

**Datasheet for #sbcw20456 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 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 #sbcw20456 DN (please note that AlN submount numbering is A0RX3)

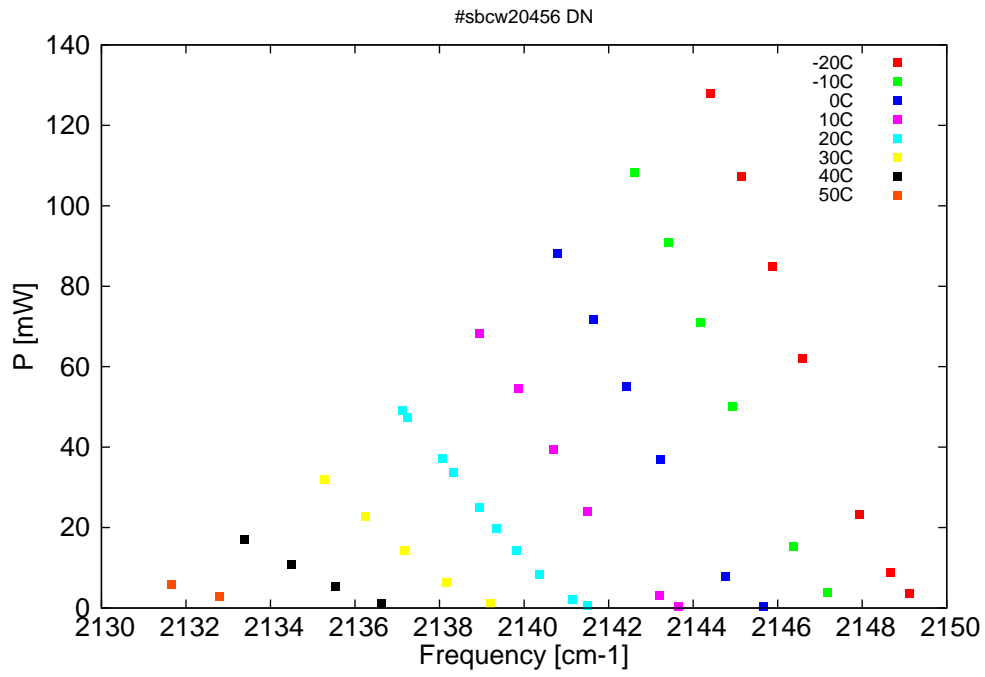


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

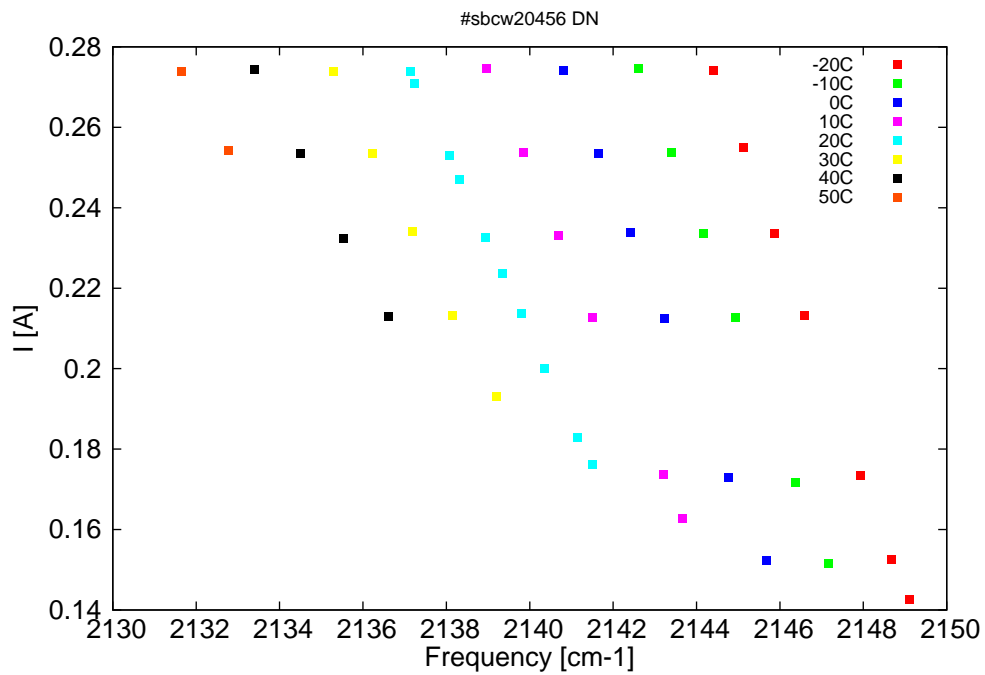


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4653.1	2149.1	3.6	-20	11.62	0.143
4654	2148.7	8.9	-20	11.73	0.152
4655.6	2147.9	23.3	-20	11.93	0.173
4658.6	2146.6	62.1	-20	12.27	0.213
4660.1	2145.9	85	-20	12.43	0.234
4661.7	2145.1	107.3	-20	12.6	0.255
4663.3	2144.4	127.8	-20	12.77	0.274
4657.3	2147.2	3.9	-10	11.63	0.152
4659	2146.4	15.3	-10	11.83	0.172
4662.2	2144.9	50.1	-10	12.19	0.213
4663.8	2144.2	70.9	-10	12.36	0.234
4665.5	2143.4	90.8	-10	12.52	0.254
4667.2	2142.6	108.3	-10	12.7	0.275
4660.6	2145.7	0.4	0	11.56	0.152
4662.5	2144.8	7.8	0	11.76	0.173
4665.9	2143.2	36.8	0	12.13	0.213
4667.6	2142.4	55.1	0	12.3	0.234
4669.3	2141.6	71.7	0	12.46	0.253
4671.2	2140.8	88	0	12.64	0.274
4664.9	2143.7	0.4	10	11.59	0.163
4665.9	2143.2	3.1	10	11.69	0.174
