

Datasheet for #sbcw20747 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 #sbcw20747 DN (please note that AlN submount numbering is A0T1P)

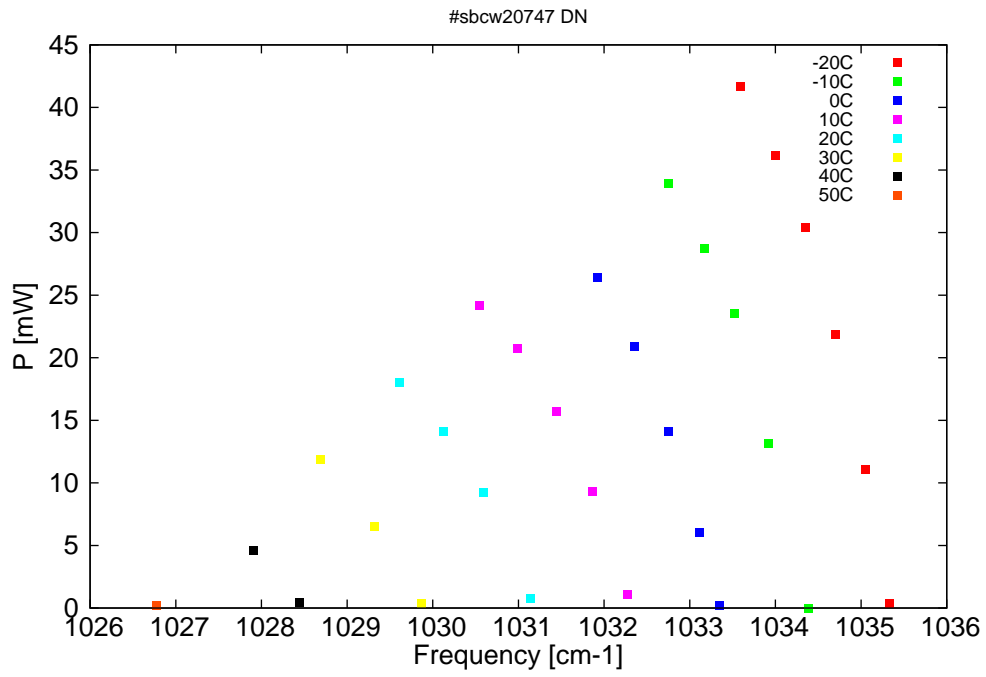


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

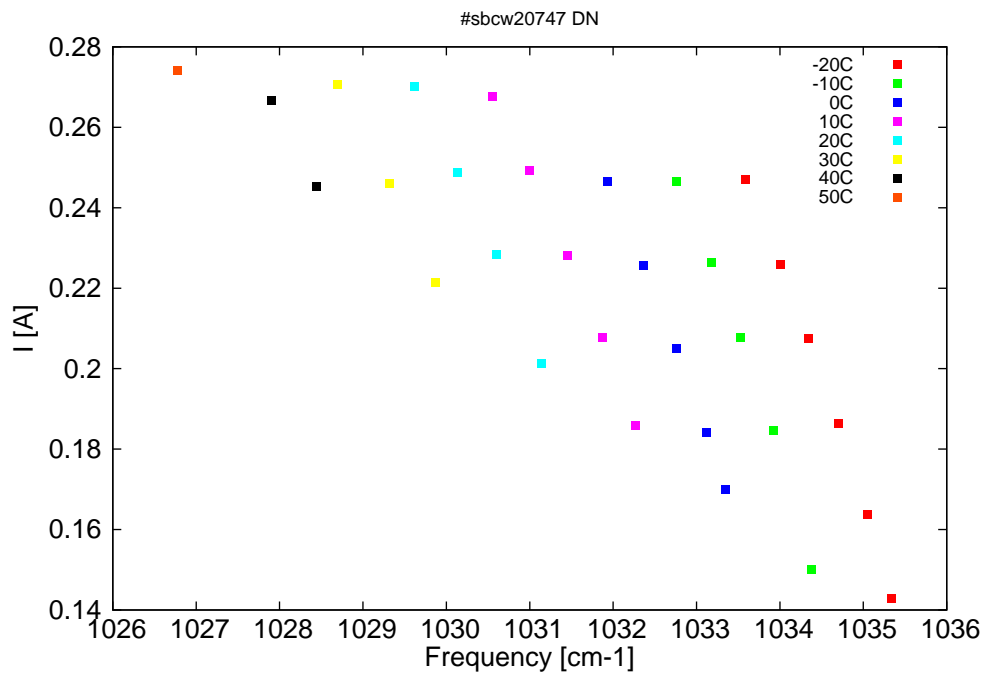


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9658.7	1035.3	0.3	-20	9.5	0.143
9661.3	1035.1	11.1	-20	9.83	0.164
9664.6	1034.7	21.8	-20	10.2	0.186
9667.9	1034.3	30.4	-20	10.54	0.207
9671.1	1034	36.2	-20	10.85	0.226
9675	1033.6	41.7	-20	11.2	0.247
9667.6	1034.4	0	-10	9.61	0.15
9671.9	1033.9	13.1	-10	10.09	0.185
9675.7	1033.5	23.5	-10	10.46	0.208
9678.9	1033.2	28.8	-10	10.76	0.226
9682.8	1032.8	34	-10	11.1	0.246
9677.2	1033.4	0.2	0	9.76	0.17
9679.4	1033.1	6	0	9.99	0.184
9682.9	1032.8	14.1	0	10.32	0.205
9686.5	1032.4	20.9	0	10.65	0.226
9690.6	1031.9	26.4	0	10.99	0.247
