

Datasheet for #sbcw21279 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 current on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive current on the base contact (= submount, corresponding to the label "base" on the LLH). 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 #sbcw21279 DN

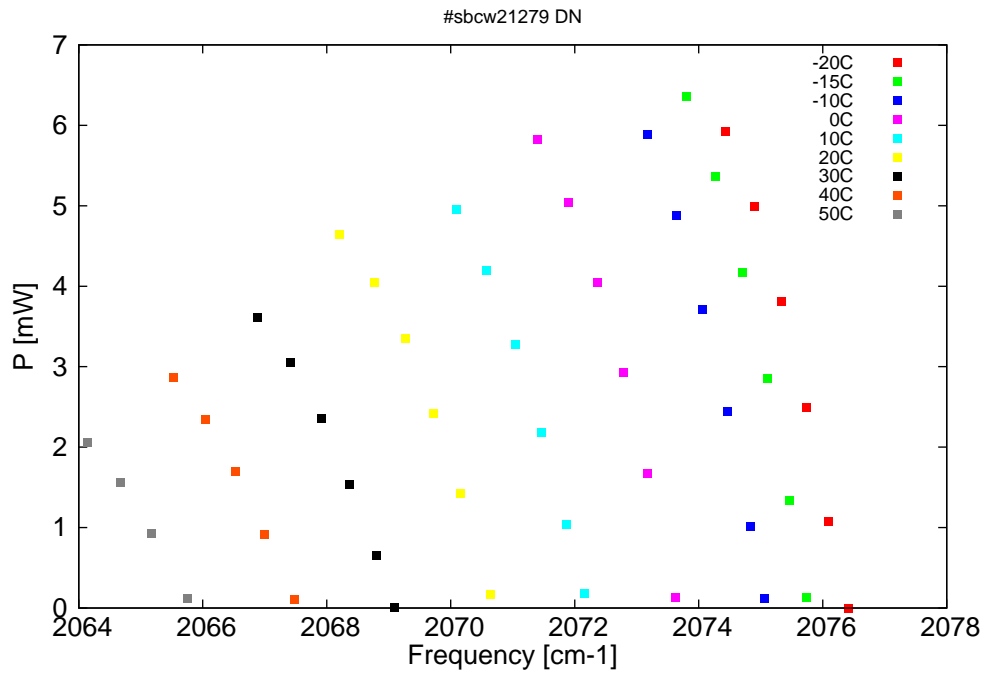


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

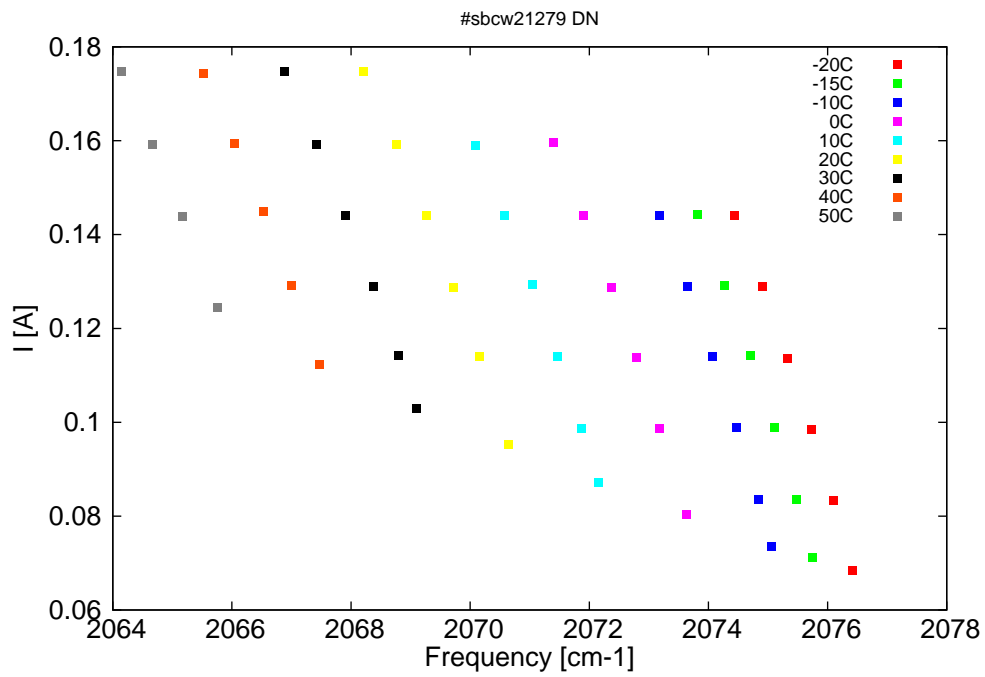


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4816	2076.4	0	-20	11.5	0.068
4816.7	2076.1	1.1	-20	11.87	0.083
4817.6	2075.7	2.5	-20	12.24	0.098
4818.5	2075.3	3.8	-20	12.62	0.114
4819.5	2074.9	5	-20	13.01	0.129
4820.6	2074.4	5.9	-20	13.42	0.144
4817.5	2075.7	0.1	-15	11.49	0.071
4818.2	2075.5	1.3	-15	11.79	0.083
4819	2075.1	2.9	-15	12.16	0.099
4820	2074.7	4.2	-15	12.53	0.114
4821	2074.3	5.4	-15	12.91	0.129
4822	2073.8	6.4	-15	13.31	0.144
4819.1	2075.1	0.1	-10	11.48	0.074
4819.6	2074.8	1	-10	11.71	0.084
4820.5	2074.5	2.4	-10	12.08	0.099
4821.4	2074.1	3.7	-10	12.45	0.114
4822.4	2073.6	4.9	-10	12.81	0.129
4823.5	2073.2	5.9	-10	13.2	0.144
4822.5	2073.6	0.1	0	11.52	0.08
4823.5	2073.2	1.7	0	11.94	0.099
4824.4	2072.8	2.9	0	12.28	0.114
4825.4	2072.4	4	0	12.63	0.129
4826.5	2071.9	5	0	12.99	0.144
4827.7	2071.4	5.8	0	13.39	0.16
4825.9	2072.2	0.2	10	11.56	0.087
