

**Datasheet for #sbcw20027 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.

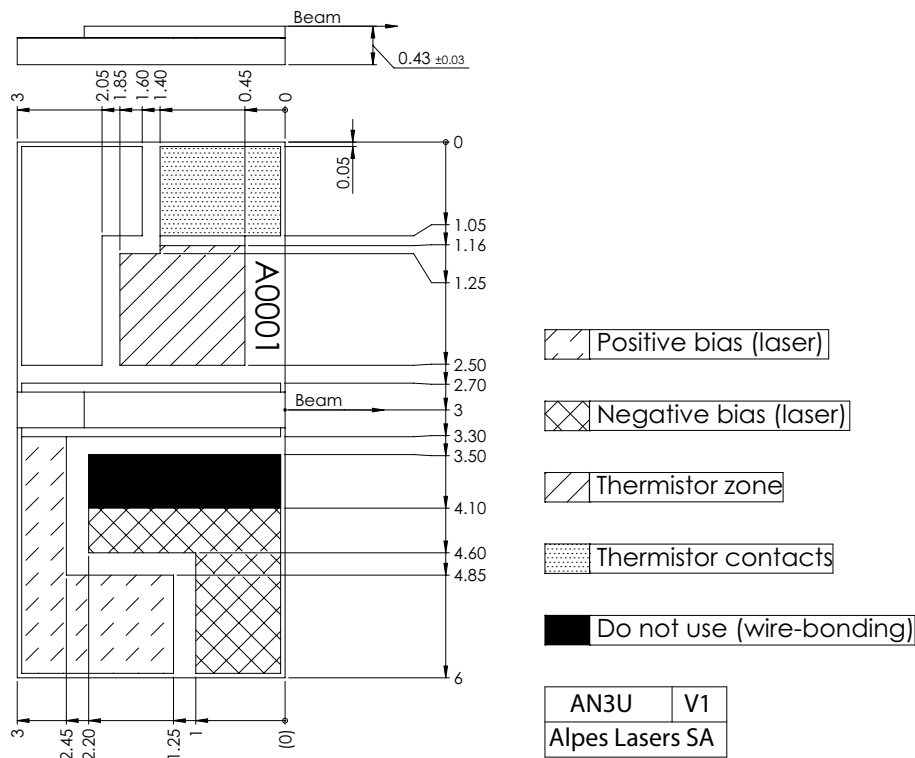


Figure 1: Mechanical and electrical interface for #sbcw20027 DN (please note that AlN submount numbering is A0T5T)

