

Datasheet for #sbcw18310 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.

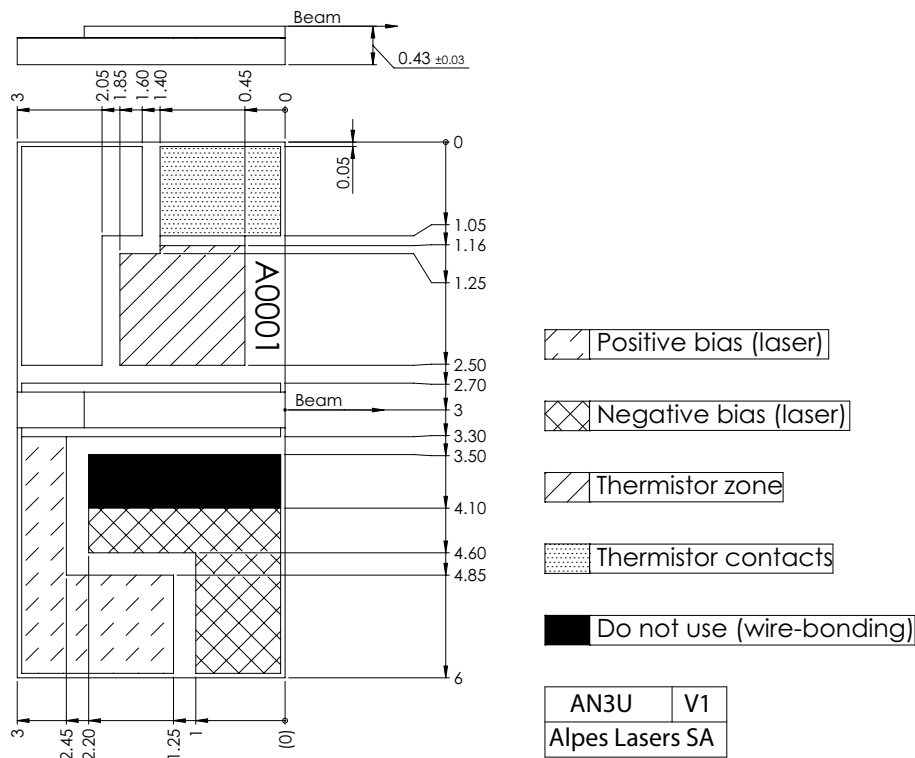


Figure 1: Mechanical and electrical interface for #sbcw18310 DN (please note that AlN submount numbering is A0KZD)

