

Datasheet for #sbcw22451 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 #sbcw22451 DN (please note that AlN submount numbering is A0MRU)

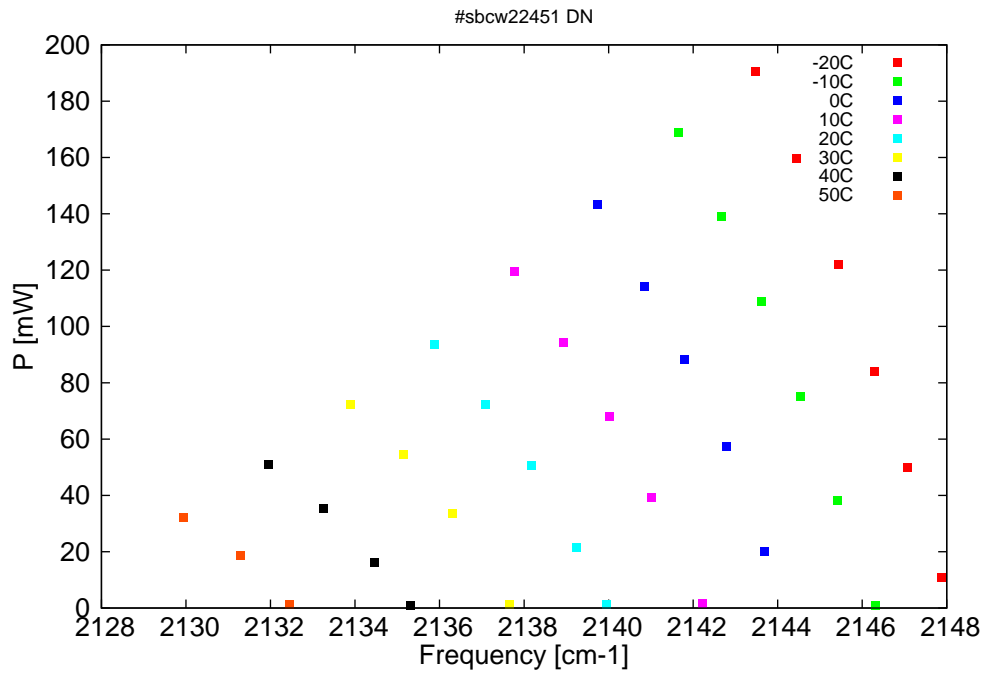


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

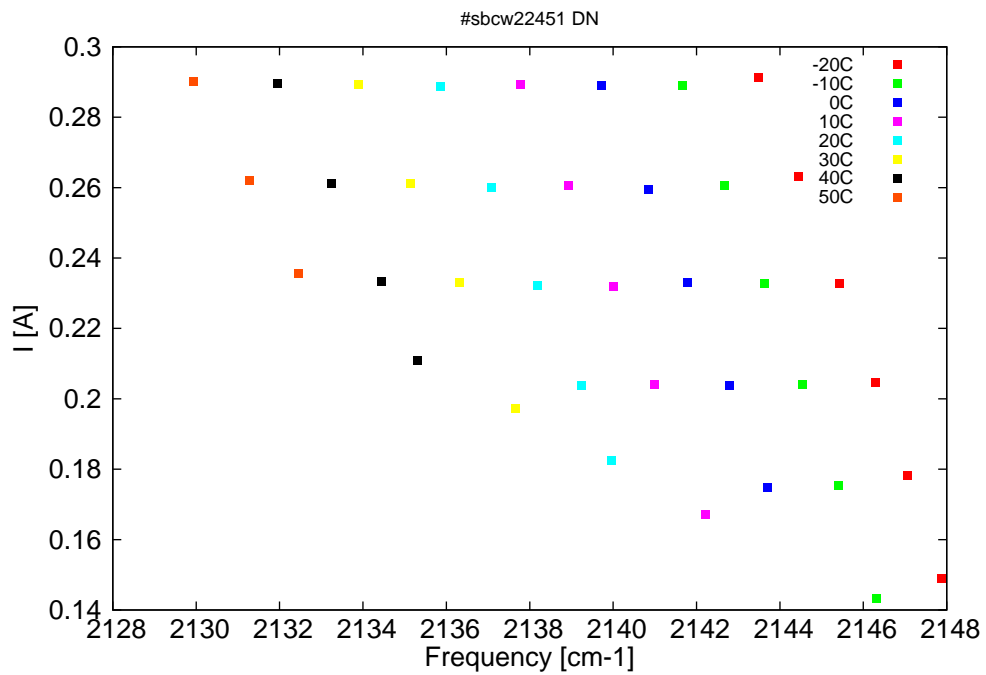


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4655.8	2147.9	10.9	-20	11.07	0.149
4657.5	2147.1	49.9	-20	11.21	0.178
4659.2	2146.3	84.1	-20	11.36	0.205
4661.1	2145.4	121.9	-20	11.53	0.233
4663.2	2144.4	159.6	-20	11.74	0.263
4665.3	2143.5	190.5	-20	11.94	0.291
4659.1	2146.3	1	-10	11.01	0.143
4661.1	2145.4	38.2	-10	11.15	0.175
4663	2144.5	75.1	-10	11.31	0.204
4665	2143.6	108.8	-10	11.49	0.233
4667.1	2142.7	139	-10	11.67	0.261
4669.3	2141.7	168.8	-10	11.88	0.289
4664.8	2143.7	20.1	0	11.11	0.175
4666.8	2142.8	57.3	0	11.27	0.204
4669	2141.8	88.2	0	11.45	0.233
4671	2140.9	114.1	0	11.63	0.259
4673.5	2139.7	143.3	0	11.84	0.289
4668.1	2142.2	1.6	10	11.06	0.167
