

Datasheet for #sbcw27022 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 #sbcw27022 DN (please note that AlN submount numbering is A0XXM)

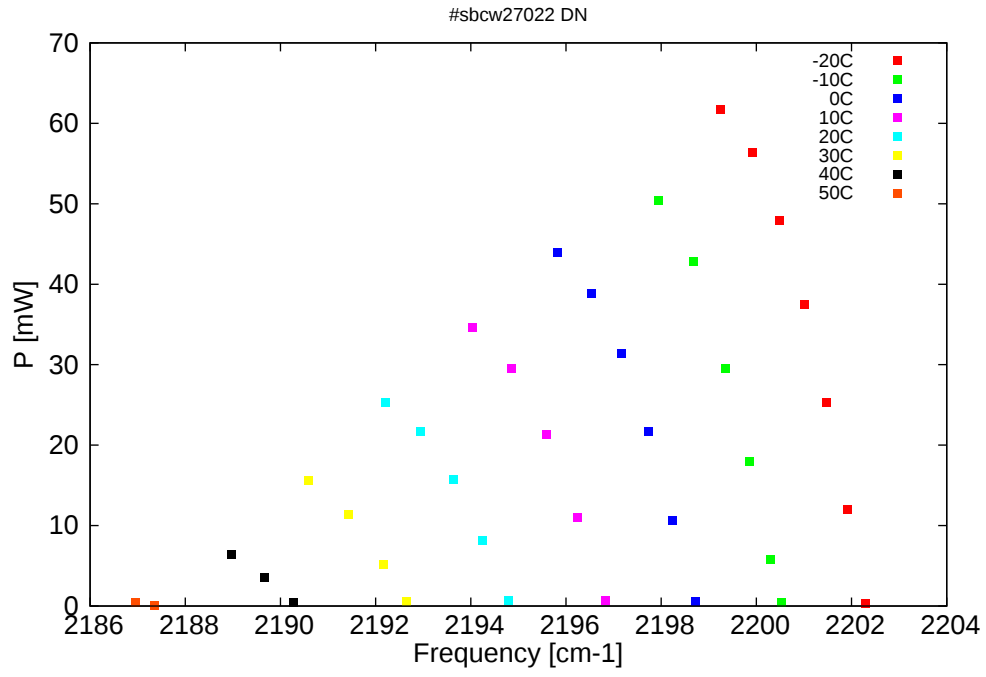


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

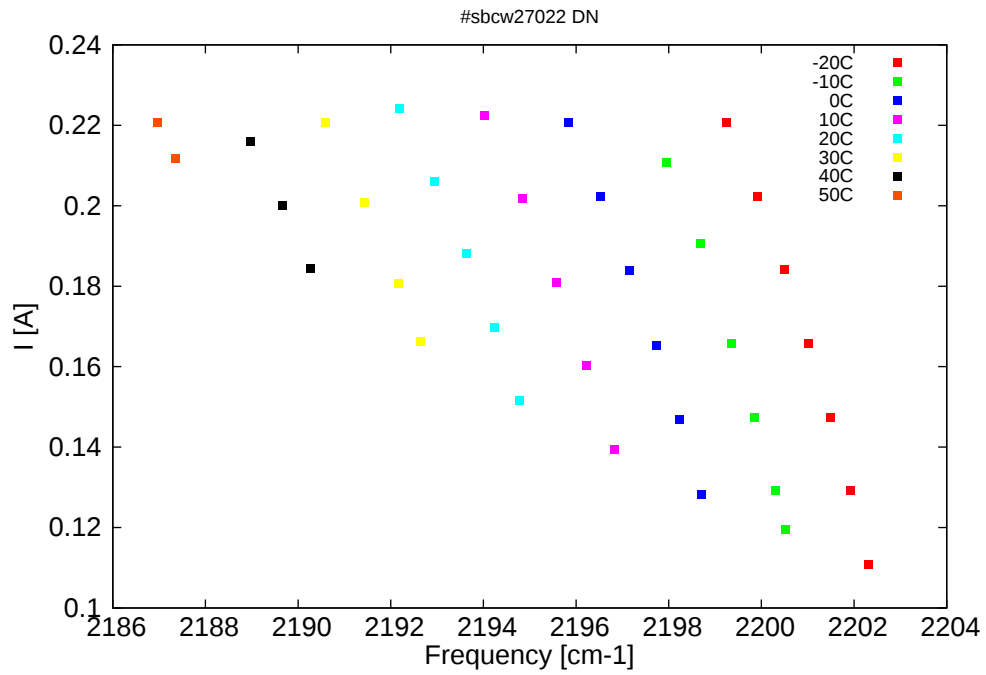


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda[\text{nm}]$	$\nu[\text{cm}^{-1}]$	P[mW]	Temp[°C]	$U_{LASER}[\text{V}]$	I[A]
4540.7	2202.3	0.3	-20	8.92	0.111
4541.5	2201.9	12	-20	9.12	0.129
4542.4	2201.5	25.3	-20	9.34	0.147
4543.4	2201	37.4	-20	9.56	0.166
4544.4	2200.5	47.9	-20	9.78	0.184
4545.6	2199.9	56.4	-20	10.02	0.202
4547	2199.3	61.8	-20	10.27	0.221
4544.4	2200.5	0.5	-10	8.98	0.12
4544.8	2200.3	5.7	-10	9.09	0.129
4545.8	2199.8	18	-10	9.31	0.147
4546.8	2199.4	29.5	-10	9.53	0.166
4548.2	2198.7	42.8	-10	9.84	0.191
4549.7	2197.9	50.4	-10	10.1	0.211
4548.1	2198.7	0.5	0	9.05	0.128
4549.1	2198.2	10.6	0	9.27	0.147
4550.2	2197.7	21.7	0	9.49	0.165
4551.3	2197.2	31.4	0	9.72	0.184
