

Datasheet for #sbcw27918 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.

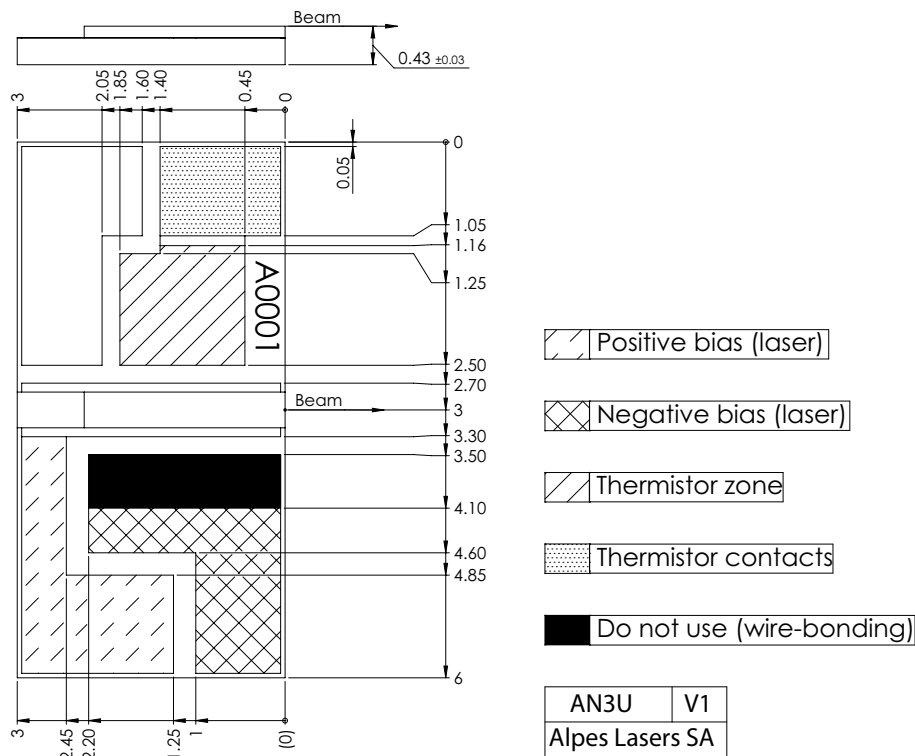


Figure 1: Mechanical and electrical interface for #sbcw27918 DN (please note that AlN submount numbering is A0V56)

