

Datasheet for #sbcw15192 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 #sbcw15192 DN (please note that AlN submount numbering is A0ATU)

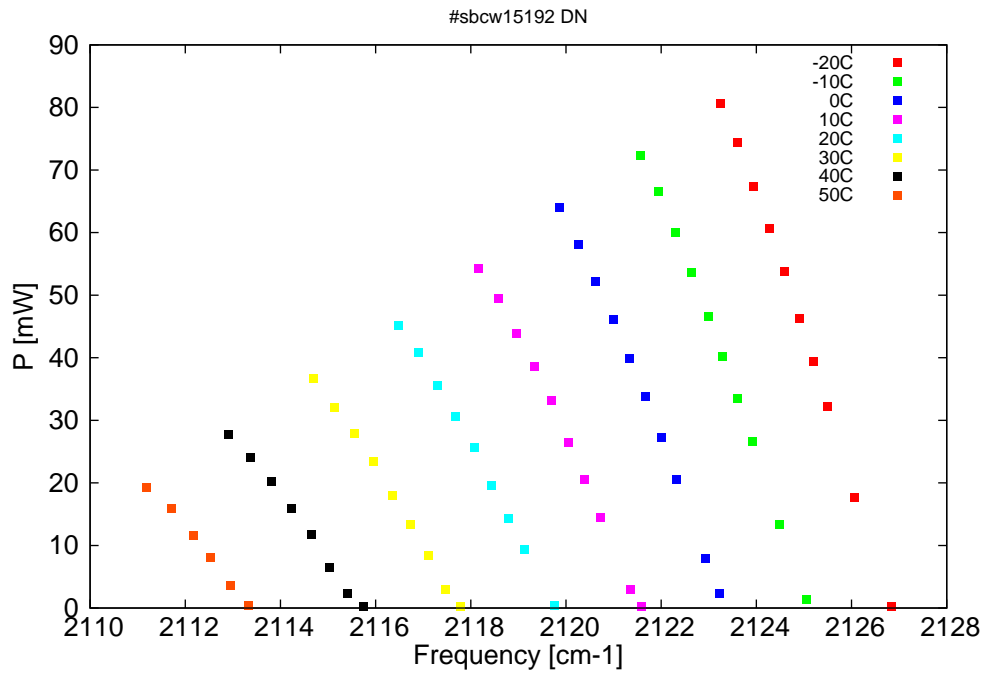


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

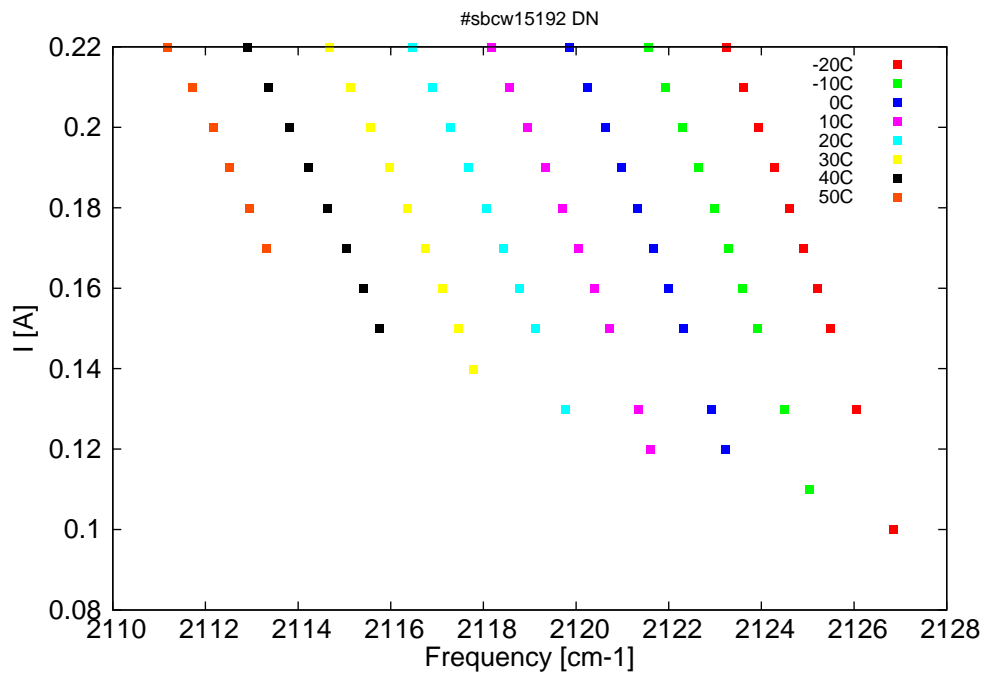


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4701.8	2126.8	0.2	-20	11.3	0.1
4703.5	2126.1	17.7	-20	11.5	0.13
4704.8	2125.5	32.2	-20	11.6	0.15
4705.4	2125.2	39.4	-20	11.7	0.16
4706.1	2124.9	46.3	-20	11.8	0.17
4706.8	2124.6	53.7	-20	11.9	0.18
4707.5	2124.3	60.6	-20	12	0.19
4708.2	2123.9	67.3	-20	12.1	0.2
4709	2123.6	74.4	-20	12.2	0.21
4709.8	2123.2	80.6	-20	12.3	0.22
4705.8	2125	1.3	-10	11.3	0.11
4707	2124.5	13.3	-10	11.4	0.13
4708.3	2123.9	26.6	-10	11.6	0.15
4709	2123.6	33.5	-10	11.7	0.16
4709.7	2123.3	40.2	-10	11.7	0.17
4710.4	2123	46.6	-10	11.8	0.18
4711.1	2122.6	53.6	-10	11.9	0.19
4711.9	2122.3	60.1	-10	12	0.2
4712.7	2121.9	66.6	-10	12.1	0.21
4713.5	2121.6	72.3	-10	12.3	0.22
4709.8	2123.2	2.3	0	11.3	0.12
4710.5	2122.9	7.9	0	11.4	0.13
4711.8	2122.3	20.6	0	11.5	0.15
4712.5	2122	27.2	0	11.6	0.16
4713.3	2121.7	33.8	0	11.7	0.17
4714	2121.3	39.9	0	11.8	0.18
4714.8	2121	46.1	0	11.9	0.19
4715.6	2120.6	52.2	0	12	0.2
4716.4	2120.3	58.2	0	12.1	0.21
4717.3	2119.9	64	0	12.2	0.22
4713.4	2121.6	0.2	10	11.4	0.12
4714	2121.4	2.9	10	11.4	0.13
4715.4	2120.7	14.4	10	11.5	0.15
4716.1	2120.4	20.6	10	11.6	0.16
4716.9	2120.1	26.5	10	11.7	0.17
4717.6	2119.7	33.1	10	11.8	0.18