4552.6	2196.5	38.9	0	9.96	0.202
4554.1	2195.8	43.9	0	10.22	0.221
4552	2196.8	0.6	10	9.15	0.139
4553.2	2196.2	11	10	9.4	0.16
4554.6	2195.6	21.3	10	9.66	0.181
4556.1	2194.9	29.5	10	9.93	0.202
4557.8	2194	34.6	10	10.22	0.223
4556.3	2194.8	0.7	20	9.28	0.152
4557.4	2194.2	8.1	20	9.49	0.17
4558.7	2193.6	15.8	20	9.72	0.188
4560.1	2193	21.6	20	9.97	0.206
4561.6	2192.2	25.3	20	10.22	0.224
4560.7	2192.6	0.6	30	9.45	0.166
4561.7	2192.2	5.1	30	9.62	0.181
4563.2	2191.4	11.4	30	9.87	0.201
4565	2190.6	15.6	30	10.15	0.221
4565.6	2190.3	0.4	40	9.67	0.184
4566.9	2189.7	3.6	40	9.86	0.2
4568.3	2189	6.4	40	10.08	0.216
4571.7	2187.4	0.1	50	10.06	0.212
4572.6	2187	0.5	50	10.18	0.221

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

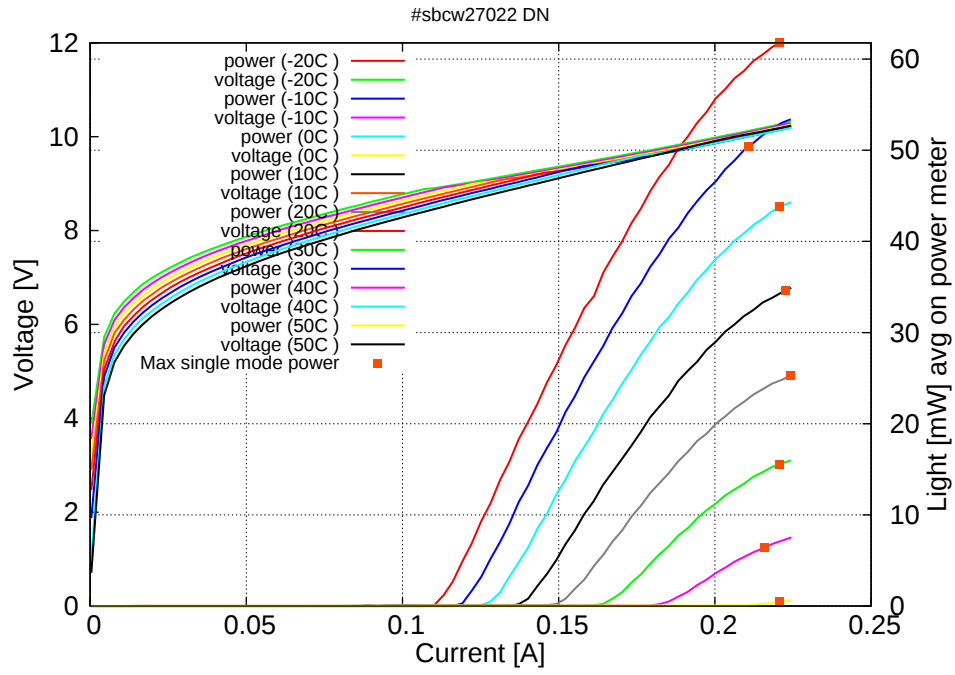


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.11A$ / $V_{th}=8.9V$ (2-wires measurements). Maximum operation current: 0.225A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

