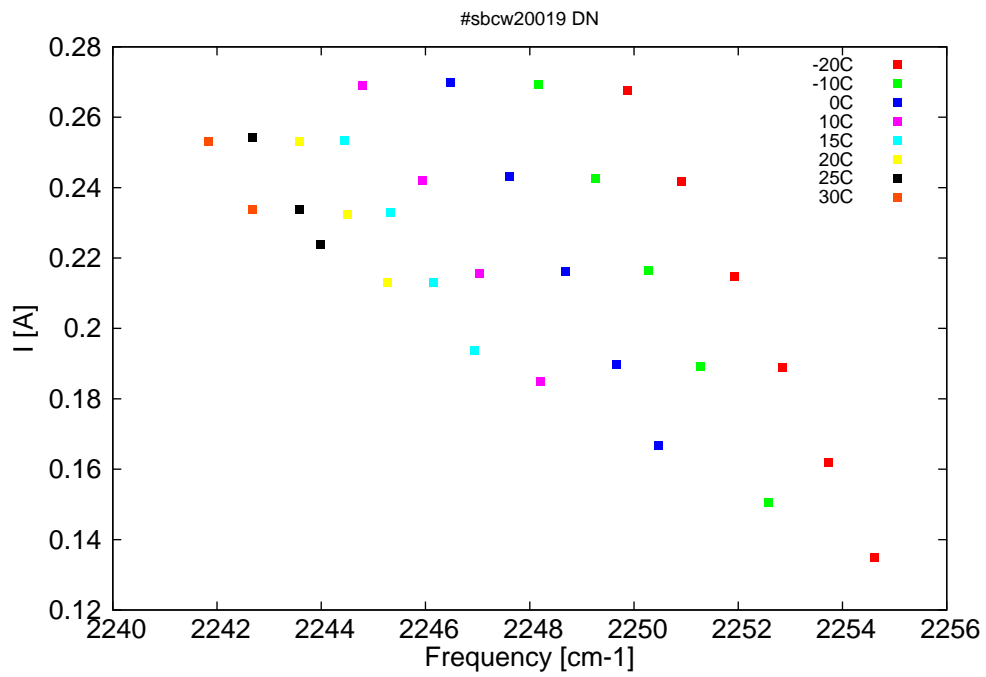


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4435.4	2254.6	0.1	-20	11.87	0.135
4437.1	2253.7	19.1	-20	12.12	0.162
4438.8	2252.8	47.6	-20	12.36	0.189
4440.6	2251.9	77.7	-20	12.58	0.215
4442.7	2250.9	108.2	-20	12.82	0.242
4444.7	2249.9	134.5	-20	13.04	0.268
4439.3	2252.6	0.5	-10	11.94	0.15
4441.9	2251.3	32.3	-10	12.29	0.189
4443.9	2250.3	62.1	-10	12.53	0.217
4445.9	2249.3	88.7	-10	12.75	0.243
4448.1	2248.2	111.8	-10	12.98	0.269
4443.5	2250.5	0.6	0	12.02	0.167
4445.1	2249.7	15.5	0	12.22	0.19
4447.1	2248.7	40.9	0	12.46	0.216
4449.2	2247.6	66.9	0	12.69	0.243
4451.4	2246.5	88.4	0	12.92	0.27
4448	2248.2	1.3	10	12.12	0.185
4450.3	2247	23	10	12.39	0.216
4452.5	2245.9	45	10	12.62	0.242
4454.8	2244.8	65.3	10	12.85	0.269
4450.5	2246.9	3.5	15	12.29	0.194
4452.1	2246.1	15.4	15	12.46	0.213
4453.7	2245.3	31.6	15	12.63	0.233
4455.5	2244.4	47	15	12.8	0.253
4453.8	2245.3	3.3	20	12.45	0.213
4455.3	2244.5	16.1	20	12.6	0.232
4457.2	2243.6	30.1	20	12.78	0.253
4456.4	2244	2.9	25	12.51	0.224
4457.2	2243.6	8.5	25	12.6	0.234
4459	2242.7	20.7	25	12.77	0.254
4459	2242.7	2.2	30	12.59	0.234
4460.6	2241.8	11.4	30	12.74	0.253

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

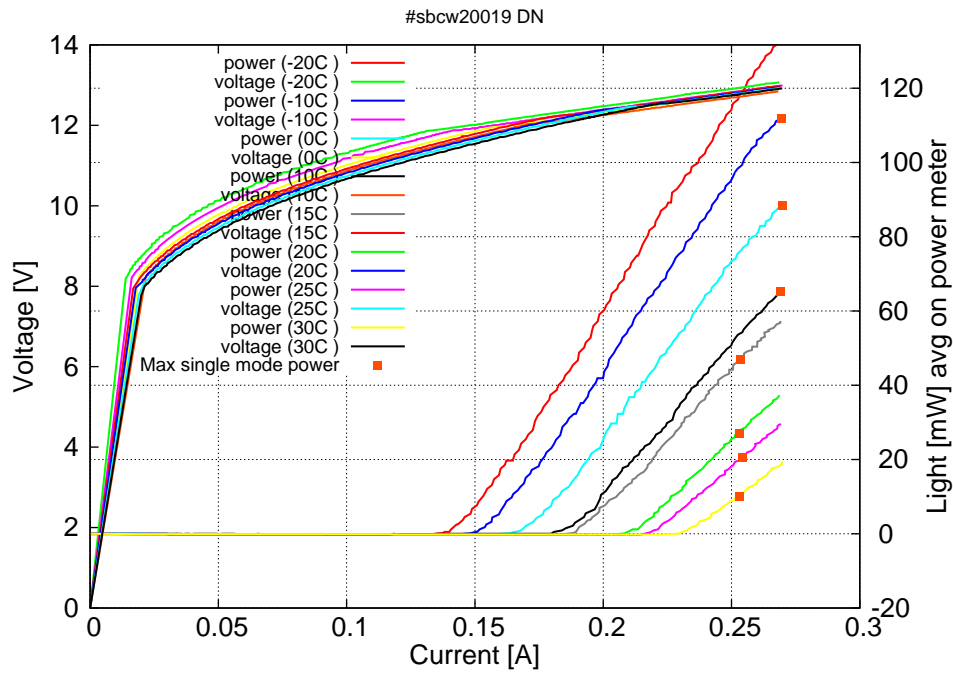


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.14A$  /  $V_{th}=11.9V$  (2-wires measurements). Maximum operation current: 0.27A between -20C and 10C, 0.255A between 15C and 30C.

Figure 3: spectra at different temperatures for various DC currents

