

Datasheet for #sbcw27917 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.

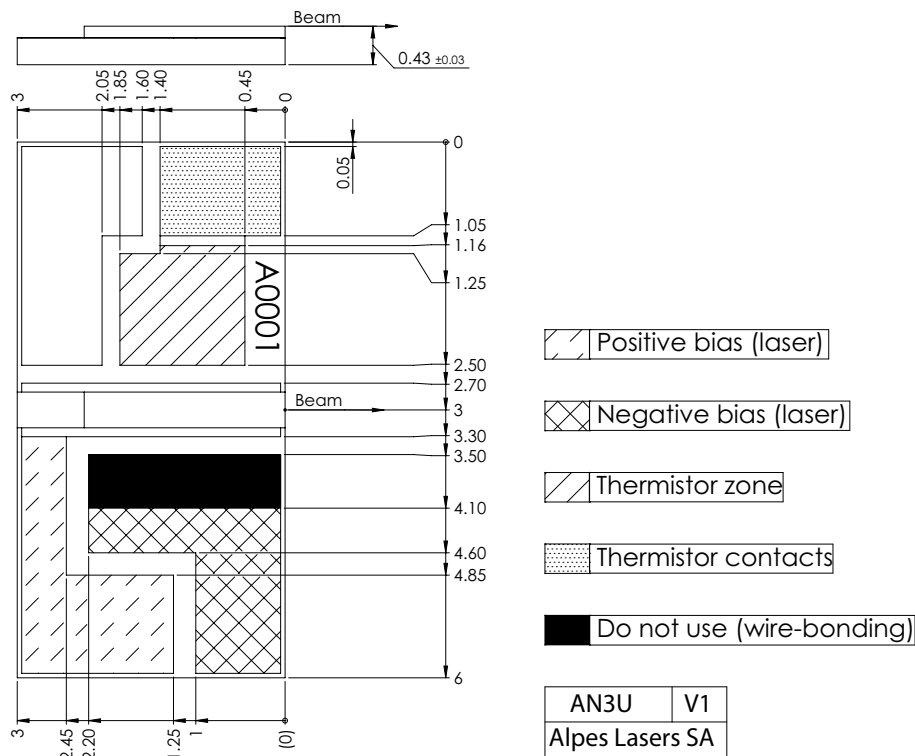


Figure 1: Mechanical and electrical interface for #sbcw27917 DN (please note that AlN submount numbering is A0XW9)

