

Datasheet for #sbcw4190 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 current on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive current on the base contact (= submount, corresponding to the label "base" on the LLH). 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.

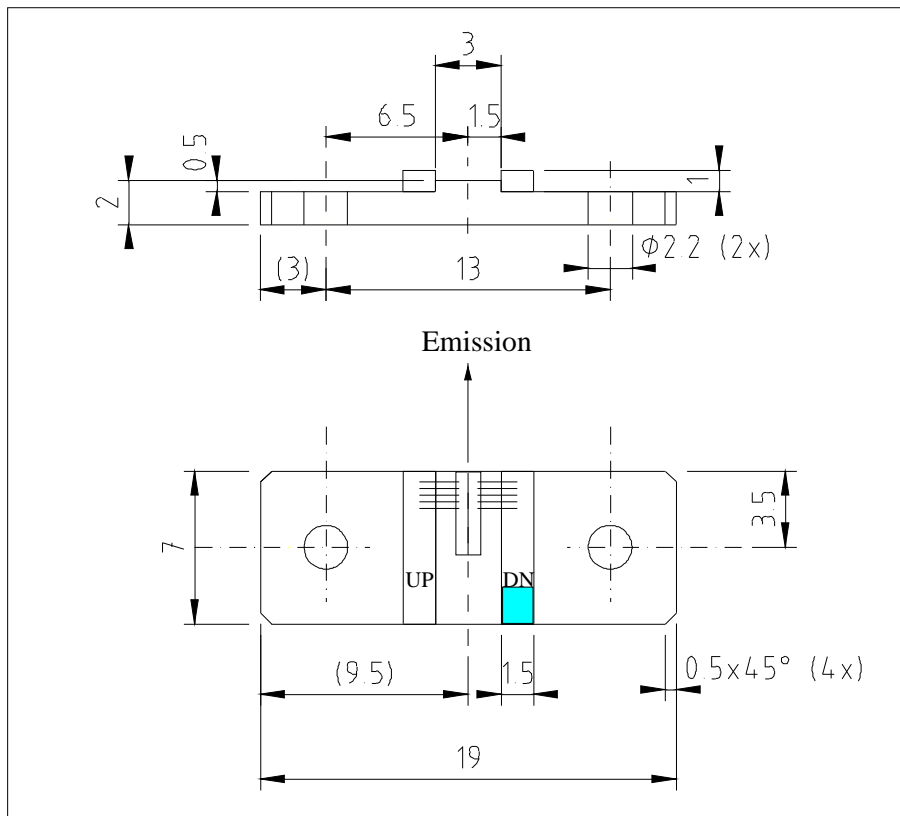


Figure 1: Mechanical and electrical interface for #sbcw4190 DN (please note that the laser is connected to the DN pad drawn in blue)

