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Datasheet for #sbcw27378 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.

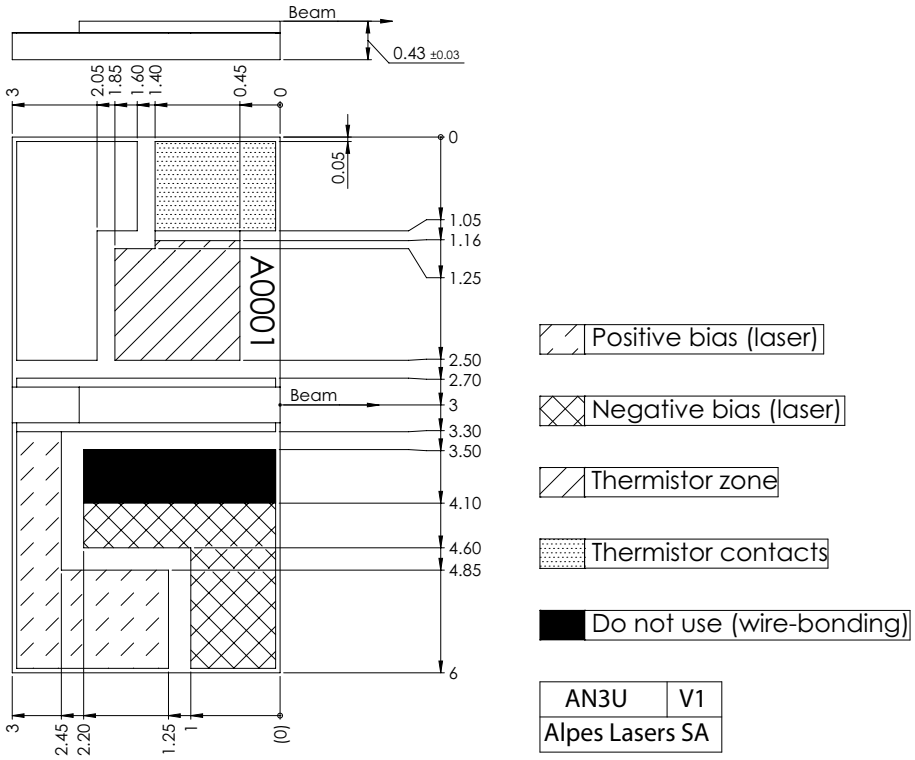

Figure 1: Mechanical and electrical interface for #sbcw27378 DN (please note that AlN submount numbering is A0VPT)