9687.4	1032.3	1.1	10	9.94	0.186
9691.2	1031.9	9.3	10	10.29	0.208
9695.1	1031.5	15.7	10	10.62	0.228
9699.4	1031	20.8	10	10.97	0.249
9703.6	1030.5	24.2	10	11.28	0.268
9698	1031.1	0.8	20	10.11	0.201
9703.1	1030.6	9.2	20	10.54	0.228
9707.5	1030.1	14.1	20	10.88	0.249
9712.4	1029.6	18	20	11.23	0.27
9709.9	1029.9	0.3	30	10.33	0.221
9715.2	1029.3	6.5	30	10.74	0.246
9721.1	1028.7	11.9	30	11.14	0.271
9723.4	1028.4	0.4	40	10.64	0.245
9728.5	1027.9	4.6	40	10.99	0.267
9739.2	1026.8	0.2	50	11.03	0.274

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

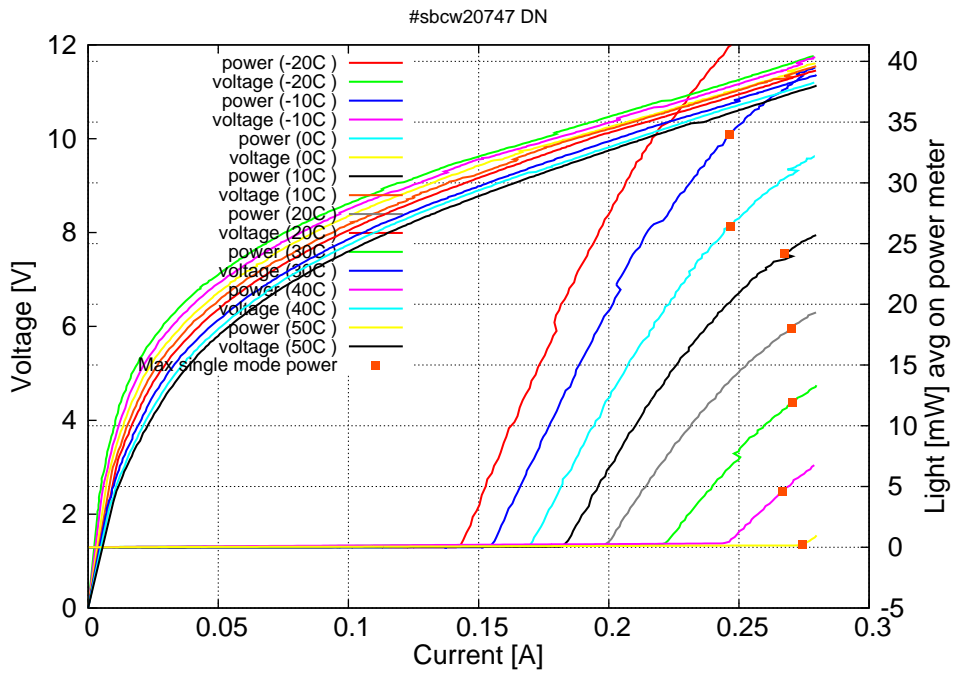


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.14A$ / $V_{th}=9.4V$ (2-wires measurements). Maximum operation current: 0.25A between -20C and 0C, 0.27A between 10C and 40C, 0.28A at 50C.

Figure 3: spectra at different temperatures for various DC currents