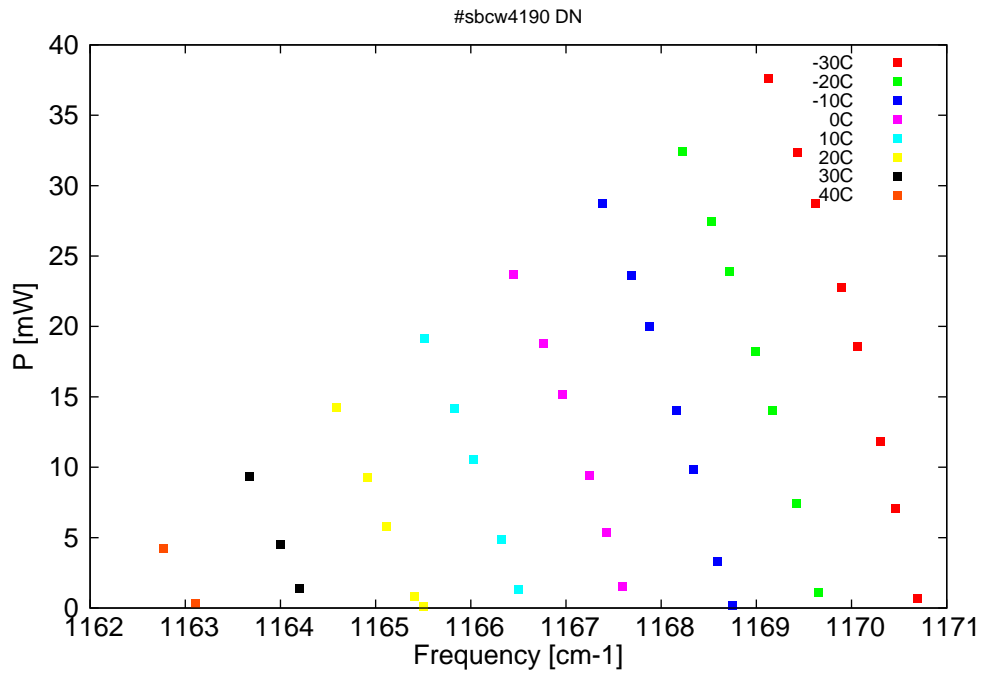


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

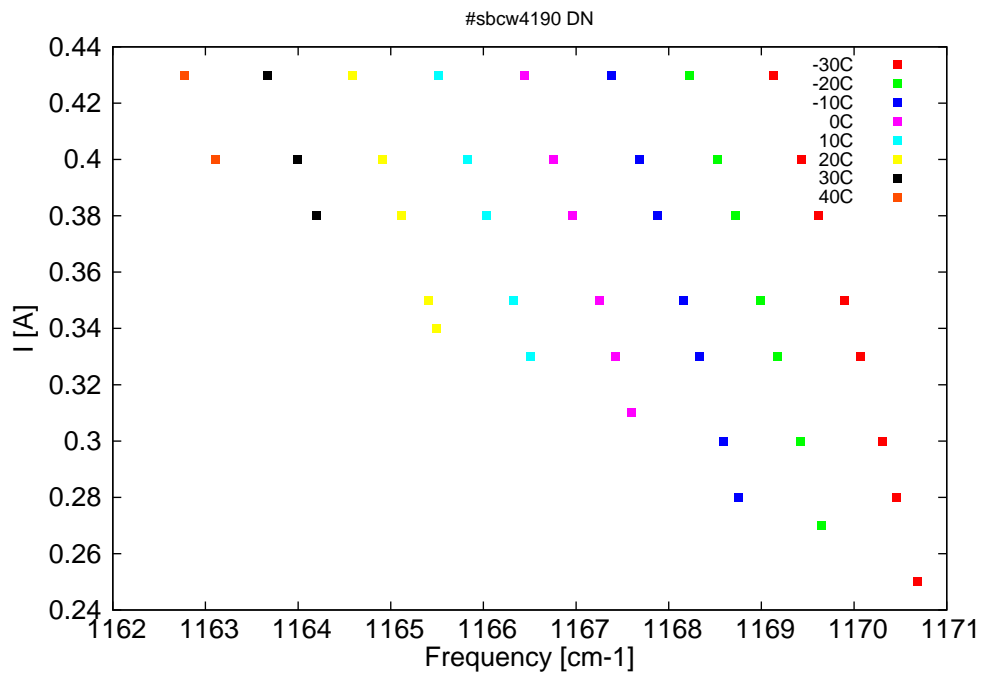


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
8542	1170.7	0.7	-30	8	0.25
8543.6	1170.5	7.1	-30	8.2	0.28
8544.8	1170.3	11.8	-30	8.3	0.3
8546.5	1170.1	18.6	-30	8.5	0.33
8547.8	1169.9	22.8	-30	8.6	0.35
8549.8	1169.6	28.7	-30	8.8	0.38
8551.2	1169.4	32.4	-30	8.9	0.4
8553.4	1169.1	37.6	-30	9.1	0.43
8549.6	1169.7	1.1	-20	8.1	0.27
8551.2	1169.4	7.5	-20	8.2	0.3
8553.1	1169.2	14	-20	8.4	0.33
8554.4	1169	18.2	-20	8.5	0.35
8556.4	1168.7	23.9	-20	8.7	0.38
8557.8	1168.5	27.5	-20	8.8	0.4
8560	1168.2	32.4	-20	9	0.43
8556.1	1168.8	0.2	-10	8	0.28
8557.3	1168.6	3.3	-10	8.1	0.3
8559.2	1168.3	9.8	-10	8.3	0.33
8560.5	1168.2	14.1	-10	8.4	0.35
8562.5	1167.9	20	-10	8.6	0.38
8563.9	1167.7	23.6	-10	8.7	0.4
8566.2	1167.4	28.8	-10	8.9	0.43
8564.6	1167.6	1.5	0	8.1	0.31