4718.5	2119.3	38.5	10	11.9	0.19
4719.3	2119	43.8	10	12	0.2
4720.2	2118.6	49.5	10	12.1	0.21
4721.1	2118.2	54.2	10	12.2	0.22
4717.5	2119.8	0.4	20	11.4	0.13
4718.9	2119.1	9.3	20	11.5	0.15
4719.7	2118.8	14.3	20	11.6	0.16
4720.5	2118.4	19.7	20	11.6	0.17
4721.3	2118.1	25.7	20	11.7	0.18
4722.1	2117.7	30.6	20	11.8	0.19
4723	2117.3	35.5	20	11.9	0.2
4723.9	2116.9	40.8	20	12	0.21
4724.8	2116.5	45.1	20	12.2	0.22

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4721.9	2117.8	0.2	30	11.5	0.14
4722.6	2117.5	3	30	11.5	0.15
4723.4	2117.1	8.4	30	11.6	0.16
4724.2	2116.7	13.4	30	11.6	0.17
4725.1	2116.4	18	30	11.7	0.18
4726	2116	23.5	30	11.8	0.19
4726.9	2115.6	27.9	30	11.9	0.2
4727.8	2115.1	32	30	12	0.21
4728.8	2114.7	36.7	30	12.1	0.22
4726.4	2115.8	0.2	40	11.6	0.15
4727.2	2115.4	2.4	40	11.6	0.16
4728.1	2115	6.5	40	11.7	0.17
4728.9	2114.6	11.7	40	11.7	0.18
4729.8	2114.2	15.8	40	11.8	0.19
4730.8	2113.8	20.2	40	11.9	0.2
4731.8	2113.4	24	40	12	0.21
4732.8	2112.9	27.7	40	12.1	0.22
4731.9	2113.3	0.4	50	11.8	0.17
4732.7	2112.9	3.5	50	11.8	0.18
4733.7	2112.5	8.1	50	11.9	0.19
4734.5	2112.2	11.6	50	11.9	0.2
4735.5	2111.7	15.9	50	12	0.21
4736.7	2111.2	19.2	50	12.1	0.22

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

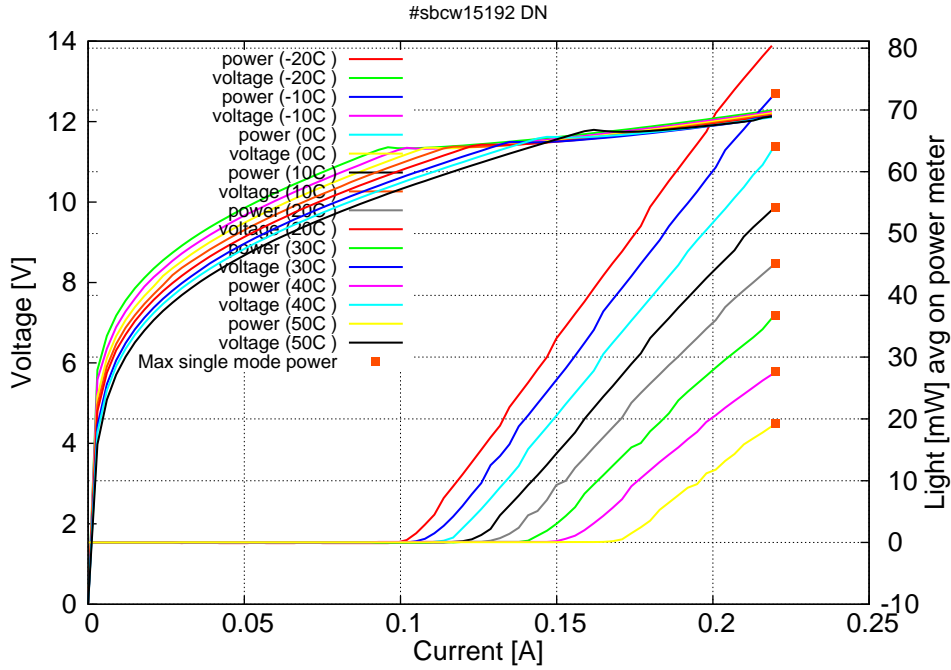


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.10A$ / $V_{th}=11.3V$ (2-wires measurements). Maximum operation current: 0.22A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

