

Datasheet for #sbcw23750 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 #sbcw23750 DN (please note that AlN submount numbering is A0Y4Z)

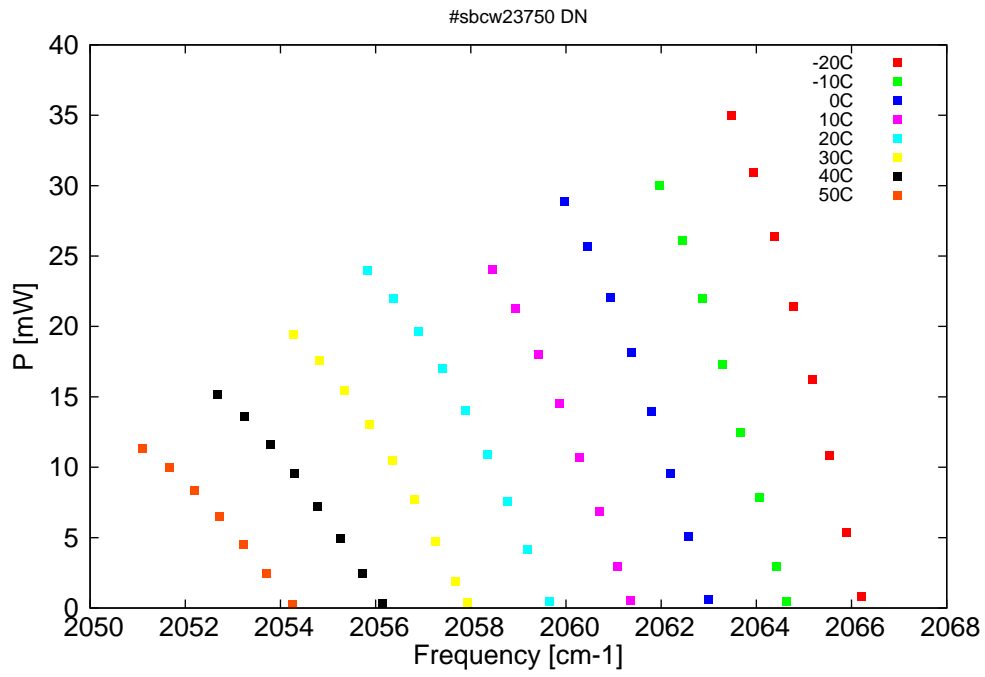


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

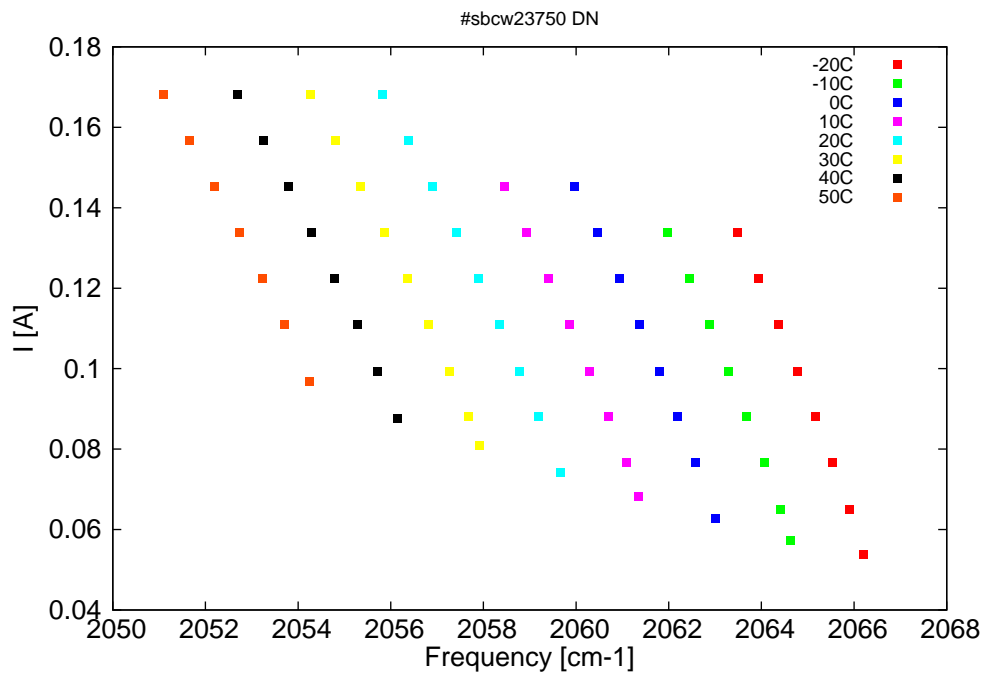


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4839.8	2066.2	0.8	-20	11.41	0.054
4840.5	2065.9	5.4	-20	11.73	0.065
4841.3	2065.5	10.9	-20	12.04	0.077
4842.2	2065.2	16.2	-20	12.33	0.088
4843.1	2064.8	21.4	-20	12.63	0.099
4844.1	2064.4	26.4	-20	12.92	0.111
4845.1	2063.9	31	-20	13.23	0.122
4846.2	2063.5	35	-20	13.55	0.134
4843.5	2064.6	0.5	-10	11.37	0.057
4844	2064.4	3	-10	11.57	0.065
4844.8	2064.1	7.8	-10	11.87	0.077
4845.7	2063.7	12.4	-10	12.15	0.088
4846.6	2063.3	17.3	-10	12.44	0.099
4847.6	2062.9	22	-10	12.71	0.111
4848.6	2062.4	26.1	-10	13	0.122
4849.7	2062	30	-10	13.3	0.134
4847.3	2063	0.6	0	11.37	0.063
4848.3	2062.6	5.1	0	11.71	0.077
4849.2	2062.2	9.5	0	11.99	0.088
4850.1	2061.8	13.9	0	12.26	0.099
4851.1	2061.4	18.1	0	12.53	0.111
4852.2	2060.9	22.1	0	12.8	0.122
4853.3	2060.5	25.7	0	13.09	0.134
4854.4	2060	28.9	0	13.38	0.145
4851.2	2061.3	0.5	10	11.39	0.068
4851.8	2061.1	3	10	11.58	0.077
4852.7	2060.7	6.8	10	11.85	0.088
4853.7	2060.3	10.7	10	12.12	0.099
4854.7	2059.9	14.5	10	12.38	0.111
4855.7	2059.4	18	10	12.64	0.122
4856.9	2058.9	21.3	10	12.9	0.134
4858	2058.4	24.1	10	13.18	0.145
4855.2	2059.7	0.5	20	11.42	0.074
