

Datasheet for #sbcw19931 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.

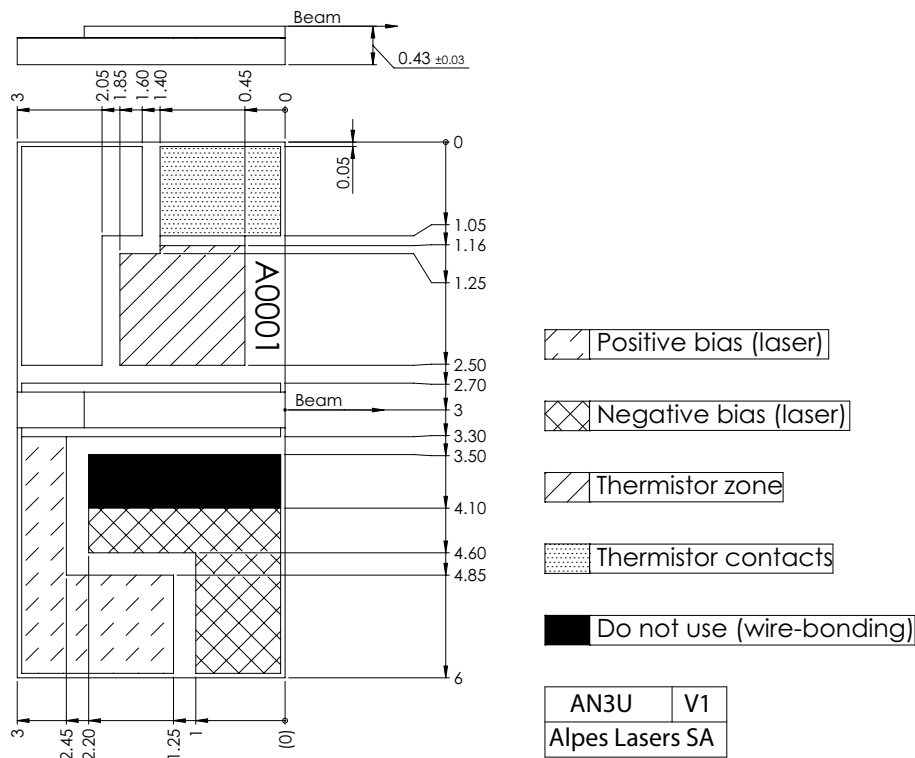


Figure 1: Mechanical and electrical interface for #sbcw19931 DN (please note that AlN submount numbering is A0MJ1)

