

Datasheet for #sbcw27920 DN

Recommendations:

Please read the User Manual and have a look at the FAQ at <https://www.alpeslasers.ch/resources/#faq>

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.

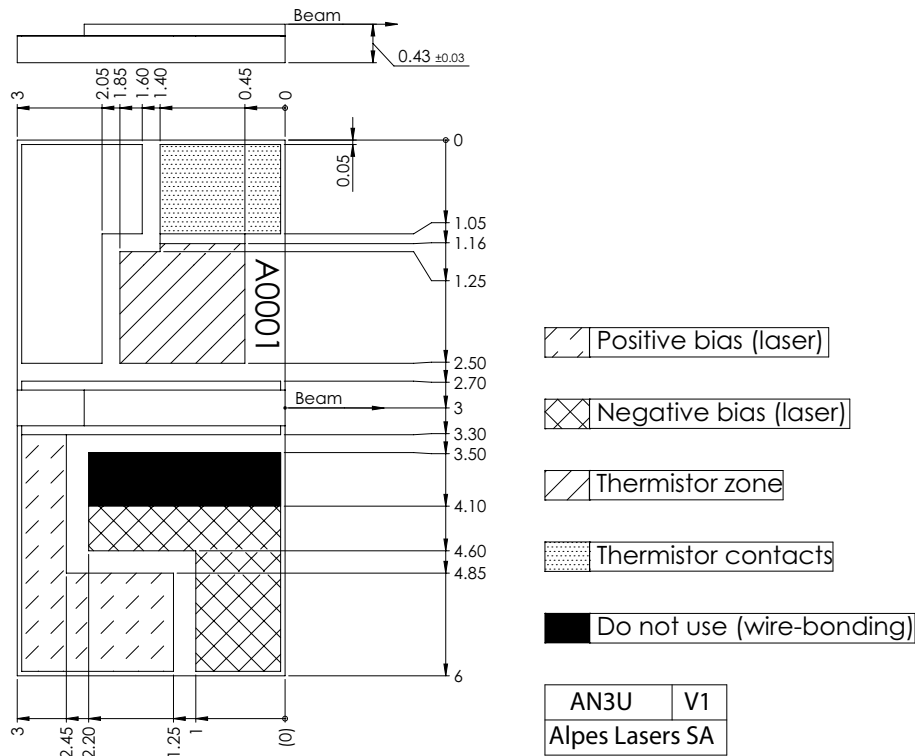


Figure 1: Mechanical and electrical interface for #sbcw27920 DN (please note that AlN submount numbering is A0XYA)