4856.3	2059.2	4.2	20	11.73	0.088
4857.2	2058.8	7.5	20	11.99	0.099
4858.3	2058.3	10.9	20	12.24	0.111
4859.4	2057.9	14	20	12.49	0.122
4860.5	2057.4	17	20	12.74	0.134
4861.7	2056.9	19.6	20	13	0.145
4862.9	2056.4	22	20	13.27	0.157
4864.2	2055.8	24	20	13.55	0.168
4859.3	2057.9	0.4	30	11.47	0.081
4859.8	2057.7	1.9	30	11.62	0.088
4860.8	2057.3	4.7	30	11.87	0.099
4861.9	2056.8	7.7	30	12.11	0.111
4863	2056.4	10.5	30	12.36	0.122
4864.1	2055.9	13	30	12.6	0.134
4865.3	2055.4	15.4	30	12.85	0.145
4866.6	2054.8	17.6	30	13.1	0.157

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4867.9	2054.3	19.4	30	13.36	0.168
4863.5	2056.1	0.3	40	11.53	0.088
4864.5	2055.7	2.4	40	11.77	0.099
4865.5	2055.3	4.9	40	12	0.111
4866.7	2054.8	7.2	40	12.23	0.122
4867.8	2054.3	9.6	40	12.47	0.134
4869.1	2053.8	11.6	40	12.71	0.145
4870.3	2053.2	13.6	40	12.94	0.157
4871.7	2052.7	15.2	40	13.19	0.168
4868	2054.2	0.3	50	11.63	0.097
4869.2	2053.7	2.5	50	11.9	0.111
4870.4	2053.2	4.5	50	12.12	0.122
4871.6	2052.7	6.5	50	12.35	0.134
4872.8	2052.2	8.3	50	12.57	0.145
4874.1	2051.7	10	50	12.8	0.157
4875.4	2051.1	11.3	50	13.03	0.168

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

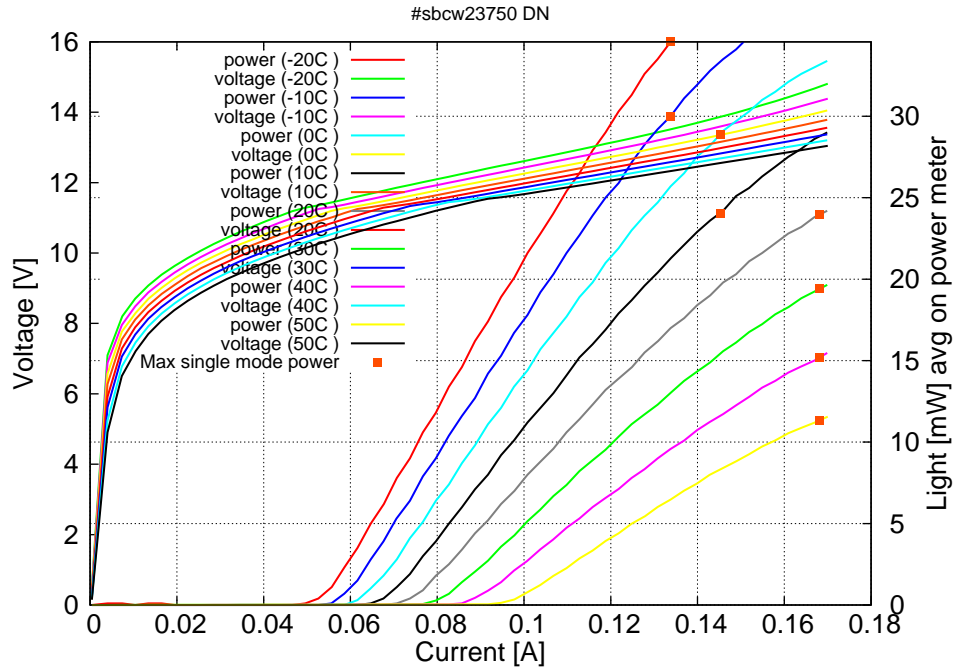


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.05A$ / $V_{th}=11.4V$ (2-wires measurements). Maximum operation current: 0.135A between -20C and -10C, 0.145A between 0C and 10C, 0.17A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