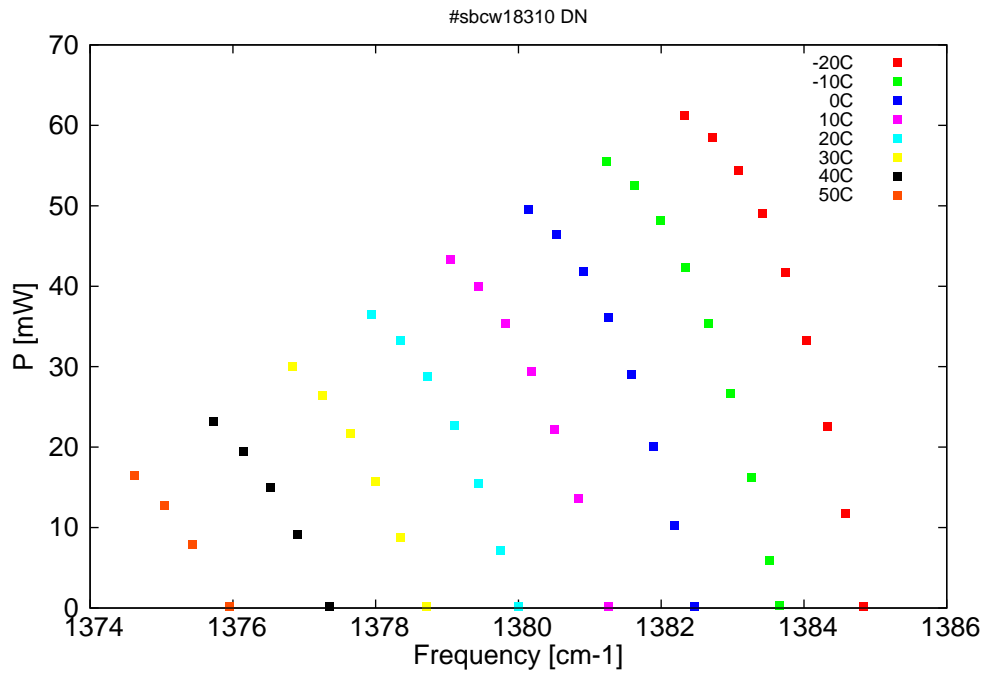


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

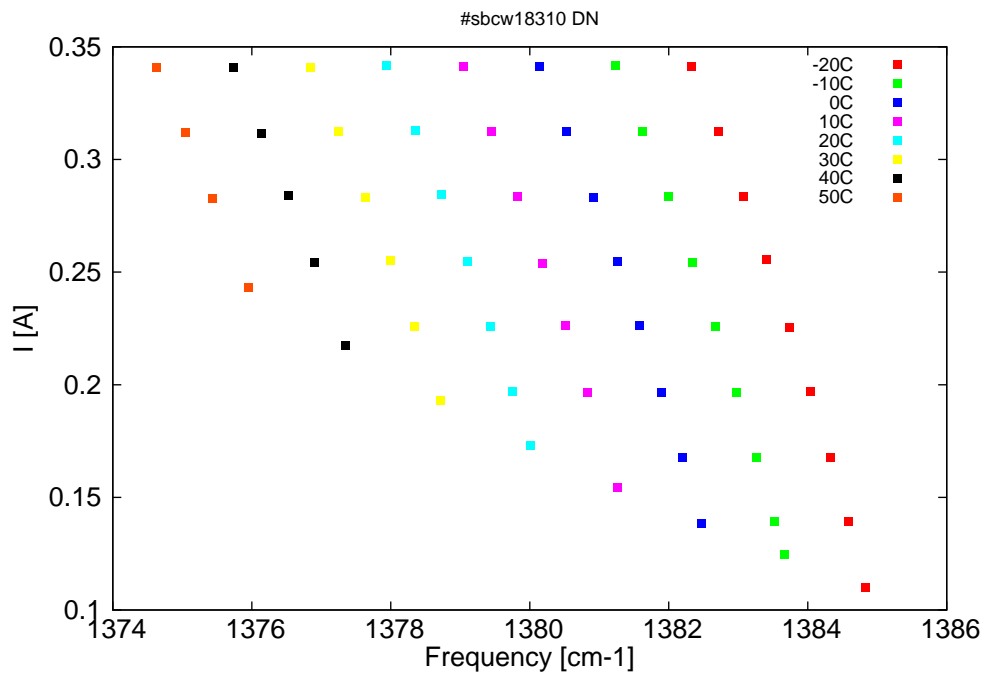


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7221.1	1384.8	0.2	-20	8.2	0.11
7222.4	1384.6	11.7	-20	8.5	0.14
7223.7	1384.3	22.6	-20	8.8	0.17
7225.2	1384	33.3	-20	9.1	0.2
7226.8	1383.7	41.7	-20	9.4	0.23
7228.5	1383.4	49.1	-20	9.6	0.26
7230.2	1383.1	54.4	-20	9.9	0.28
7232.1	1382.7	58.5	-20	10.2	0.31
7234.2	1382.3	61.2	-20	10.4	0.34
7227.2	1383.7	0.3	-10	8.2	0.12
7227.9	1383.5	5.9	-10	8.4	0.14
7229.3	1383.3	16.2	-10	8.7	0.17
7230.8	1383	26.7	-10	9	0.2
7232.4	1382.7	35.4	-10	9.2	0.23
7234.1	1382.3	42.4	-10	9.5	0.25
7235.9	1382	48.1	-10	9.8	0.28
7237.8	1381.6	52.5	-10	10	0.31
7239.9	1381.2	55.6	-10	10.3	0.34
7233.4	1382.5	0.2	0	8.2	0.14
7234.9	1382.2	10.3	0	8.6	0.17
7236.4	1381.9	20.1	0	8.8	0.2
7238.1	1381.6	29	0	9.1	0.23
7239.8	1381.3	36.1	0	9.4	0.25
7241.6	1380.9	41.9	0	9.6	0.28
7243.6	1380.5	46.4	0	9.9	0.31
7245.6	1380.1	49.6	0	10.1	0.34
7239.8	1381.3	0.2	10	8.3	0.15
7242	1380.8	13.6	10	8.7	0.2
7243.7	1380.5	22.2	10	9	0.23
7245.4	1380.2	29.4	10	9.2	0.25
