

Datasheet for #sbcw27916 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 #sbcw27916 DN (please note that AlN submount numbering is A0V5Y)

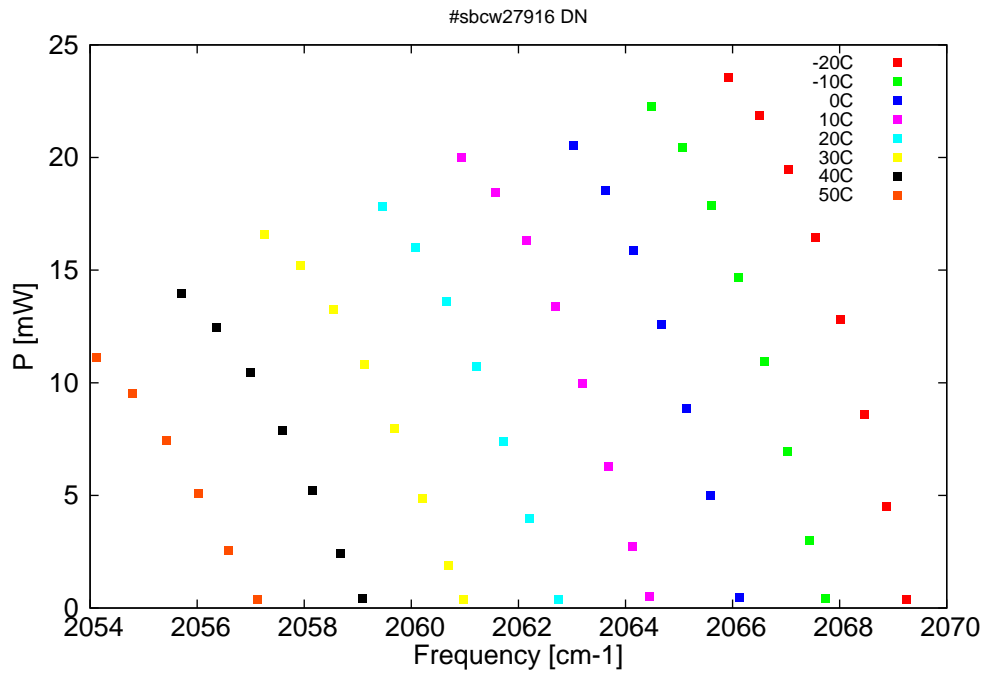


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

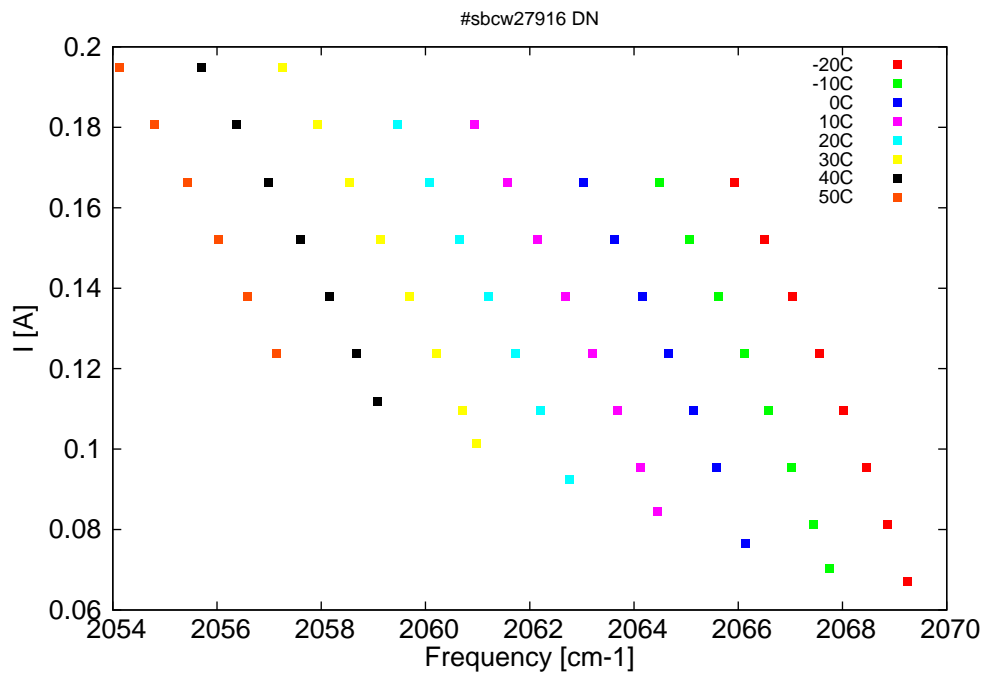


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4832.7	2069.3	0.4	-20	11.27	0.067
4833.5	2068.9	4.5	-20	11.59	0.081
4834.5	2068.5	8.6	-20	11.9	0.095
4835.5	2068	12.8	-20	12.19	0.11
4836.6	2067.6	16.4	-20	12.48	0.124
4837.8	2067	19.5	-20	12.76	0.138
4839.1	2066.5	21.9	-20	13.05	0.152
4840.5	2065.9	23.5	-20	13.35	0.166
4836.2	2067.7	0.4	-10	11.21	0.07
4836.9	2067.4	3	-10	11.45	0.081
4837.9	2067	6.9	-10	11.76	0.095
4838.9	2066.6	10.9	-10	12.04	0.11
4840	2066.1	14.7	-10	12.32	0.124
4841.2	2065.6	17.9	-10	12.6	0.138
4842.4	2065.1	20.4	-10	12.87	0.152
4843.8	2064.5	22.2	-10	13.16	0.166
4840	2066.1	0.5	0	11.22	0.076
4841.2	2065.6	5	0	11.61	0.095
4842.3	2065.1	8.9	0	11.9	0.11
4843.4	2064.7	12.6	0	12.17	0.124
4844.6	2064.2	15.9	0	12.44	0.138
4845.9	2063.6	18.5	0	12.71	0.152
4847.2	2063	20.5	0	12.99	0.166
4843.9	2064.4	0.5	10	11.28	0.085
4844.7	2064.1	2.7	10	11.49	0.095
4845.7	2063.7	6.3	10	11.78	0.11
4846.8	2063.2	10	10	12.04	0.124
4848	2062.7	13.4	10	12.31	0.138
4849.3	2062.1	16.3	10	12.57	0.152
4850.7	2061.6	18.4	10	12.83	0.166
4852.2	2060.9	20	10	13.11	0.181