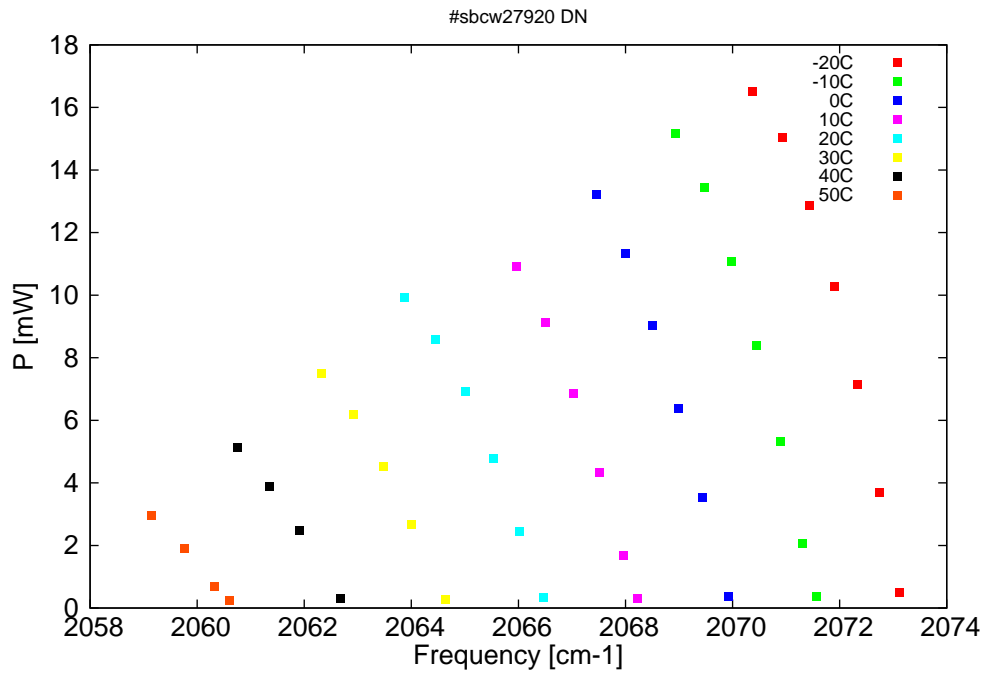


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

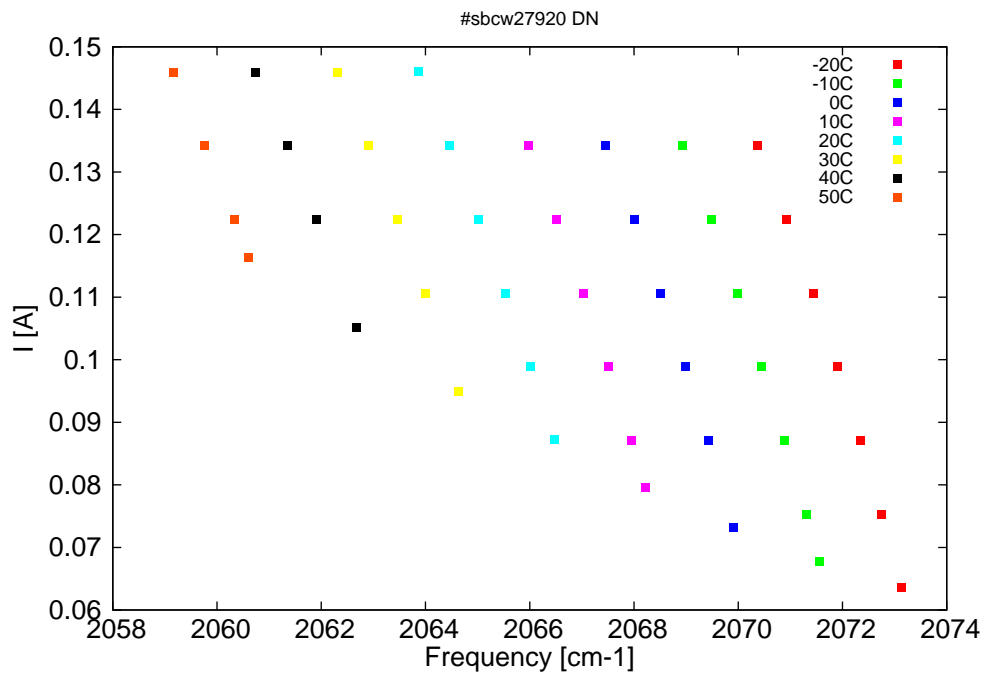


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4823.6	2073.1	0.5	-20	12.22	0.064
4824.5	2072.8	3.7	-20	12.6	0.075
4825.5	2072.3	7.1	-20	12.99	0.087
4826.5	2071.9	10.3	-20	13.36	0.099
4827.6	2071.4	12.9	-20	13.76	0.111
4828.8	2070.9	15	-20	14.18	0.122
4830.1	2070.4	16.5	-20	14.65	0.134
4827.3	2071.6	0.4	-10	12.19	0.068
4827.9	2071.3	2.1	-10	12.43	0.075
4828.8	2070.9	5.3	-10	12.79	0.087
4829.9	2070.5	8.4	-10	13.16	0.099
4831	2070	11.1	-10	13.53	0.111
4832.1	2069.5	13.4	-10	13.92	0.122
4833.4	2068.9	15.2	-10	14.34	0.134
4831.1	2069.9	0.4	0	12.21	0.073
4832.2	2069.4	3.5	0	12.62	0.087
4833.3	2069	6.4	0	12.97	0.099
4834.4	2068.5	9	0	13.32	0.111
4835.6	2068	11.3	0	13.69	0.122
4836.9	2067.5	13.2	0	14.08	0.134
4835.1	2068.2	0.3	10	12.27	0.08
4835.7	2068	1.7	10	12.48	0.087
4836.7	2067.5	4.3	10	12.81	0.099
4837.9	2067	6.9	10	13.15	0.111