4670.7	2141	39.1	10	11.23	0.204
4672.9	2140	68.1	10	11.4	0.232
4675.2	2138.9	94.5	10	11.6	0.261
4677.7	2137.8	119.5	10	11.81	0.289
4673	2140	1.2	20	11.11	0.183
4674.6	2139.2	21.4	20	11.21	0.204
4676.9	2138.2	50.7	20	11.37	0.232
4679.3	2137.1	72.3	20	11.56	0.26
4681.9	2135.9	93.5	20	11.78	0.289
4678	2137.7	1.2	30	11.17	0.197
4681	2136.3	33.5	30	11.35	0.233
4683.5	2135.1	54.4	30	11.54	0.261
4686.3	2133.9	72.2	30	11.75	0.289
4683.1	2135.3	0.8	40	11.24	0.211
4685	2134.5	16.3	40	11.34	0.233
4687.7	2133.2	35.4	40	11.51	0.261
4690.5	2131.9	50.9	40	11.72	0.29
4689.4	2132.5	1.2	50	11.38	0.236
4692	2131.3	18.6	50	11.52	0.262
4695	2129.9	32.2	50	11.72	0.29

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

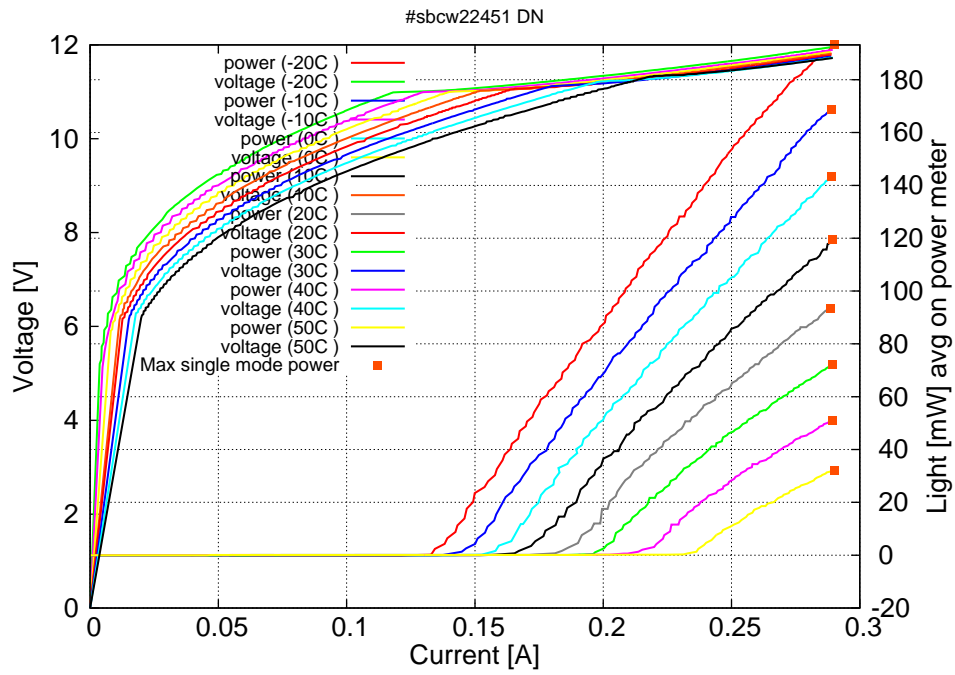


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.13A$ / $V_{th}=11.0V$ (2-wires measurements). Maximum operation current: 0.29A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

