

Datasheet for #sbcw1689 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.

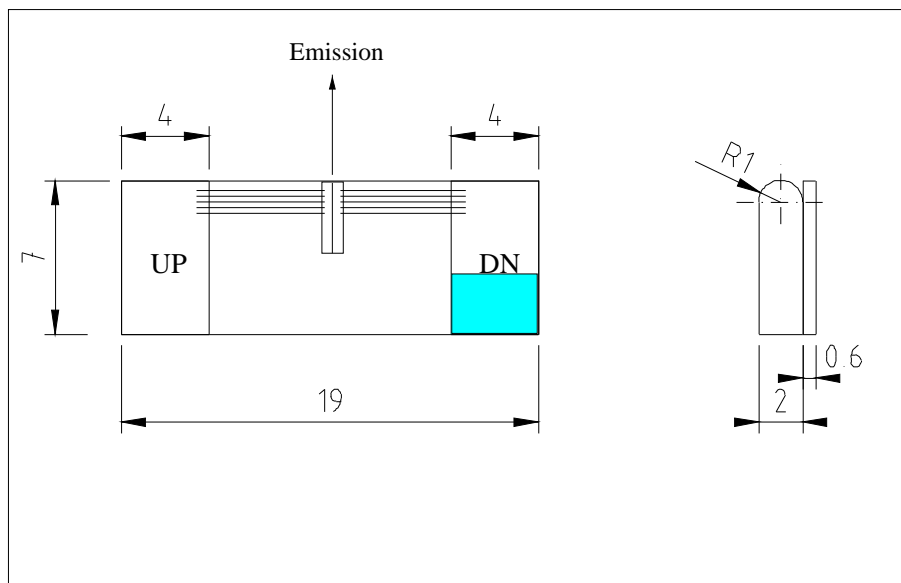


Figure 1: Mechanical and electrical interface for #sbcw1689 DN (please note that the laser is connected to the DN pad drawn in blue)

