

Datasheet for #sbcw22908 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.

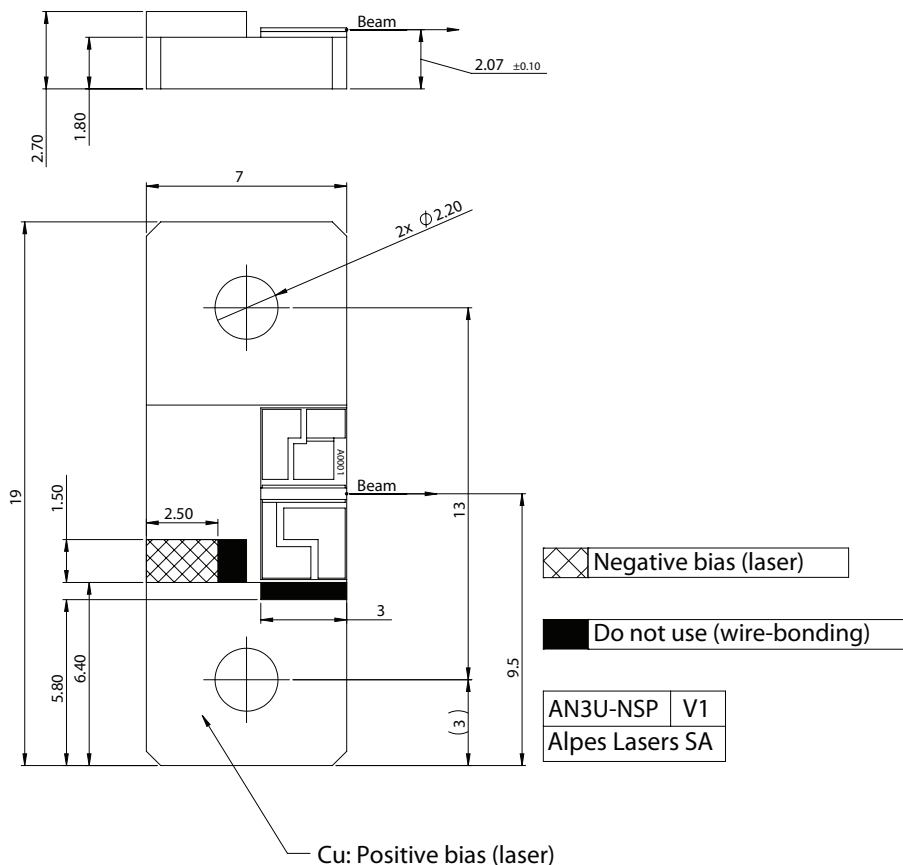


Figure 1: Mechanical and electrical interface for #sbcw22908 DN

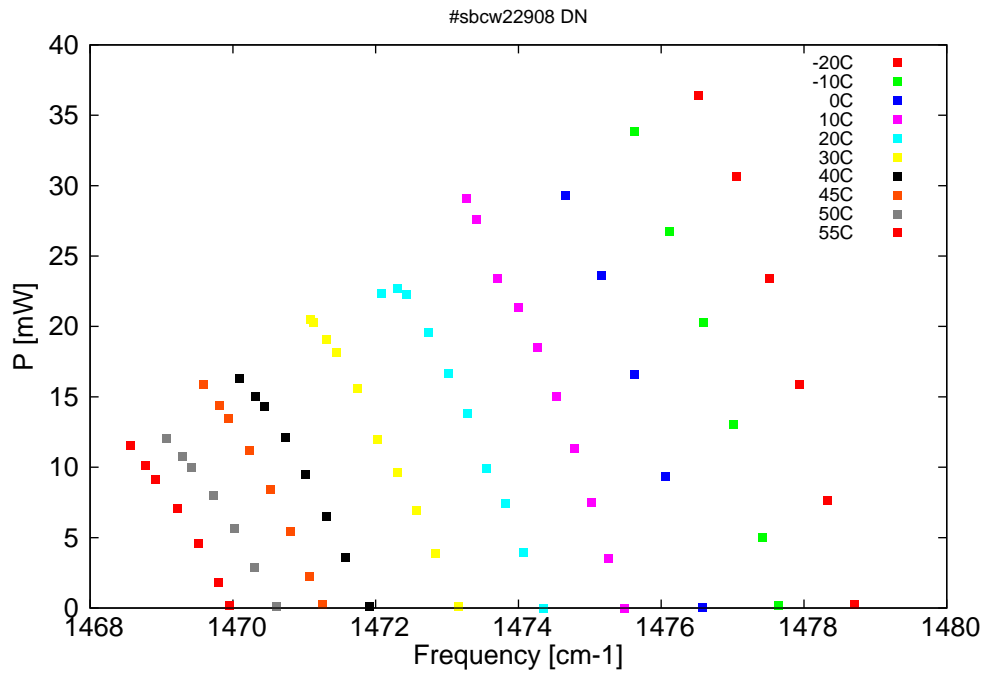


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

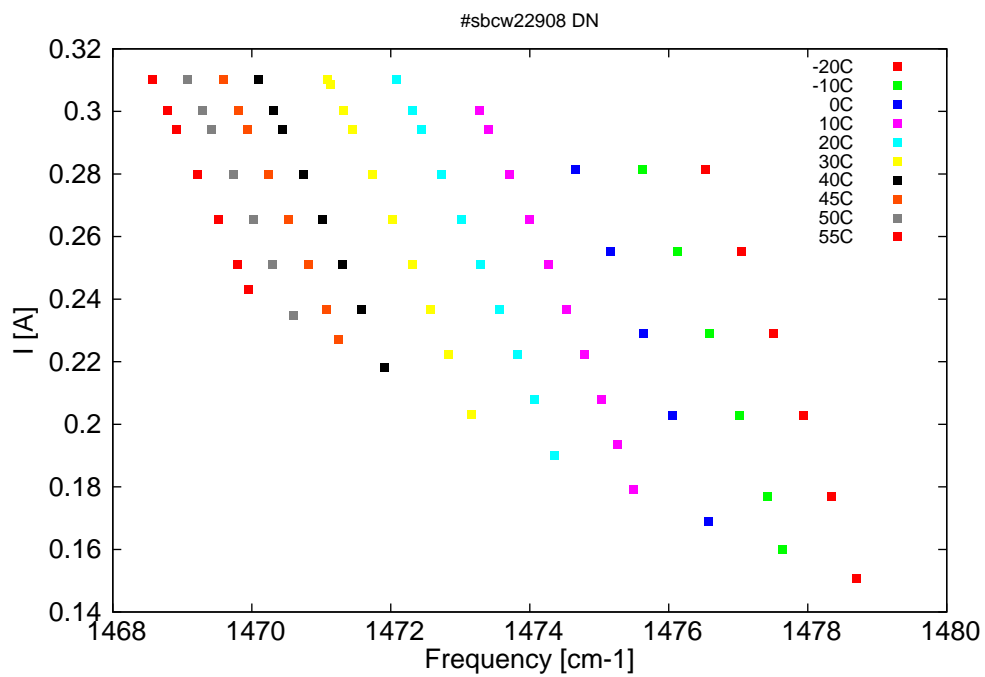


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
6762.7	1478.7	0.2	-20	11.88	0.151
6764.4	1478.3	7.7	-20	12.27	0.177
6766.2	1477.9	15.9	-20	12.64	0.203
6768.1	1477.5	23.4	-20	13.01	0.229
6770.2	1477.1	30.6	-20	13.38	0.255
6772.6	1476.5	36.4	-20	13.77	0.281
6767.5	1477.6	0.2	-10	11.85	0.16
6768.6	1477.4	5	-10	12.1	0.177
6770.4	1477	13	-10	12.47	0.203
6772.4	1476.6	20.3	-10	12.82	0.229
6774.5	1476.1	26.7	-10	13.18	0.255
6776.8	1475.6	33.9	-10	13.56	0.281
6772.4	1476.6	0	0	11.82	0.169
6774.8	1476.1	9.3	0	12.29	0.203
6776.8	1475.6	16.6	0	12.63	0.229
6778.9	1475.2	23.6	0	12.99	0.255
6781.2	1474.7	29.3	0	13.33	0.281
6777.4	1475.5	0	10	11.86	0.179
