

Datasheet for #sbcw23740 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 #sbcw23740 DN (please note that AlN submount numbering is A0Y3L)

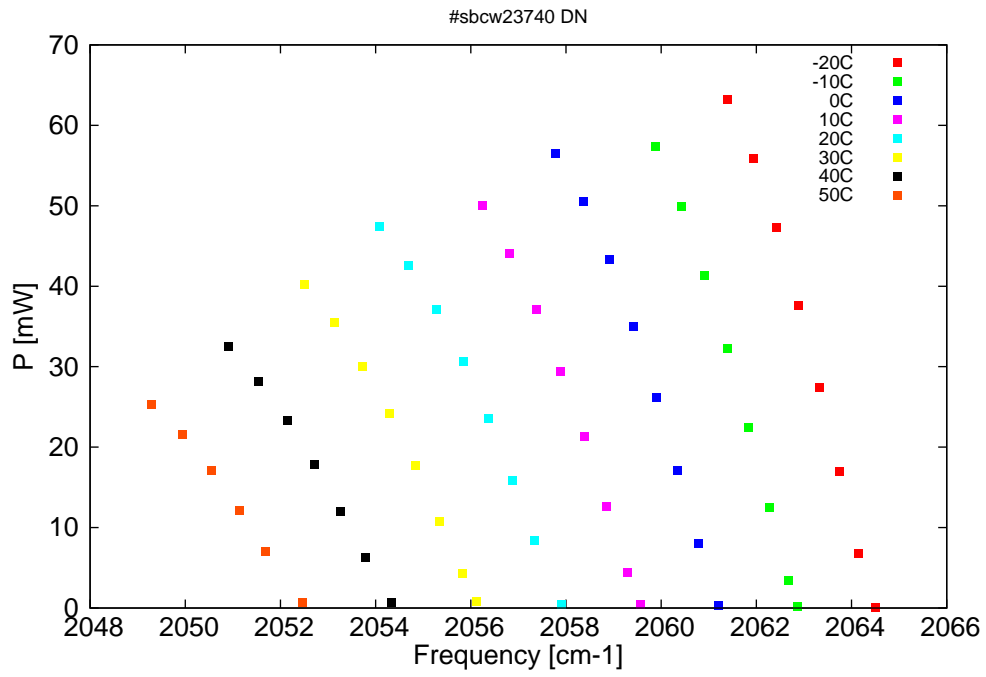


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

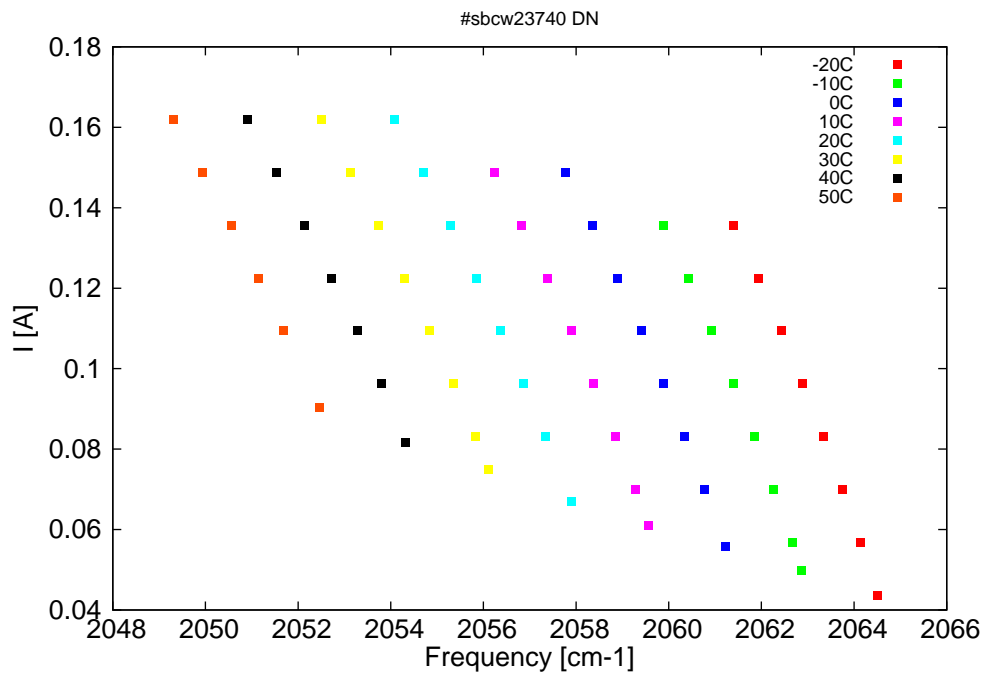


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4843.8	2064.5	0	-20	10.99	0.044
4844.6	2064.1	6.7	-20	11.39	0.057
4845.6	2063.7	17	-20	11.76	0.07
4846.5	2063.3	27.4	-20	12.11	0.083
4847.6	2062.9	37.6	-20	12.45	0.096
4848.7	2062.4	47.4	-20	12.78	0.109
4849.8	2061.9	55.9	-20	13.12	0.123
4851.1	2061.4	63.2	-20	13.49	0.136
4847.6	2062.9	0.2	-10	11.03	0.05
4848.1	2062.7	3.4	-10	11.24	0.057
4849	2062.3	12.4	-10	11.6	0.07
4850	2061.8	22.5	-10	11.94	0.083
4851.1	2061.4	32.3	-10	12.27	0.096
4852.2	2060.9	41.3	-10	12.59	0.109
4853.4	2060.4	49.9	-10	12.92	0.123
4854.6	2059.9	57.4	-10	13.26	0.136
4851.5	2061.2	0.3	0	11.08	0.056
4852.5	2060.8	8	0	11.46	0.07
4853.5	2060.3	17.1	0	11.79	0.083
4854.6	2059.9	26.2	0	12.11	0.096
4855.8	2059.4	35	0	12.43	0.109
4857	2058.9	43.4	0	12.74	0.123
4858.2	2058.4	50.5	0	13.06	0.136
4859.6	2057.8	56.5	0	13.39	0.149
4855.4	2059.6	0.5	10	11.11	0.061
4856	2059.3	4.4	10	11.34	0.07
4857.1	2058.8	12.6	10	11.67	0.083
4858.2	2058.4	21.3	10	11.98	0.096
4859.3	2057.9	29.4	10	12.29	0.109
4860.6	2057.4	37.1	10	12.59	0.123
4861.9	2056.8	44	10	12.9	0.136