4826.6	2071.9	1	10	11.8	0.099
4827.5	2071.5	2.2	10	12.14	0.114
4828.5	2071.1	3.3	10	12.47	0.129
4829.6	2070.6	4.2	10	12.82	0.144
4830.7	2070.1	5	10	13.18	0.159
4829.4	2070.6	0.2	20	11.62	0.095
4830.6	2070.1	1.4	20	12	0.114
4831.6	2069.7	2.4	20	12.33	0.129
4832.6	2069.3	3.3	20	12.66	0.144
4833.8	2068.8	4	20	13	0.159
4835.1	2068.2	4.6	20	13.38	0.175
4833	2069.1	0	30	11.69	0.103
4833.7	2068.8	0.6	30	11.9	0.114
4834.7	2068.4	1.5	30	12.2	0.129
4835.8	2067.9	2.4	30	12.52	0.144
4836.9	2067.4	3.1	30	12.84	0.159
4838.2	2066.9	3.6	30	13.19	0.175
4836.8	2067.5	0.1	40	11.78	0.112
4837.9	2067	0.9	40	12.1	0.129
4839	2066.5	1.7	40	12.39	0.145
4840.2	2066.1	2.3	40	12.7	0.159
4841.4	2065.5	2.9	40	13.02	0.174
4840.9	2065.8	0.1	50	11.92	0.125
4842.2	2065.2	0.9	50	12.26	0.144

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λ [nm]	ν [cm^{-1}]	P[mW]	Temp[$^{\circ}\text{C}$]	U_{LASER} [V]	I[A]
4843.4	2064.7	1.6	50	12.56	0.159
4844.6	2064.1	2.1	50	12.87	0.175

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

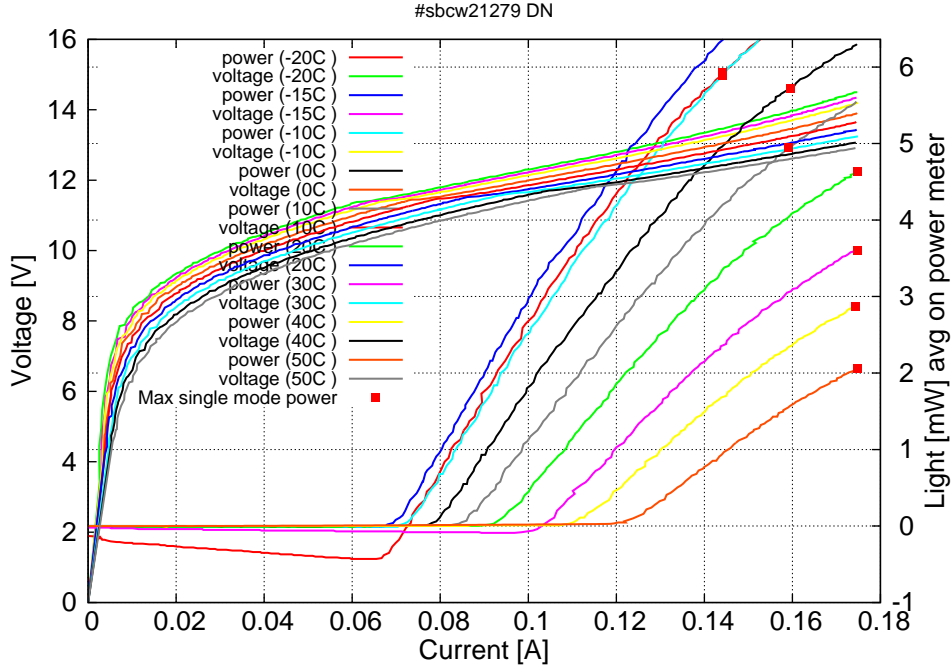


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.07\text{A}$ / $V_{th}=11.5\text{V}$ (2-wires measurements). Maximum operation current: 0.145A between -20C and -10C, 0.16A between 0C and 10C, 0.175A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