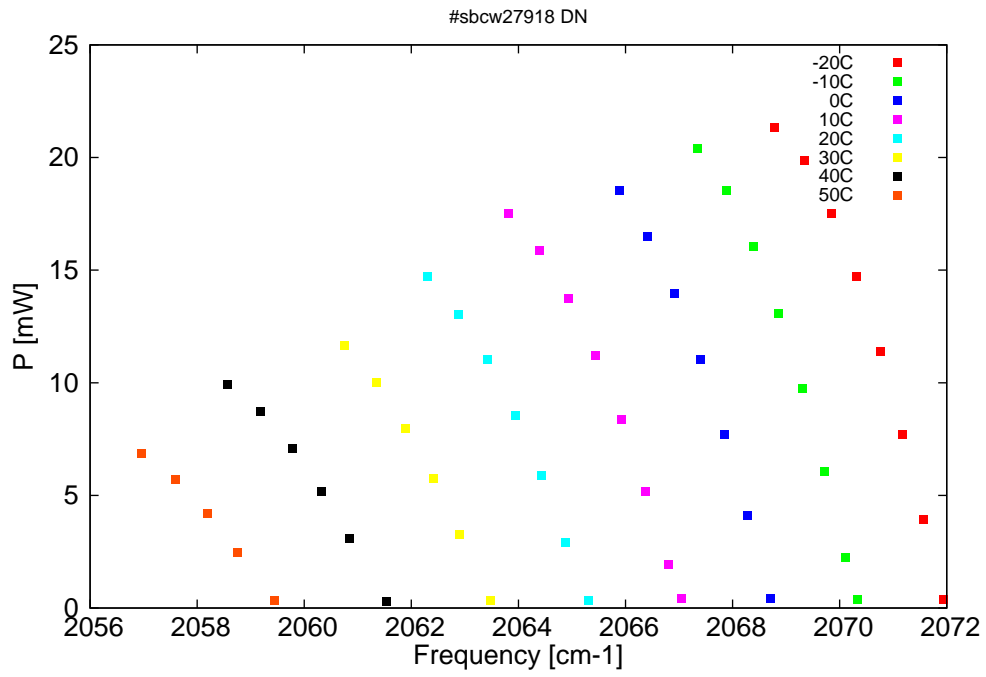


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

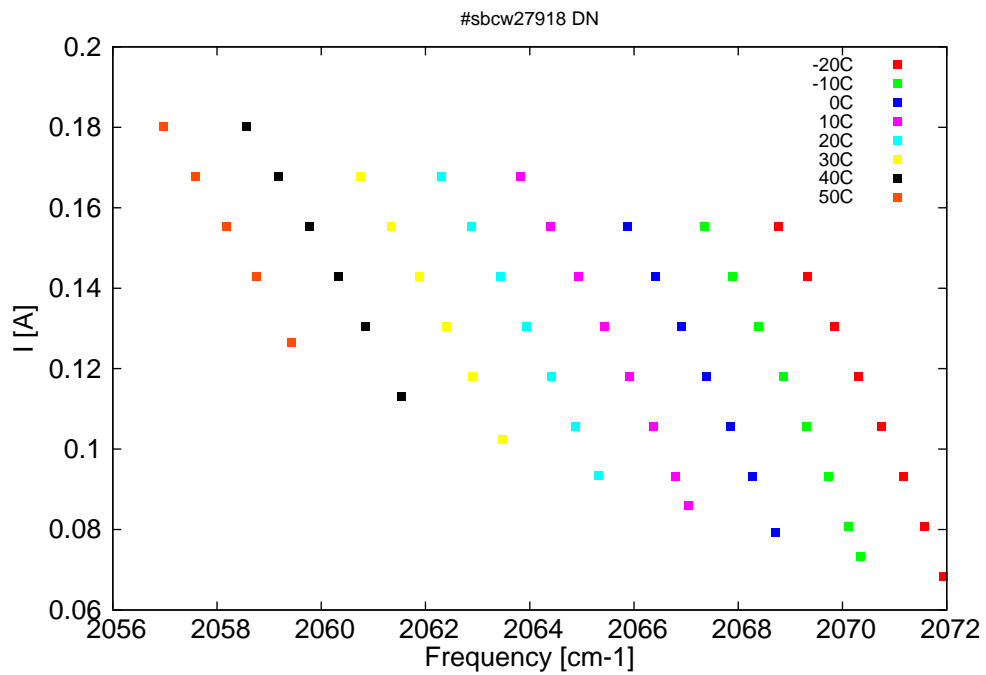


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4826.4	2071.9	0.4	-20	11.74	0.068
4827.3	2071.6	4	-20	12.08	0.081
4828.2	2071.2	7.7	-20	12.41	0.093
4829.2	2070.8	11.4	-20	12.73	0.106
4830.2	2070.3	14.7	-20	13.07	0.118
4831.3	2069.8	17.5	-20	13.41	0.13
4832.5	2069.3	19.9	-20	13.78	0.143
4833.8	2068.8	21.3	-20	14.19	0.155
4830.1	2070.3	0.4	-10	11.72	0.073
4830.6	2070.1	2.3	-10	11.91	0.081
4831.6	2069.7	6.1	-10	12.22	0.093
4832.5	2069.3	9.8	-10	12.54	0.106
4833.6	2068.9	13.1	-10	12.85	0.118
4834.7	2068.4	16	-10	13.18	0.13
4835.8	2067.9	18.5	-10	13.52	0.143
4837.1	2067.4	20.4	-10	13.89	0.155
4833.9	2068.7	0.4	0	11.73	0.079
4835	2068.3	4.1	0	12.06	0.093
4836	2067.8	7.7	0	12.37	0.106
4837	2067.4	11	0	12.67	0.118
4838.1	2066.9	14	0	12.98	0.13
4839.3	2066.4	16.5	0	13.29	0.143
4840.6	2065.9	18.5	0	13.64	0.155
4837.8	2067	0.4	10	11.76	0.086
4838.4	2066.8	1.9	10	11.92	0.093
4839.4	2066.4	5.2	10	12.21	0.106
4840.5	2065.9	8.4	10	12.51	0.118
4841.6	2065.4	11.2	10	12.8	0.13
4842.8	2064.9	13.7	10	13.1	0.143
4844	2064.4	15.9	10	13.42	0.155
4845.4	2063.8	17.5	10	13.76	0.168