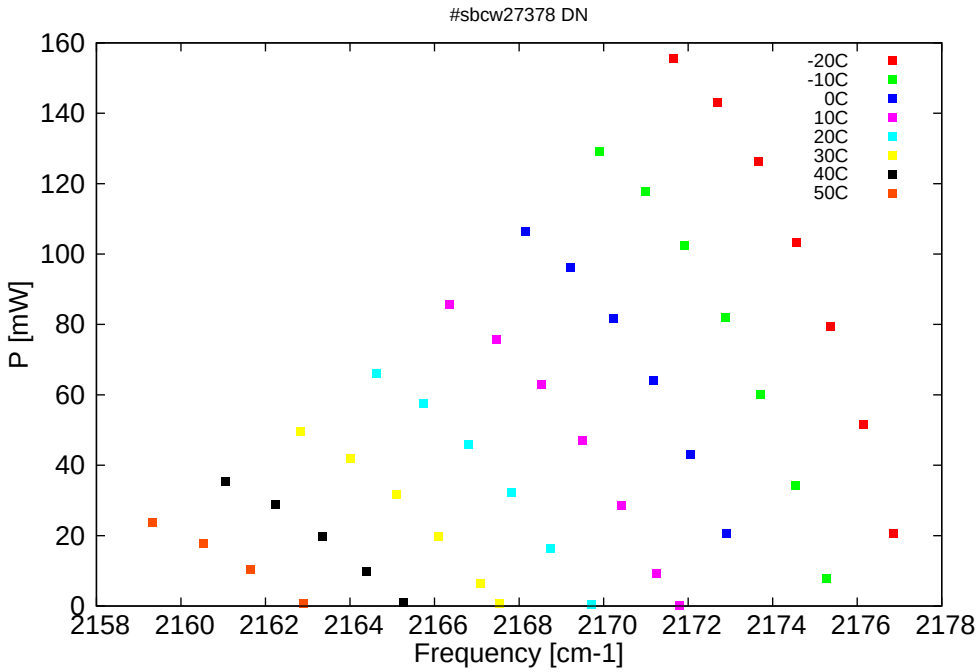

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

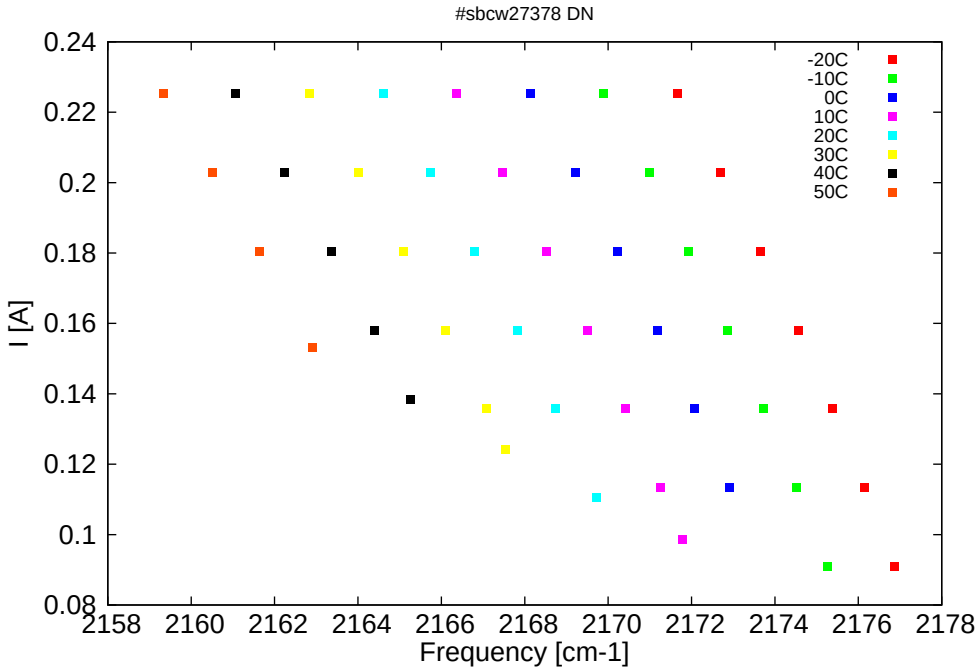

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
4593.8	2176.9	20.6	-20	12.22	0.091
4595.3	2176.2	51.4	-20	12.49	0.113
4596.9	2175.4	79.3	-20	12.76	0.136
4598.6	2174.6	103.2	-20	13.05	0.158
4600.5	2173.7	126.3	-20	13.3	0.18
4602.6	2172.7	143.2	-20	13.56	0.203
4604.8	2171.7	155.4	-20	13.82	0.225
4597.1	2175.3	7.8	-10	12.12	0.091
4598.7	2174.5	34.2	-10	12.37	0.113
4600.4	2173.7	60	-10	12.63	0.136
4602.2	2172.9	82.1	-10	12.9	0.158
4604.2	2171.9	102.6	-10	13.15	0.18
4606.2	2171	117.9	-10	13.4	0.203
4608.5	2169.9	129.2	-10	13.66	0.225
4602.1	2172.9	20.7	0	12.28	0.113
4603.9	2172.1	43.2	0	12.53	0.136
4605.8	2171.2	64.2	0	12.78	0.158
4607.8	2170.2	81.6	0	13.03	0.18
4610	2169.2	96.1	0	13.28	0.203
4612.2	2168.1	106.5	0	13.53	0.225
4604.5	2171.8	0.1	10	12.09	0.099
4605.6	2171.2	9.2	10	12.2	0.113
4607.4	2170.4	28.7	10	12.44	0.136
4609.4	2169.5	47.1	10	12.68	0.158
4611.4	2168.5	63	10	12.93	0.18
4613.7	2167.5	75.7	10	13.18	0.203