6778.4	1475.3	3.5	10	12.06	0.194
6779.5	1475	7.5	10	12.26	0.208
6780.6	1474.8	11.4	10	12.46	0.222
6781.8	1474.5	15	10	12.65	0.237
6783	1474.3	18.5	10	12.85	0.251
6784.3	1474	21.3	10	13.05	0.266
6785.6	1473.7	23.4	10	13.24	0.28
6787	1473.4	27.6	10	13.43	0.294
6787.6	1473.3	29.1	10	13.52	0.3
6782.7	1474.3	0	20	11.86	0.19
6784	1474.1	4	20	12.1	0.208
6785.1	1473.8	7.4	20	12.29	0.222
6786.3	1473.6	9.9	20	12.49	0.237
6787.5	1473.3	13.8	20	12.68	0.251
6788.8	1473	16.7	20	12.87	0.266
6790.1	1472.7	19.6	20	13.06	0.28
6791.5	1472.4	22.3	20	13.25	0.294
6792.1	1472.3	22.7	20	13.33	0.3
6793.1	1472.1	22.3	20	13.46	0.31
6788.1	1473.2	0.1	30	11.88	0.203
6789.6	1472.8	3.9	30	12.13	0.222
6790.8	1472.6	6.9	30	12.33	0.237
6792.1	1472.3	9.6	30	12.51	0.251
6793.3	1472	12	30	12.7	0.266
6794.7	1471.7	15.6	30	12.88	0.28
6796	1471.4	18.2	30	13.07	0.294
6796.6	1471.3	19.1	30	13.14	0.3
6797.5	1471.1	20.3	30	13.25	0.309
6797.7	1471.1	20.5	30	13.27	0.31
6793.9	1471.9	0.1	40	11.92	0.218
6795.4	1471.6	3.6	40	12.16	0.237