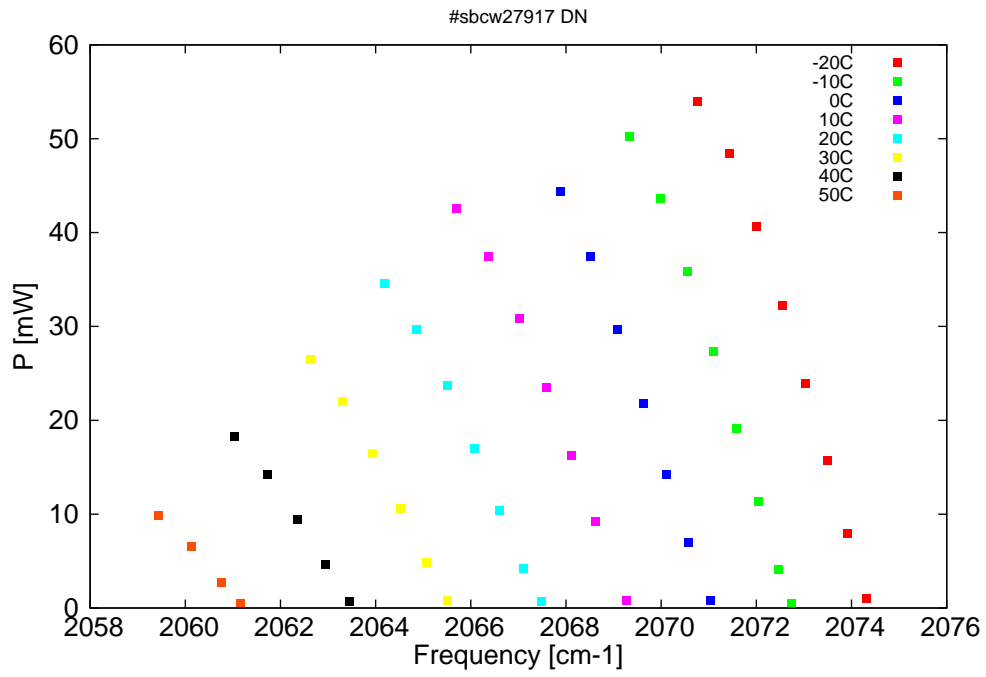


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

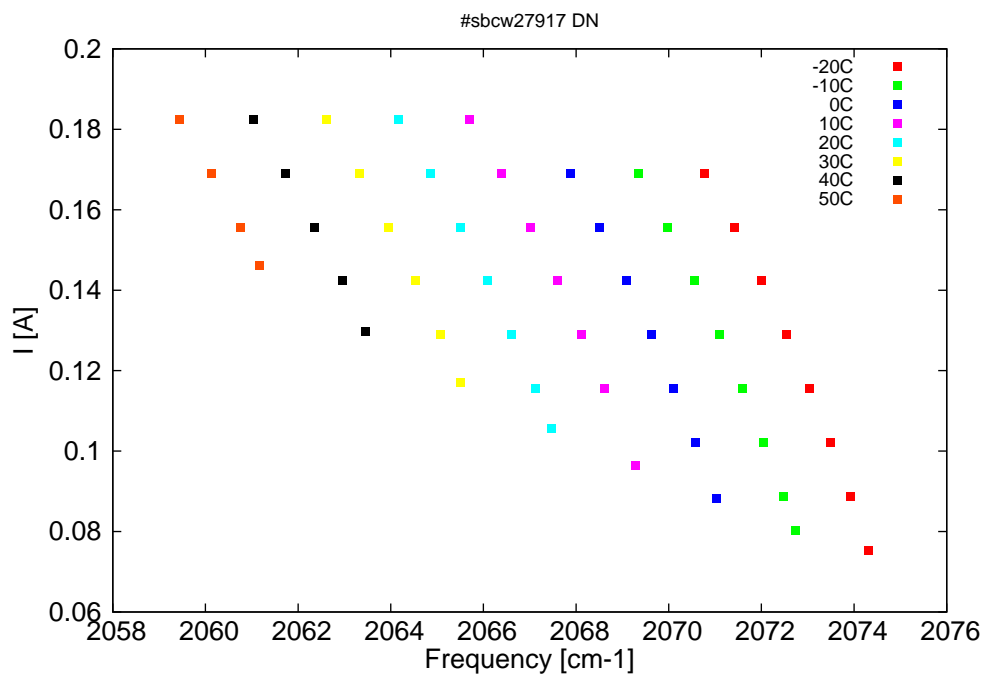


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4820.9	2074.3	1.1	-20	11.97	0.075
4821.8	2073.9	7.9	-20	12.32	0.089
4822.8	2073.5	15.7	-20	12.66	0.102
4823.8	2073	23.9	-20	13	0.116
4825	2072.5	32.3	-20	13.35	0.129
4826.2	2072	40.6	-20	13.73	0.142
4827.6	2071.4	48.4	-20	14.14	0.156
4829.1	2070.8	53.9	-20	14.62	0.169
4824.6	2072.7	0.5	-10	11.94	0.08
4825.2	2072.5	4.2	-10	12.15	0.089
4826.2	2072	11.4	-10	12.48	0.102
4827.2	2071.6	19.2	-10	12.81	0.116
4828.4	2071.1	27.4	-10	13.14	0.129
4829.6	2070.6	35.9	-10	13.49	0.142
4831	2070	43.6	-10	13.87	0.156
4832.5	2069.3	50.2	-10	14.31	0.169
4828.5	2071	0.8	0	12	0.088
4829.6	2070.6	7	0	12.32	0.102
4830.7	2070.1	14.2	0	12.64	0.116
4831.8	2069.6	21.8	0	12.96	0.129
4833.1	2069.1	29.7	0	13.29	0.142
4834.4	2068.5	37.5	0	13.64	0.156
4835.9	2067.9	44.4	0	14.03	0.169
4832.6	2069.3	0.8	10	12.06	0.096
4834.1	2068.6	9.2	10	12.49	0.116
4835.3	2068.1	16.2	10	12.79	0.129
4836.5	2067.6	23.4	10	13.11	0.142
4837.9	2067	30.8	10	13.44	0.156
4839.4	2066.4	37.4	10	13.81	0.169