4841.9	2065.3	0.3	20	11.81	0.093
4842.9	2064.9	2.9	20	12.07	0.106
4844	2064.4	5.9	20	12.35	0.118
4845.1	2063.9	8.5	20	12.63	0.13
4846.3	2063.4	11	20	12.92	0.143
4847.6	2062.9	13	20	13.22	0.155
4848.9	2062.3	14.7	20	13.53	0.168
4846.2	2063.5	0.3	30	11.89	0.102
4847.5	2062.9	3.2	30	12.21	0.118
4848.7	2062.4	5.7	30	12.48	0.13
4849.9	2061.9	8	30	12.75	0.143
4851.2	2061.3	10	30	13.04	0.155
4852.6	2060.8	11.7	30	13.33	0.168
4850.8	2061.5	0.3	40	12.04	0.113
4852.4	2060.9	3.1	40	12.4	0.13
4853.6	2060.3	5.2	40	12.66	0.143
4854.9	2059.8	7.1	40	12.94	0.155
4856.3	2059.2	8.7	40	13.22	0.168

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4857.8	2058.6	9.9	40	13.52	0.18
4855.7	2059.4	0.3	50	12.2	0.127
4857.3	2058.7	2.5	50	12.52	0.143
4858.6	2058.2	4.2	50	12.78	0.155
4860	2057.6	5.7	50	13.05	0.168
4861.5	2057	6.9	50	13.33	0.18

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

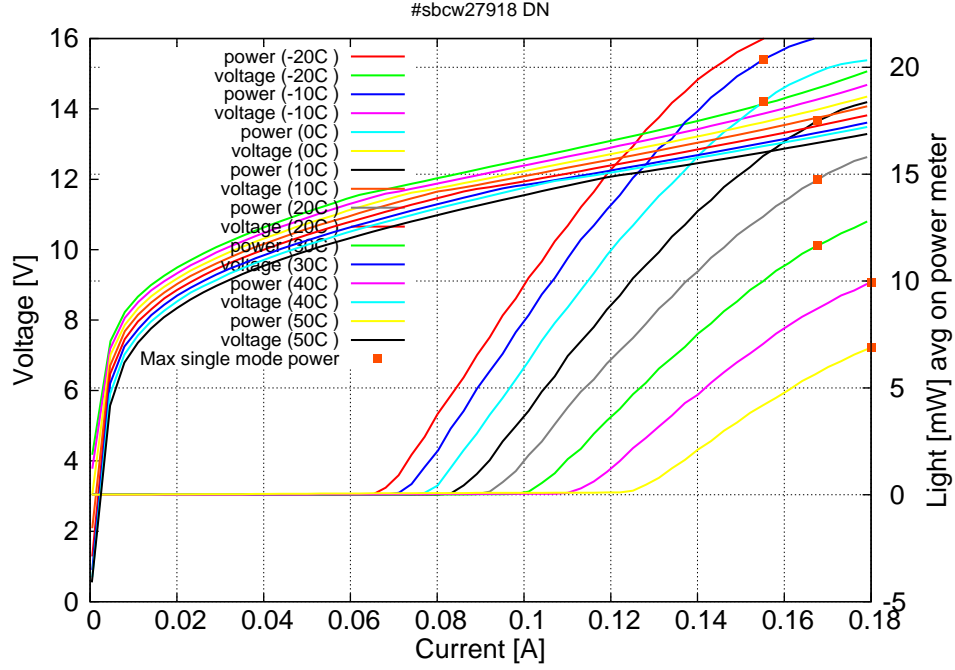


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.07A$ / $V_{th}=11.7V$ (2-wires measurements). Maximum operation current: 0.155A between -20C and 0C, 0.17A between 10C and 30C, 0.18A between 40C and 50C.

Figure 3: spectra at different temperatures for various DC currents