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
6796.7	1471.3	6.5	40	12.35	0.251
6798	1471	9.5	40	12.53	0.266
6799.3	1470.7	12.1	40	12.71	0.28
6800.7	1470.4	14.3	40	12.89	0.294
6801.3	1470.3	15.1	40	12.97	0.3
6802.3	1470.1	16.3	40	13.1	0.31
6796.9	1471.2	0.2	45	11.96	0.227
6797.7	1471.1	2.2	45	12.09	0.237
6799	1470.8	5.4	45	12.27	0.251
6800.3	1470.5	8.4	45	12.45	0.265
6801.6	1470.2	11.2	45	12.62	0.28
6803	1469.9	13.5	45	12.8	0.294
6803.6	1469.8	14.4	45	12.88	0.3
6804.6	1469.6	15.9	45	13.01	0.31
6799.9	1470.6	0.1	50	11.98	0.235
6801.3	1470.3	2.9	50	12.19	0.251
6802.6	1470	5.6	50	12.37	0.265
6804	1469.7	8	50	12.54	0.28
6805.4	1469.4	10	50	12.72	0.294
6806	1469.3	10.8	50	12.8	0.3
6807	1469.1	12	50	12.92	0.31
6802.9	1470	0.2	55	12.01	0.243
6803.7	1469.8	1.8	55	12.11	0.251
6805	1469.5	4.6	55	12.28	0.265
6806.3	1469.2	7	55	12.46	0.28
6807.8	1468.9	9.2	55	12.64	0.294
6808.4	1468.8	10.1	55	12.71	0.3
6809.4	1468.6	11.6	55	12.83	0.31

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

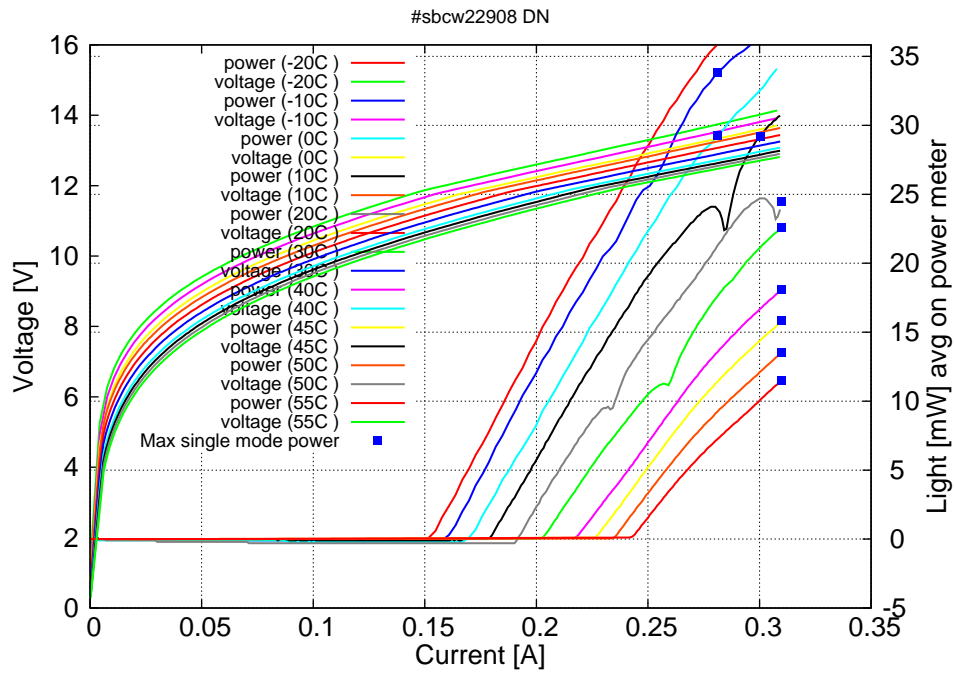


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.15A$ / $V_{th}=11.9V$ (2-wires measurements). Maximum operation current: 0.28A between -20C and 0C, 0.30A at 10C, 0.31A between 20C and 55C.

Figure 3: spectra at different temperatures for various DC currents