4841	2065.7	42.5	10	14.21	0.183
4836.8	2067.5	0.7	20	12.16	0.106
4837.7	2067.1	4.2	20	12.37	0.116
4838.8	2066.6	10.4	20	12.66	0.129
4840.1	2066.1	17	20	12.96	0.142
4841.4	2065.5	23.7	20	13.27	0.156
4842.9	2064.9	29.7	20	13.62	0.169
4844.5	2064.2	34.6	20	13.99	0.183
4841.4	2065.5	0.8	30	12.3	0.117
4842.4	2065.1	4.9	30	12.54	0.129
4843.7	2064.5	10.6	30	12.83	0.142
4845.1	2063.9	16.4	30	13.13	0.156
4846.6	2063.3	22	30	13.45	0.169
4848.2	2062.6	26.5	30	13.8	0.183
4846.2	2063.5	0.6	40	12.47	0.13
4847.4	2063	4.7	40	12.72	0.142
4848.8	2062.4	9.4	40	13.01	0.156
4850.3	2061.7	14.2	40	13.31	0.169
4851.9	2061	18.3	40	13.64	0.183
4851.6	2061.2	0.4	50	12.72	0.146

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4852.6	2060.8	2.7	50	12.91	0.156
4854.1	2060.1	6.6	50	13.19	0.169
4855.7	2059.4	9.9	50	13.5	0.183

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

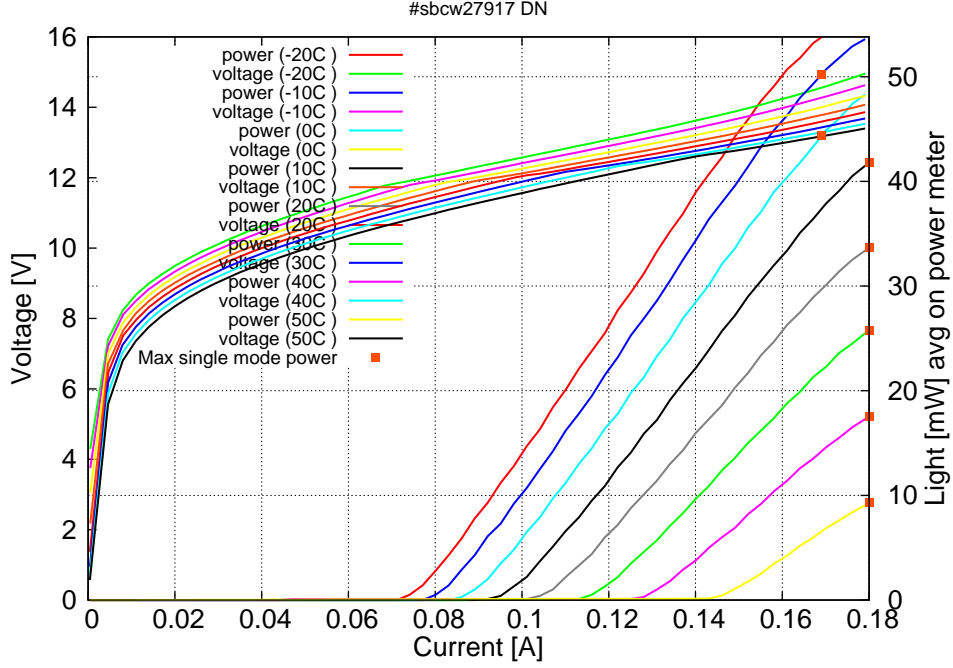


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.07A$ / $V_{th}=11.9V$ (2-wires measurements). Maximum operation current: 0.17A between -20C and 0C, 0.18A between 10C and 50C.

Figure 3: spectra at different temperatures for various DC currents