4669.6	2141.5	24	10	12.06	0.213
4671.4	2140.7	39.3	10	12.24	0.233
4673.2	2139.9	54.5	10	12.41	0.254
4675.2	2139	68.2	10	12.59	0.275
4669.6	2141.5	0.6	20	11.64	0.176
4670.4	2141.1	2.1	20	11.71	0.183
4672.1	2140.4	8.3	20	11.86	0.2
4673.3	2139.8	14.4	20	12	0.214
4674.3	2139.3	19.7	20	12.08	0.224
4675.2	2139	24.9	20	12.17	0.233
4676.6	2138.3	33.8	20	12.29	0.247
4677.1	2138.1	37.1	20	12.34	0.253
4679	2137.2	47.4	20	12.5	0.271
4679.2	2137.1	49.1	20	12.53	0.274
4674.6	2139.2	1.1	30	11.73	0.193
4676.9	2138.2	6.5	30	11.92	0.213
4679.1	2137.2	14.4	30	12.12	0.234
4681.1	2136.2	22.9	30	12.29	0.253
4683.2	2135.3	32	30	12.47	0.274
4680.3	2136.6	1	40	11.87	0.213
4682.7	2135.5	5.4	40	12.04	0.232
4685	2134.5	10.9	40	12.24	0.254
4687.4	2133.4	17.1	40	12.43	0.274
4688.7	2132.8	3	50	12.21	0.254
4691.2	2131.7	5.9	50	12.39	0.274

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

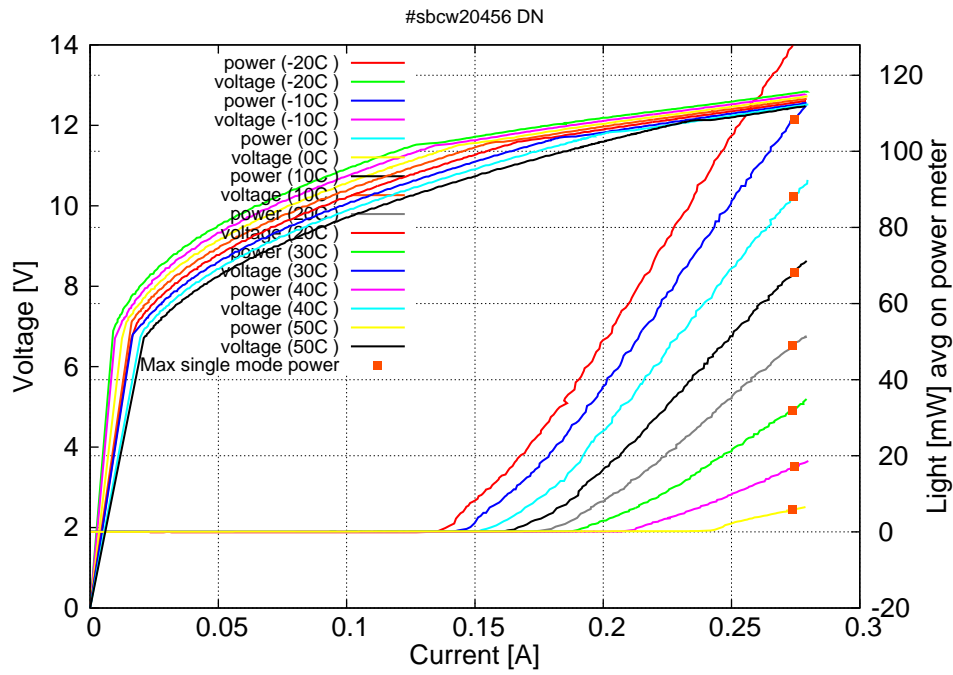


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.13A$  /  $V_{th}=11.6V$  (2-wires measurements). Maximum operation current: 0.28A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