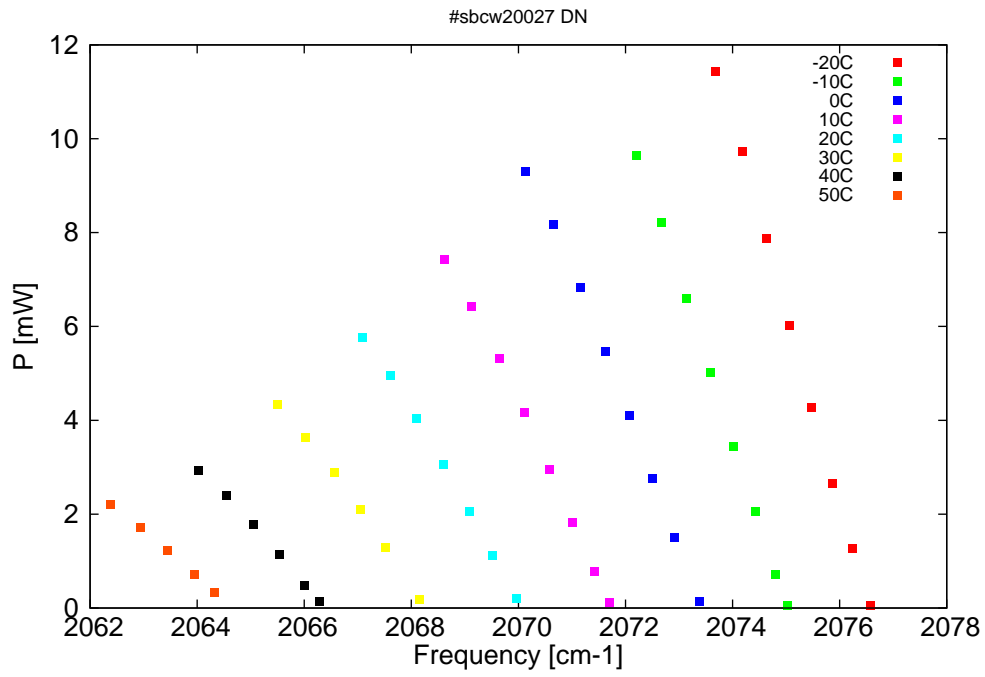


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

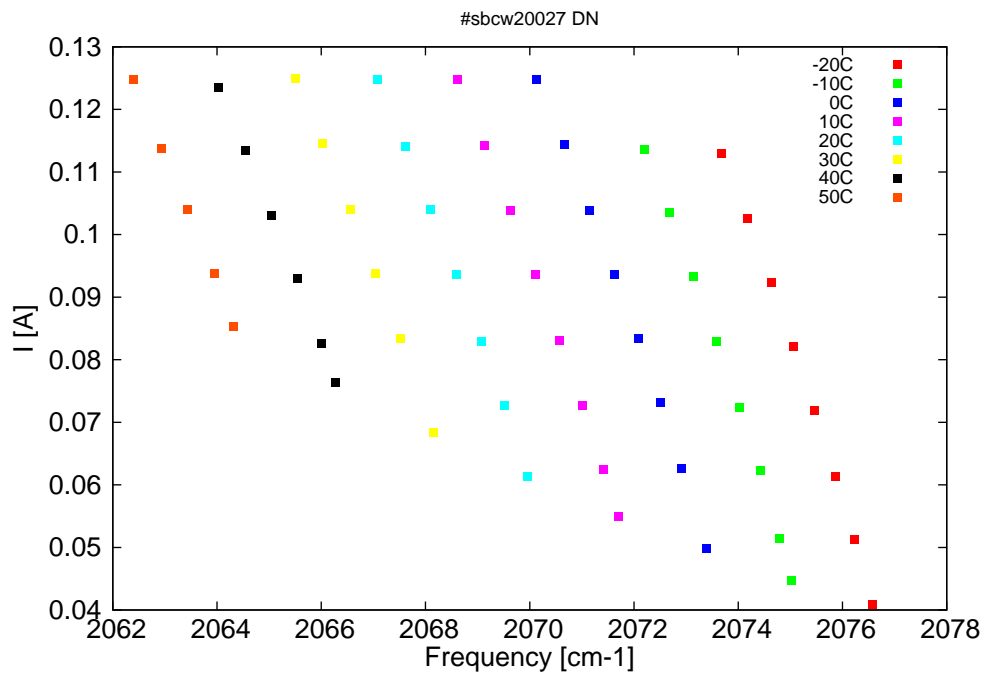


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4815.6	2076.6	0.1	-20	11.84	0.041
4816.4	2076.2	1.3	-20	12.2	0.051
4817.3	2075.9	2.6	-20	12.57	0.061
4818.2	2075.5	4.3	-20	12.91	0.072
4819.1	2075.1	6	-20	13.24	0.082
4820.1	2074.6	7.9	-20	13.56	0.092
4821.2	2074.2	9.7	-20	13.9	0.103
4822.3	2073.7	11.4	-20	14.27	0.113
4819.2	2075	0	-10	11.81	0.045
4819.8	2074.8	0.7	-10	12.04	0.051
4820.6	2074.4	2.1	-10	12.38	0.062
4821.5	2074	3.4	-10	12.71	0.072
4822.5	2073.6	5	-10	13.04	0.083
4823.6	2073.1	6.6	-10	13.36	0.093
4824.7	2072.7	8.2	-10	13.68	0.104
4825.8	2072.2	9.6	-10	14.01	0.114
4823	2073.4	0.1	0	11.84	0.05
4824.1	2072.9	1.5	0	12.24	0.063
4825.1	2072.5	2.8	0	12.56	0.073
4826.1	2072.1	4.1	0	12.87	0.083
4827.1	2071.6	5.5	0	13.18	0.094
4828.2	2071.2	6.8	0	13.49	0.104
4829.4	2070.7	8.2	0	13.8	0.114
4830.6	2070.1	9.3	0	14.14	0.125
4826.9	2071.7	0.1	10	11.88	0.055
4827.6	2071.4	0.8	10	12.1	0.062
4828.6	2071	1.8	10	12.4	0.073
4829.6	2070.6	3	10	12.7	0.083
4830.7	2070.1	4.2	10	13	0.094
4831.8	2069.6	5.3	10	13.29	0.104
4833	2069.1	6.4	10	13.59	0.114
4834.1	2068.6	7.4	10	13.89	0.125
4831	2070	0.2	20	11.96	0.061
4832.1	2069.5	1.1	20	12.27	0.073
4833.1	2069.1	2.1	20	12.55	0.083
4834.2	2068.6	3.1	20	12.84	0.094
4835.3	2068.1	4	20	13.13	0.104
4836.5	2067.6	5	20	13.4	0.114
4837.7	2067.1	5.8	20	13.69	0.125
4835.2	2068.2	0.2	30	12.04	0.068
4836.7	2067.5	1.3	30	12.42	0.083
4837.8	2067	2.1	30	12.69	0.094
4839	2066.6	2.9	30	12.96	0.104
4840.2	2066	3.6	30	13.23	0.115
4841.4	2065.5	4.3	30	13.5	0.125
4839.6	2066.3	0.1	40	12.14	0.076
4840.2	2066	0.5	40	12.28	0.083
4841.4	2065.5	1.1	40	12.53	0.093
4842.5	2065.1	1.8	40	12.78	0.103