7247.3	1379.8	35.4	10	9.5	0.28
7249.3	1379.4	40	10	9.8	0.31
7251.4	1379	43.3	10	10	0.34
7246.3	1380	0.3	20	8.4	0.17
7247.7	1379.8	7.2	20	8.6	0.2
7249.3	1379.4	15.5	20	8.9	0.23
7251.1	1379.1	22.6	20	9.1	0.25
7253.1	1378.7	28.7	20	9.4	0.28
7255.1	1378.3	33.2	20	9.6	0.31
7257.2	1377.9	36.5	20	9.9	0.34
7253.1	1378.7	0.2	30	8.5	0.19
7255.1	1378.3	8.8	30	8.8	0.23
7256.9	1378	15.8	30	9	0.25
7258.8	1377.6	21.7	30	9.3	0.28
7260.8	1377.2	26.5	30	9.5	0.31
7263	1376.8	30.1	30	9.8	0.34
7260.3	1377.4	0.2	40	8.6	0.22
7262.6	1376.9	9.1	40	8.9	0.25
7264.6	1376.5	14.9	40	9.2	0.28

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7266.7	1376.1	19.5	40	9.4	0.31
7268.8	1375.7	23.2	40	9.6	0.34
7267.7	1376	0.3	50	8.7	0.24
7270.4	1375.4	7.9	50	9	0.28
7272.5	1375	12.7	50	9.3	0.31
7274.7	1374.6	16.5	50	9.5	0.34

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

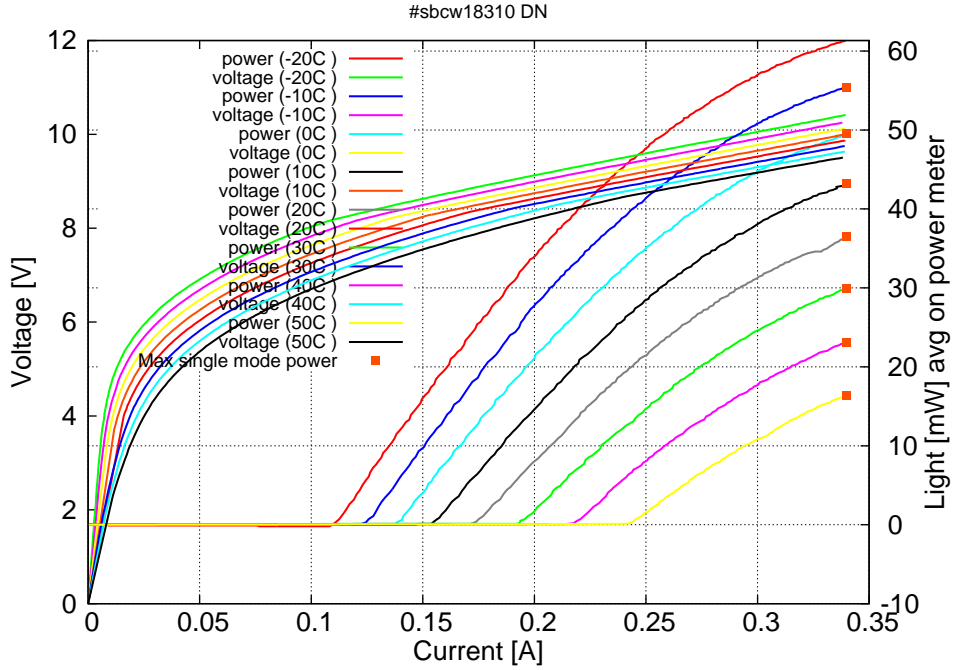


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.11A$ / $V_{th}=8.2V$ (2-wires measurements). Maximum operation current: 0.34A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