4847.9	2062.8	0.4	20	11.34	0.092
4849.2	2062.2	4	20	11.67	0.11
4850.3	2061.7	7.4	20	11.93	0.124
4851.5	2061.2	10.7	20	12.19	0.138
4852.8	2060.7	13.6	20	12.45	0.152
4854.2	2060.1	16	20	12.7	0.166
4855.7	2059.5	17.8	20	12.97	0.181
4852.1	2061	0.4	30	11.42	0.101
4852.7	2060.7	1.9	30	11.56	0.11
4853.9	2060.2	4.8	30	11.82	0.124
4855.1	2059.7	8	30	12.08	0.138
4856.4	2059.1	10.8	30	12.33	0.152
4857.8	2058.5	13.3	30	12.58	0.166
4859.3	2057.9	15.2	30	12.83	0.181
4860.8	2057.3	16.6	30	13.1	0.195
4856.5	2059.1	0.4	40	11.53	0.112
4857.5	2058.7	2.4	40	11.73	0.124
4858.7	2058.1	5.2	40	11.97	0.138

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4860	2057.6	7.9	40	12.22	0.152
4861.5	2057	10.4	40	12.47	0.166
4862.9	2056.4	12.5	40	12.71	0.181
4864.5	2055.7	14	40	12.97	0.195
4861.1	2057.1	0.4	50	11.66	0.124
4862.4	2056.6	2.6	50	11.88	0.138
4863.7	2056	5.1	50	12.12	0.152
4865.2	2055.4	7.4	50	12.36	0.166
4866.7	2054.8	9.5	50	12.6	0.181
4868.2	2054.1	11.1	50	12.84	0.195

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

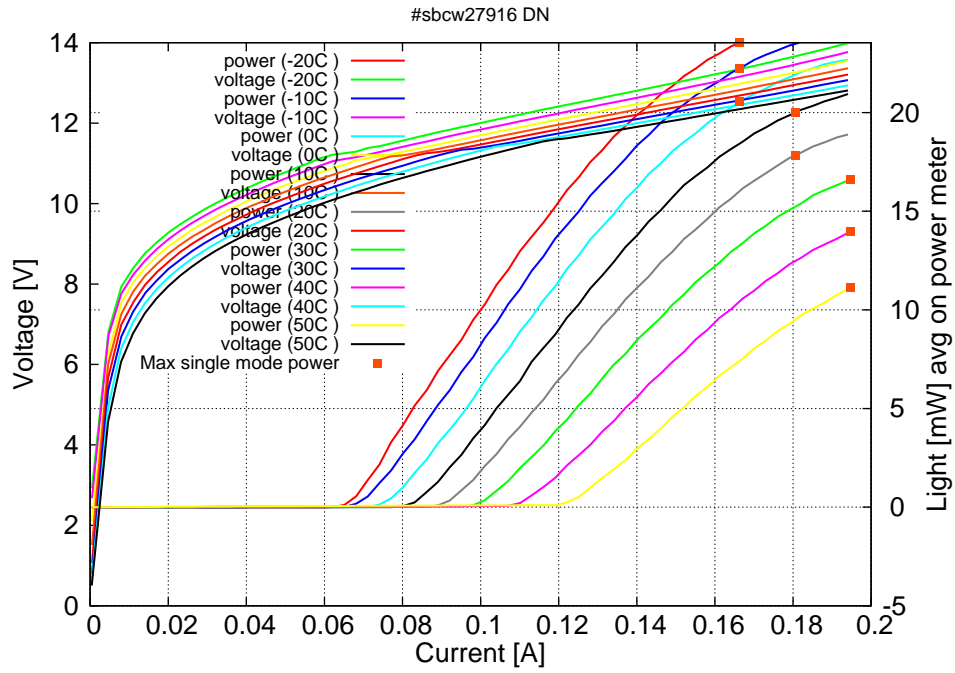


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.07A$ / $V_{th}=11.3V$ (2-wires measurements). Maximum operation current: 0.17A between -20C and 0C, 0.18A between 10C and 20C, 0.195A between 30C and 50C.

Figure 3: spectra at different temperatures for various DC currents