4616	2166.4	85.6	10	13.42	0.225
4608.9	2169.7	0.4	20	12.13	0.111
4611	2168.7	16.4	20	12.35	0.136
4612.9	2167.8	32.2	20	12.58	0.158
4615.1	2166.8	45.9	20	12.81	0.18
4617.4	2165.7	57.6	20	13.06	0.203
4619.8	2164.6	66.2	20	13.29	0.225
4613.5	2167.5	0.8	30	12.18	0.124
4614.5	2167.1	6.5	30	12.27	0.136
4616.6	2166.1	19.7	30	12.49	0.158
4618.7	2165.1	31.8	30	12.71	0.18
4621.1	2164	41.9	30	12.94	0.203
4623.6	2162.8	49.6	30	13.17	0.225
4618.4	2165.3	0.9	40	12.26	0.138
4620.2	2164.4	9.7	40	12.43	0.158
4622.4	2163.4	19.9	40	12.64	0.18
4624.8	2162.2	28.7	40	12.86	0.203
4627.4	2161.1	35.2	40	13.08	0.225
4623.4	2162.9	0.8	50	12.35	0.153
4626.1	2161.6	10.4	50	12.57	0.18
4628.5	2160.5	17.8	50	12.78	0.203
4631.1	2159.3	23.6	50	13.01	0.225

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λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]

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

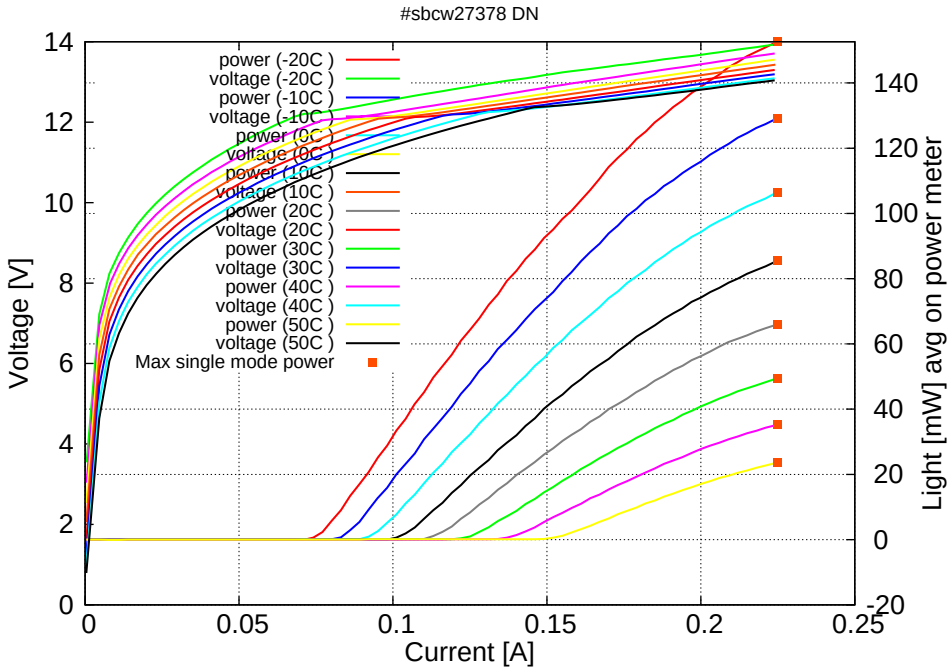

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.07A / Vth=12.0V (2-wires measurements). Maximum operation current: 0.225A for all temperatures.