4839.1	2066.5	9.1	10	13.5	0.122
4840.3	2066	10.9	10	13.86	0.134
4839.2	2066.5	0.3	20	12.36	0.087
4840.2	2066	2.4	20	12.67	0.099
4841.4	2065.5	4.8	20	13	0.111
4842.6	2065	6.9	20	13.33	0.122
4843.9	2064.5	8.6	20	13.68	0.134
4845.3	2063.9	9.9	20	14.05	0.146
4843.5	2064.6	0.3	30	12.46	0.095
4845	2064	2.7	30	12.86	0.111
4846.2	2063.5	4.5	30	13.18	0.122
4847.5	2062.9	6.2	30	13.51	0.134
4848.9	2062.3	7.5	30	13.86	0.146
4848.1	2062.7	0.3	40	12.62	0.105
4849.9	2061.9	2.5	40	13.05	0.122
4851.2	2061.3	3.9	40	13.36	0.134
4852.6	2060.7	5.1	40	13.7	0.146
4852.9	2060.6	0.3	50	12.82	0.116
4853.6	2060.3	0.7	50	12.96	0.122
4854.9	2059.8	1.9	50	13.25	0.134
4856.4	2059.2	3	50	13.57	0.146

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

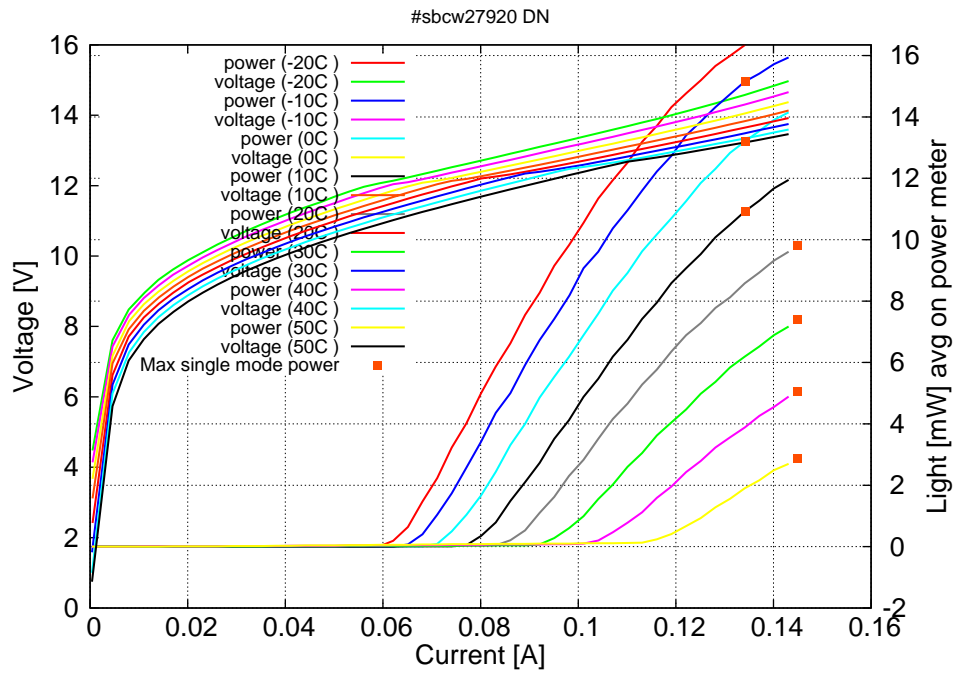


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.06A$ / $V_{th}=12.1V$ (2-wires measurements). Maximum operation current: 0.135A between -20C and 10C, 0.145A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