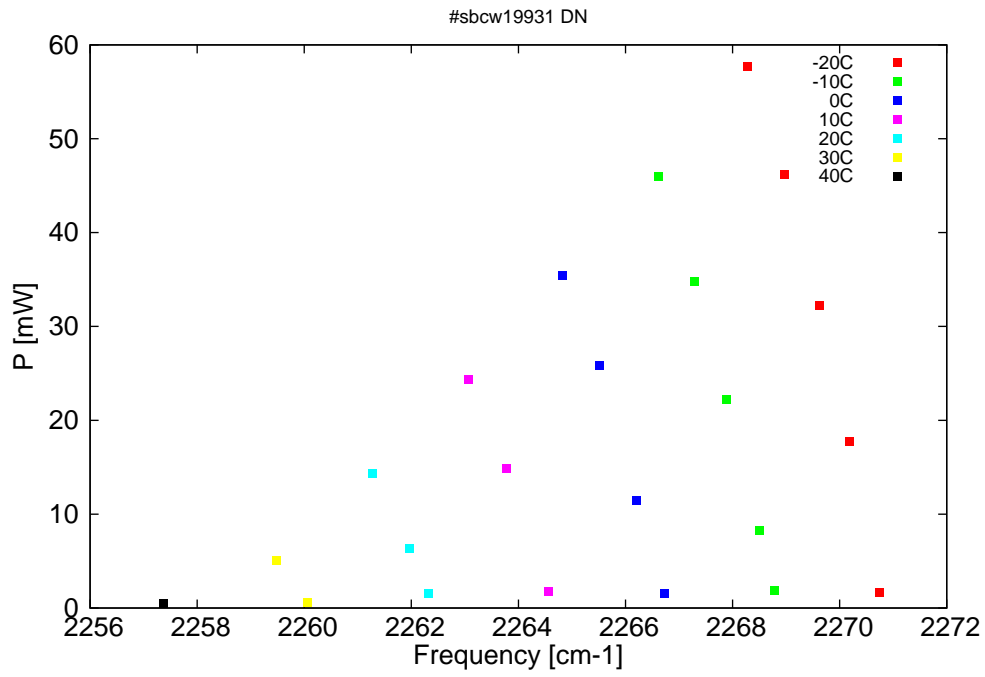


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

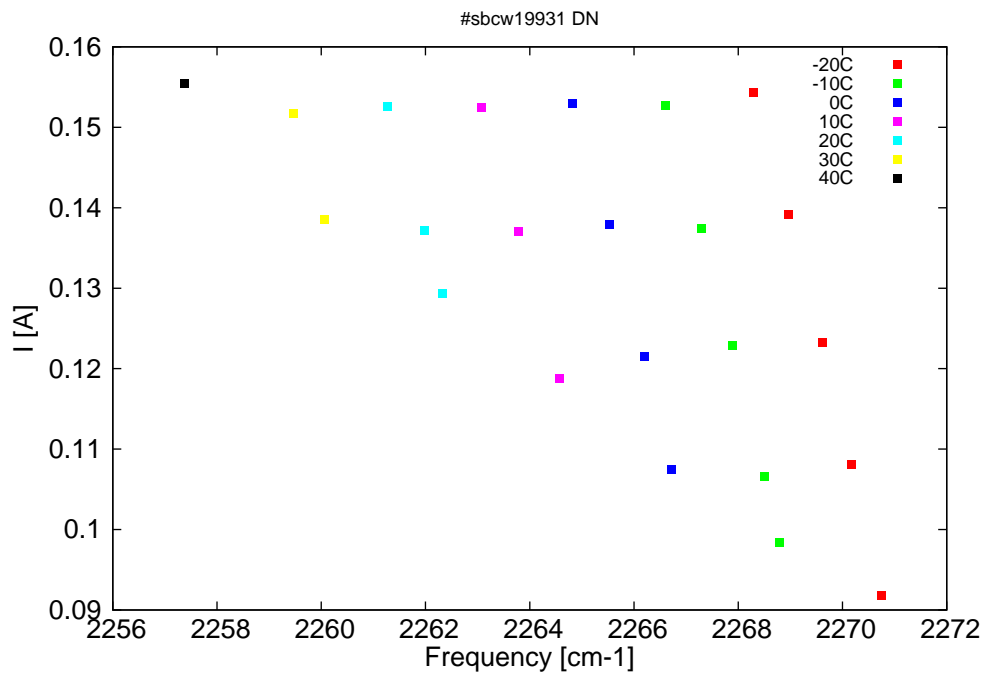


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm^{-1}]	P[mW]	Temp[$^{\circ}\text{C}$]	U_{LASER} [V]	I[A]
4403.8	2270.7	1.6	-20	12.39	0.092
4404.9	2270.2	17.8	-20	12.65	0.108
4406	2269.6	32.2	-20	12.9	0.123
4407.3	2269	46.2	-20	13.17	0.139
4408.6	2268.3	57.7	-20	13.43	0.154
4407.6	2268.8	1.9	-10	12.37	0.098
4408.2	2268.5	8.3	-10	12.5	0.107
4409.4	2267.9	22.3	-10	12.76	0.123
4410.6	2267.3	34.8	-10	13	0.137
4411.9	2266.6	46	-10	13.27	0.153
4411.7	2266.7	1.5	0	12.42	0.107
4412.7	2266.2	11.5	0	12.64	0.121
4414	2265.5	25.8	0	12.9	0.138
4415.3	2264.8	35.4	0	13.16	0.153
4415.9	2264.6	1.8	10	12.5	0.119
4417.4	2263.8	14.9	10	12.79	0.137
4418.8	2263.1	24.4	10	13.05	0.152
4420.2	2262.3	1.6	20	12.59	0.129
4420.9	2262	6.3	20	12.71	0.137
4422.3	2261.3	14.3	20	12.96	0.153
4424.7	2260.1	0.6	30	12.68	0.139
4425.8	2259.5	5	30	12.86	0.152
4429.9	2257.4	0.5	40	12.88	0.155

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

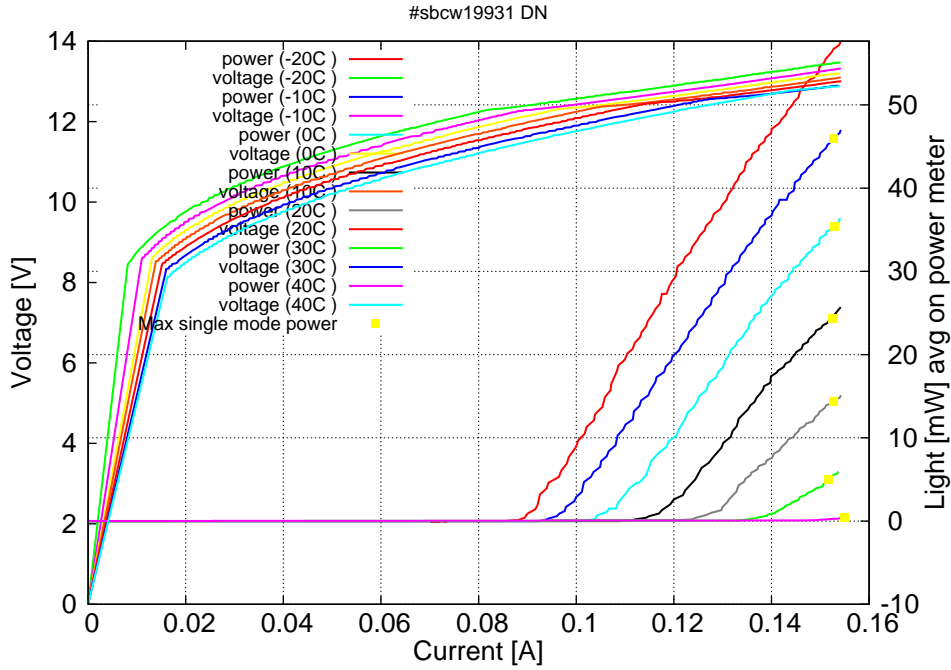


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.09A$ / $V_{th}=12.4V$ (2-wires measurements). Maximum operation current: 0.155A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