*continued on next page*

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4843.7	2064.5	2.4	40	13.04	0.113
4844.9	2064	2.9	40	13.28	0.124
4844.2	2064.3	0.3	50	12.15	0.085
4845.1	2063.9	0.7	50	12.43	0.094
4846.3	2063.4	1.2	50	12.66	0.104
4847.4	2062.9	1.7	50	12.89	0.114
4848.7	2062.4	2.2	50	13.14	0.125

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

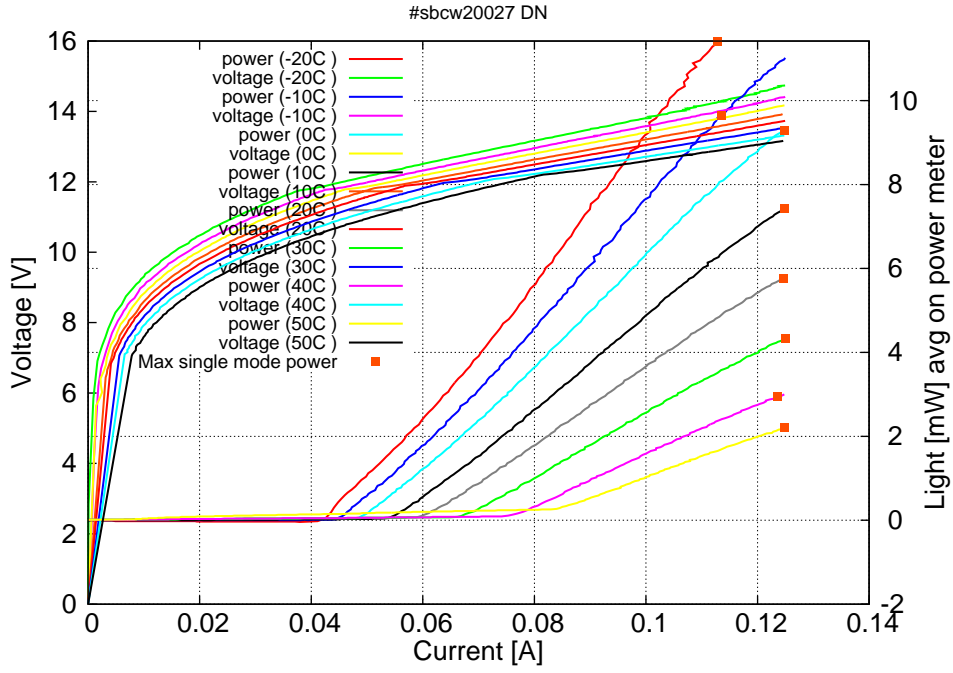


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.04A$  /  $V_{th}=11.8V$  (2-wires measurements). Maximum operation current: 0.115A between -20C and -10C, 0.125A between 0C and 50C.

Figure 3: spectra at different temperatures for various DC currents