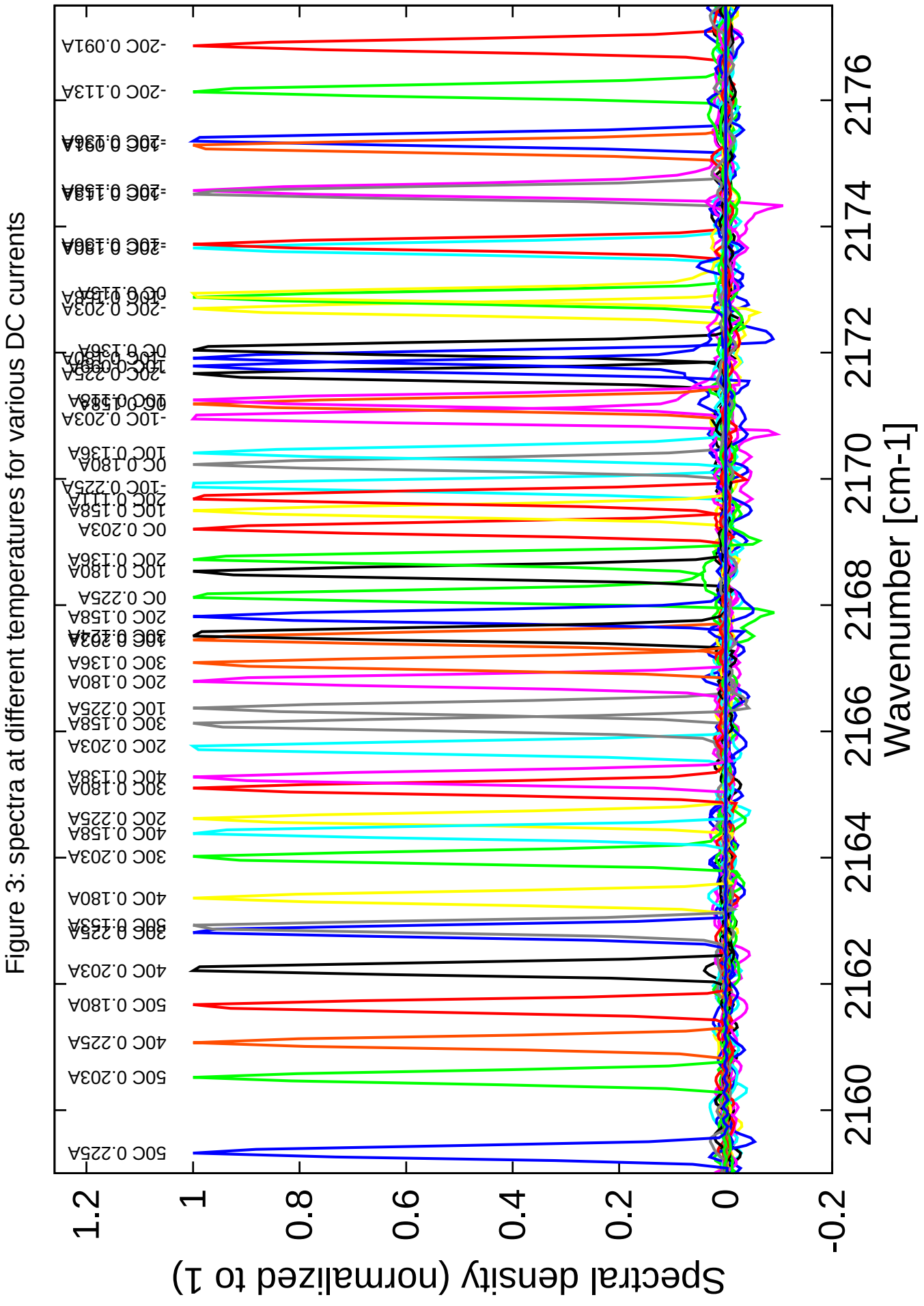

Figure 3: spectra at different temperatures for various DC currents