8565.9	1167.4	5.4	0	8.2	0.33
8567.2	1167.2	9.4	0	8.4	0.35
8569.3	1167	15.2	0	8.5	0.38
8570.7	1166.8	18.8	0	8.6	0.4
8573	1166.4	23.7	0	8.8	0.43
8572.6	1166.5	1.3	10	8.2	0.33
8574	1166.3	4.9	10	8.3	0.35
8576.1	1166	10.6	10	8.4	0.38
8577.6	1165.8	14.2	10	8.6	0.4
8579.9	1165.5	19.1	10	8.7	0.43
8580	1165.5	0.1	20	8.2	0.34
8580.7	1165.4	0.8	20	8.2	0.35
8582.9	1165.1	5.8	20	8.4	0.38
8584.4	1164.9	9.3	20	8.5	0.4
8586.8	1164.6	14.2	20	8.7	0.43
8589.6	1164.2	1.4	30	8.3	0.38
8591.1	1164	4.5	30	8.4	0.4
8593.5	1163.7	9.3	30	8.6	0.43
8597.6	1163.1	0.3	40	8.4	0.4
8600.1	1162.8	4.2	40	8.5	0.43

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

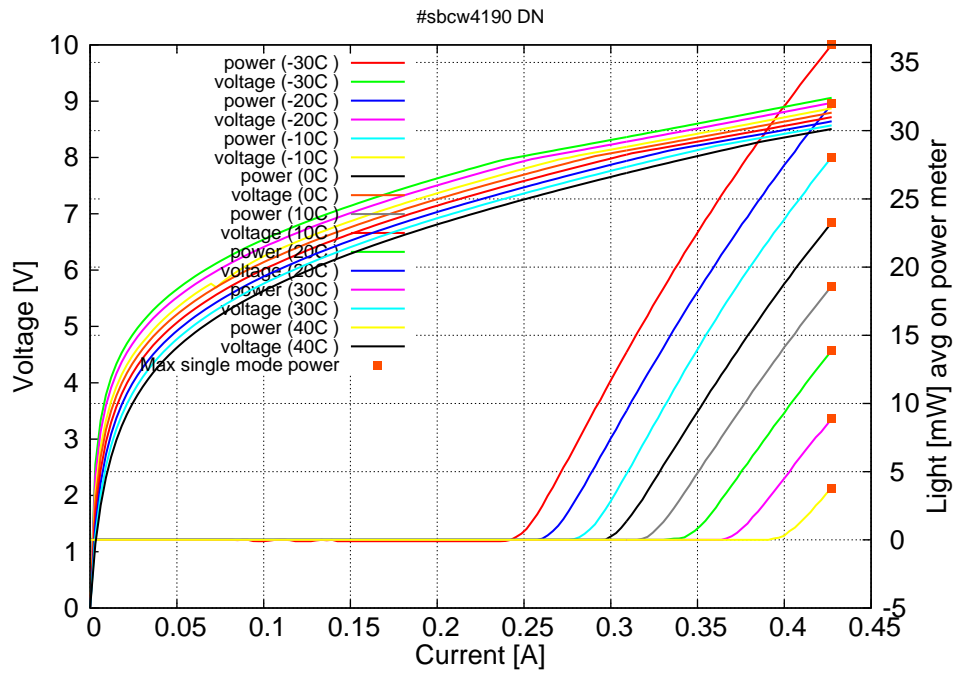


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -30C: $I_{th}=0.24A$ / $V_{th}=8.0V$ (2-wires measurements). Maximum operation current: 0.43A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

