

Datasheet for #sbcw25659 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 #sbcw25659 DN (please note that AlN submount numbering is A0X66)

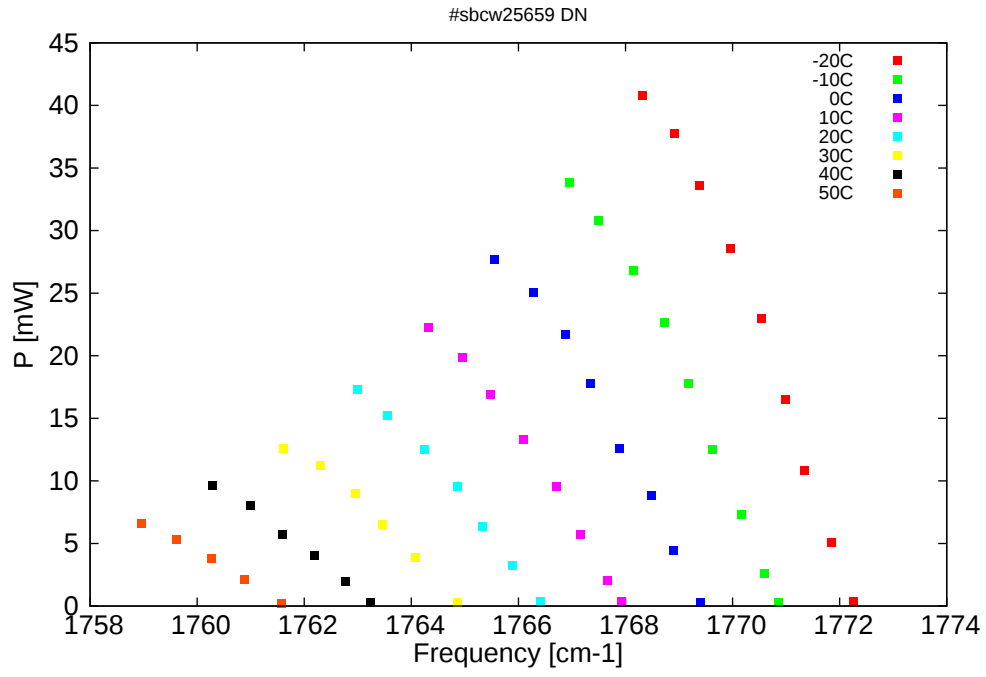


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

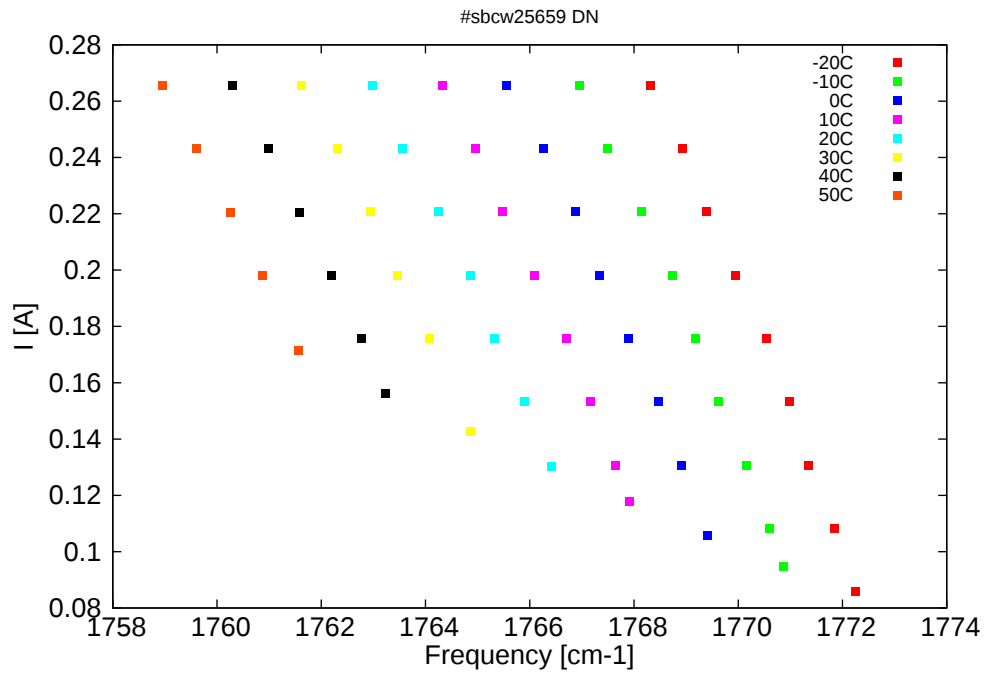


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
5642.5	1772.3	0.3	-20	8.88	0.086
5643.8	1771.8	5	-20	9.2	0.108
5645.4	1771.4	10.8	-20	9.49	0.131
5646.6	1771	16.5	-20	9.75	0.153
5648	1770.5	22.9	-20	10	0.176
5649.9	1770	28.6	-20	10.25	0.198
5651.7	1769.4	33.6	-20	10.49	0.221
5653.2	1768.9	37.8	-20	10.73	0.243
5655.1	1768.3	40.8	-20	10.97	0.266
5647	1770.9	0.2	-10	8.84	0.095
5647.8	1770.6	2.6	-10	9.03	0.108
5649.2	1770.2	7.3	-10	9.31	0.131
5650.9	1769.6	12.5	-10	9.57	0.153
5652.4	1769.2	17.8	-10	9.82	0.176
5653.7	1768.7	22.7	-10	10.06	0.198
5655.6	1768.1	26.8	-10	10.29	0.221
5657.7	1767.5	30.8	-10	10.53	0.243
5659.5	1766.9	33.8	-10	10.76	0.266
5651.6	1769.4	0.3	0	8.84	0.106
5653.2	1768.9	4.4	0	9.14	0.131
5654.6	1768.5	8.9	0	9.41	0.153
5656.4	1767.9	12.6	0	9.65	0.176
5658.2	1767.3	17.8	0	9.88	0.198
5659.7	1766.9	21.7	0	10.11	0.221
5661.6	1766.3	25.1	0	10.34	0.243
5664	1765.6	27.7	0	10.57	0.266
5656.4	1767.9	0.3	10	8.84	0.118
5657.2	1767.7	2.1	10	9	0.131
5658.8	1767.2	5.7	10	9.26	0.153