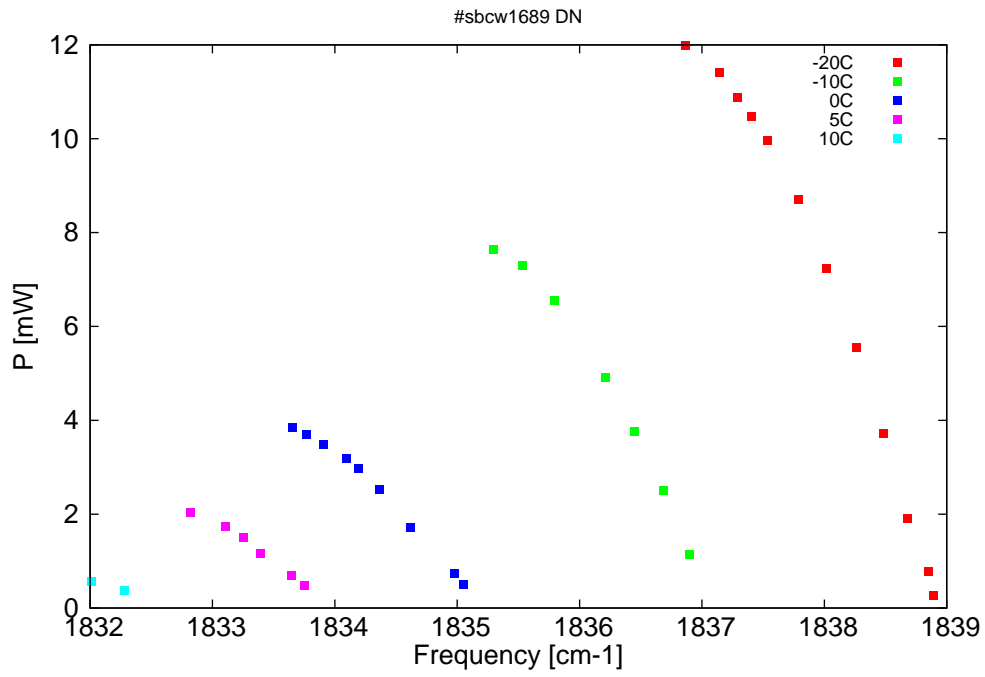


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

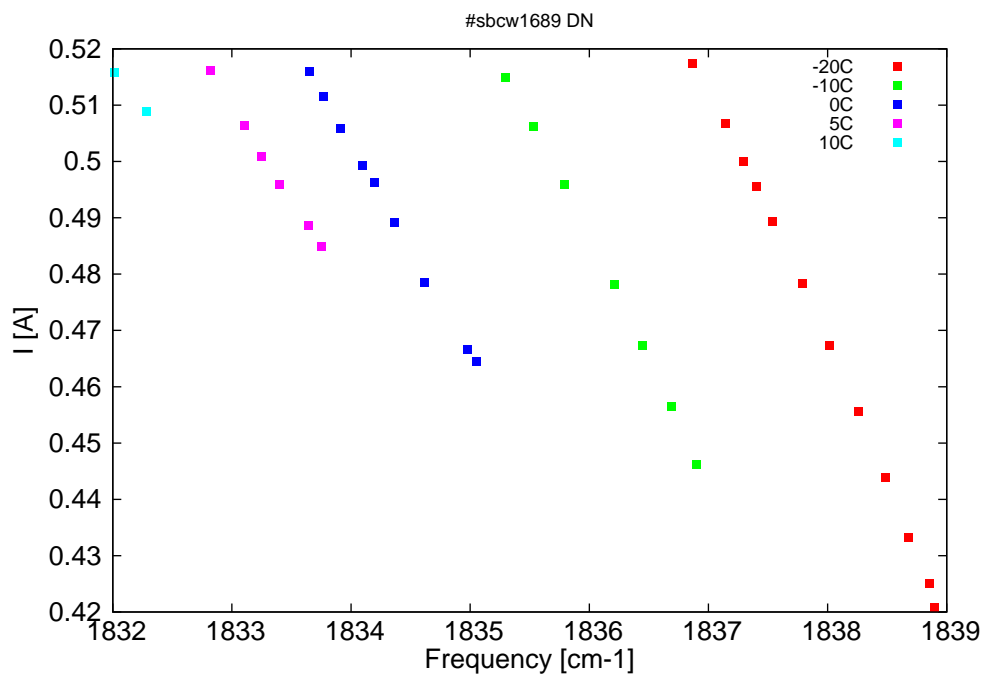


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
5438.1	1838.9	0.3	-20	7.99	0.421
5438.2	1838.9	0.8	-20	8.01	0.425
5438.7	1838.7	1.9	-20	8.05	0.433
5439.3	1838.5	3.7	-20	8.11	0.444
5439.9	1838.3	5.5	-20	8.18	0.456
5440.6	1838	7.2	-20	8.25	0.467
5441.3	1837.8	8.7	-20	8.32	0.478
5442.1	1837.5	10	-20	8.41	0.489
5442.5	1837.4	10.5	-20	8.46	0.496
5442.8	1837.3	10.9	-20	8.49	0.5
5443.2	1837.1	11.4	-20	8.55	0.507
5444	1836.9	12	-20	8.65	0.517
5444	1836.9	1.1	-10	8.12	0.446
5444.6	1836.7	2.5	-10	8.18	0.456
5445.3	1836.4	3.8	-10	8.26	0.467
5446	1836.2	4.9	-10	8.33	0.478
5447.2	1835.8	6.6	-10	8.48	0.496
5448	1835.5	7.3	-10	8.57	0.506
5448.7	1835.3	7.6	-10	8.65	0.515
5449.4	1835	0.5	0	8.24	0.464
5449.7	1835	0.7	0	8.26	0.467
5450.7	1834.6	1.7	0	8.35	0.479
5451.5	1834.4	2.5	0	8.43	0.489
5452	1834.2	3	0	8.49	0.496
5452.3	1834.1	3.2	0	8.52	0.499
5452.8	1833.9	3.5	0	8.59	0.506
5453.3	1833.8	3.7	0	8.63	0.511
5453.6	1833.7	3.8	0	8.68	0.516
5453.3	1833.8	0.5	5	8.4	0.485
5453.6	1833.6	0.7	5	8.43	0.489
5454.4	1833.4	1.2	5	8.5	0.496
5454.8	1833.3	1.5	5	8.54	0.501
5455.2	1833.1	1.7	5	8.59	0.506
5456.1	1832.8	2	5	8.69	0.516
5457.7	1832.3	0.4	10	8.61	0.509
5458.5	1832	0.6	10	8.69	0.516

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

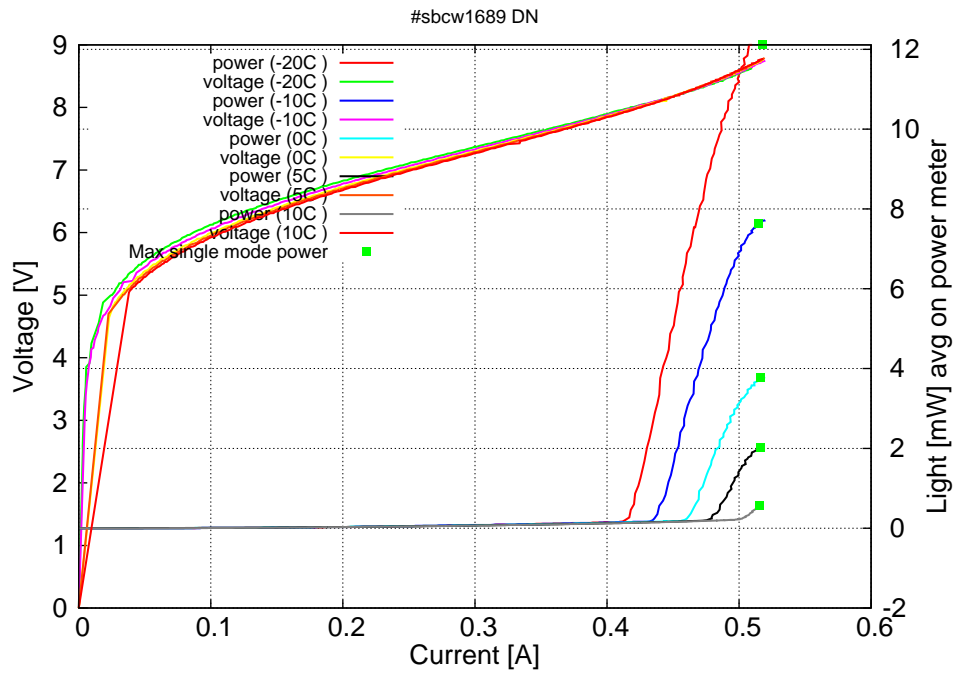


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.41A$ / $V_{th}=8.0V$ (2-wires measurements). Maximum operation current: 0.520A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