4863.2	2056.2	50	10	13.21	0.149
4859.3	2057.9	0.5	20	11.17	0.067
4860.6	2057.3	8.4	20	11.55	0.083
4861.8	2056.9	15.9	20	11.86	0.096
4862.9	2056.4	23.5	20	12.16	0.109
4864.2	2055.8	30.6	20	12.46	0.123
4865.5	2055.3	37	20	12.75	0.136
4866.9	2054.7	42.6	20	13.05	0.149
4868.4	2054.1	47.5	20	13.36	0.162
4863.5	2056.1	0.8	30	11.26	0.075
4864.2	2055.8	4.3	30	11.45	0.083
4865.4	2055.3	10.8	30	11.75	0.096
4866.6	2054.8	17.7	30	12.04	0.109
4867.9	2054.3	24.2	30	12.33	0.123
4869.2	2053.7	30	30	12.61	0.136
4870.6	2053.1	35.5	30	12.9	0.149
4872.1	2052.5	40.2	30	13.19	0.162
4867.8	2054.3	0.7	40	11.33	0.082

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4869	2053.8	6.3	40	11.64	0.096
4870.3	2053.3	12.1	40	11.93	0.109
4871.6	2052.7	17.8	40	12.21	0.123
4873	2052.1	23.4	40	12.49	0.136
4874.4	2051.5	28.2	40	12.77	0.149
4875.9	2050.9	32.5	40	13.05	0.162
4872.2	2052.5	0.6	50	11.44	0.09
4874	2051.7	7.1	50	11.83	0.109
4875.3	2051.1	12.1	50	12.1	0.123
4876.7	2050.6	17.1	50	12.37	0.136
4878.2	2049.9	21.6	50	12.64	0.149
4879.7	2049.3	25.4	50	12.9	0.162

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

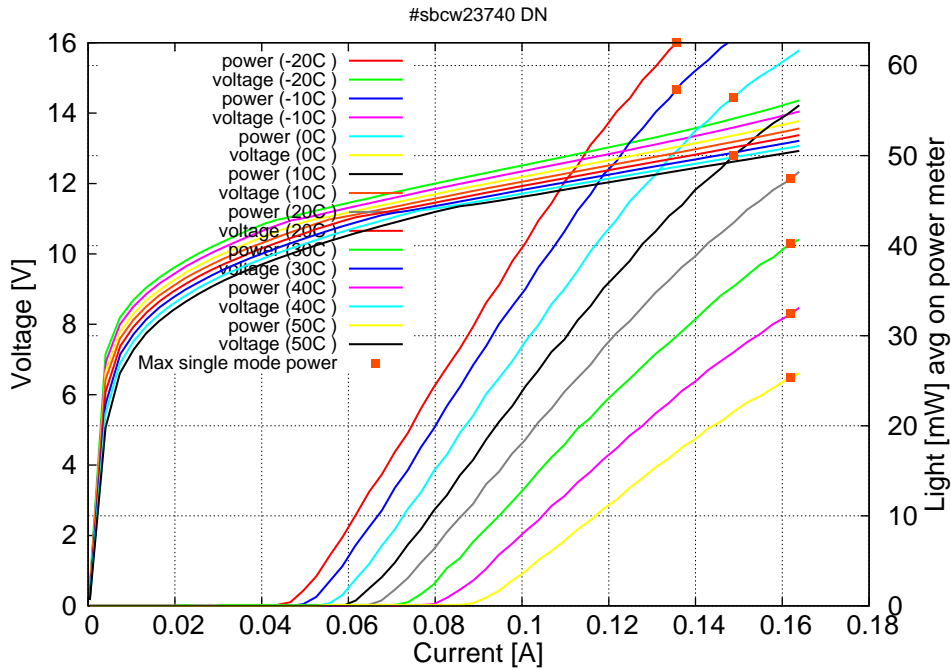


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.04A$ / $V_{th}=11.0V$ (2-wires measurements). Maximum operation current: 0.14A between -20C and -10C, 0.15A between 0C and 10C, 0.165A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