5660.2	1766.7	9.6	10	9.49	0.176
5662.2	1766.1	13.3	10	9.73	0.198
5664.2	1765.5	16.9	10	9.96	0.221
5665.8	1765	19.9	10	10.18	0.243
5667.9	1764.3	22.2	10	10.41	0.266
5661.2	1766.4	0.4	20	8.86	0.13
5662.9	1765.9	3.2	20	9.12	0.153
5664.7	1765.3	6.4	20	9.36	0.176
5666.2	1764.9	9.6	20	9.59	0.198
5668.2	1764.2	12.5	20	9.82	0.221
5670.4	1763.6	15.2	20	10.04	0.243
5672.2	1763	17.3	20	10.25	0.266
5666.2	1764.9	0.3	30	8.86	0.143
5668.7	1764.1	3.9	30	9.22	0.176
5670.7	1763.5	6.5	30	9.44	0.198
5672.3	1763	9	30	9.66	0.221
5674.4	1762.3	11.2	30	9.88	0.243
5676.6	1761.6	12.6	30	10.09	0.266
5671.4	1763.2	0.3	40	8.88	0.156
5672.9	1762.8	1.9	40	9.08	0.176

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
5674.8	1762.2	4.1	40	9.31	0.198
5676.7	1761.6	5.7	40	9.53	0.221
5678.6	1761	8.1	40	9.74	0.243
5680.9	1760.3	9.6	40	9.95	0.266
5676.8	1761.6	0.2	50	8.93	0.171
5679	1760.9	2.1	50	9.2	0.198
5681	1760.3	3.8	50	9.41	0.221
5683.1	1759.6	5.3	50	9.62	0.243
5685.2	1759	6.6	50	9.82	0.266

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

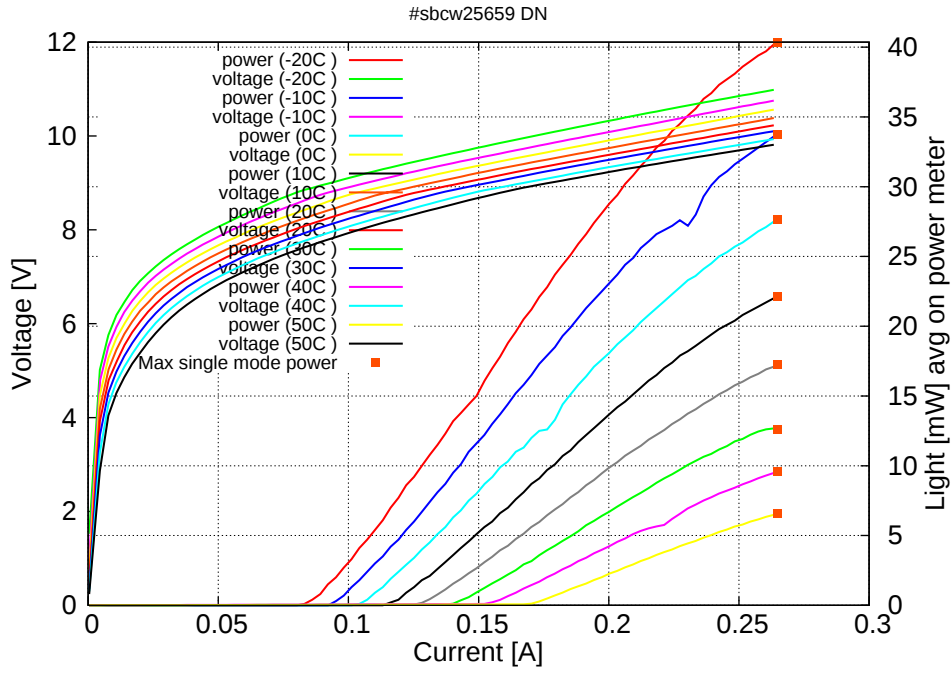


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.08A$ / $V_{th}=8.8V$ (2-wires measurements). Maximum operation current: 0.265A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

