

Datasheet for #sbcw10053 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 #sbcw10053 DN (please note that AlN submount numbering is A043G)

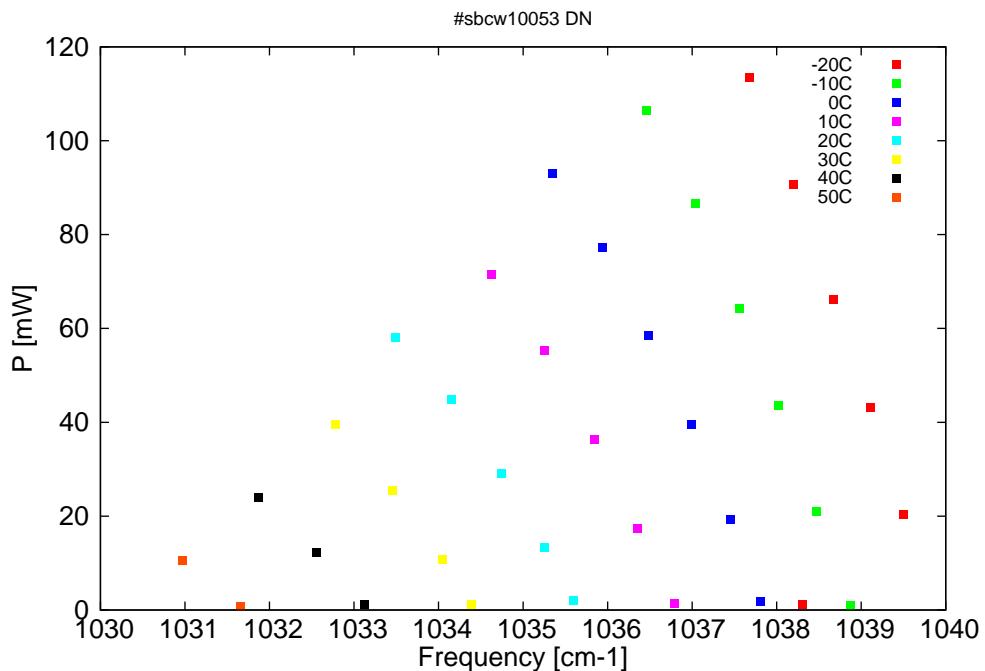


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

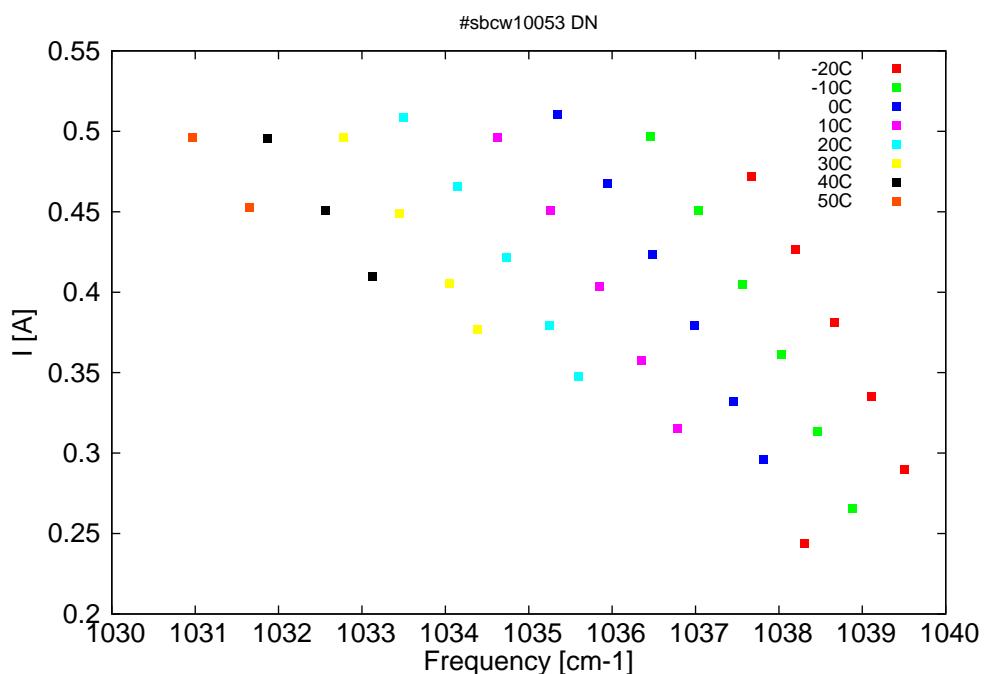


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm $^{-1}$]	P[mW]	Temp[°C]	U $_{LASER}$ [V]	I[A]
9631	1038.3	1.1	-20	9.2	0.24
9620	1039.5	20.4	-20	9.6	0.29
9623.6	1039.1	43.1	-20	9.9	0.34
9627.7	1038.7	66.3	-20	10.3	0.38
9632.1	1038.2	90.7	-20	10.6	0.43
9636.9	1037.7	113.4	-20	10.9	0.47
9625.8	1038.9	1	-10	9.3	0.27
9629.6	1038.5	20.9	-10	9.6	0.31
9633.7	1038	43.5	-10	10	0.36
9637.9	1037.6	64.3	-10	10.3	0.4
9642.9	1037	86.6	-10	10.6	0.45
9648.3	1036.5	106.5	-10	11	0.5
9635.7	1037.8	1.9	0	9.4	0.3
9638.9	1037.5	19.3	0	9.7	0.33
9643.3	1037	39.6	0	10.1	0.38
9648	1036.5	58.5	0	10.4	0.42
9653	1035.9	77.3	0	10.7	0.47
9658.6	1035.3	93	0	11	0.51
9645.2	1036.8	1.4	10	9.5	0.32
9649.2	1036.4	17.4	10	9.8	0.36
9654	1035.8	36.4	10	10.1	0.4
9659.4	1035.3	55.3	10	10.5	0.45
9665.3	1034.6	71.5	10	10.8	0.5
9656.2	1035.6	2.1	20	9.6	0.35
9659.5	1035.2	13.4	20	9.9	0.38
9664.3	1034.7	29.1	20	10.2	0.42
9669.8	1034.2	44.8	20	10.5	0.47
9675.9	1033.5	58	20	10.9	0.51
9667.5	1034.4	1.2	30	9.8	0.38
9670.7	1034.1	10.7	30	10	0.41
9676.3	1033.5	25.5	30	10.3	0.45
9682.6	1032.8	39.5	30	10.7	0.5
9679.3	1033.1	1.1	40	10	0.41
9684.7	1032.6	12.3	40	10.3	0.45
9691.2	1031.9	24.1	40	10.6	0.5
9693.2	1031.7	0.7	50	10.2	0.45
9699.6	1031	10.5	50	10.6	0.5

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

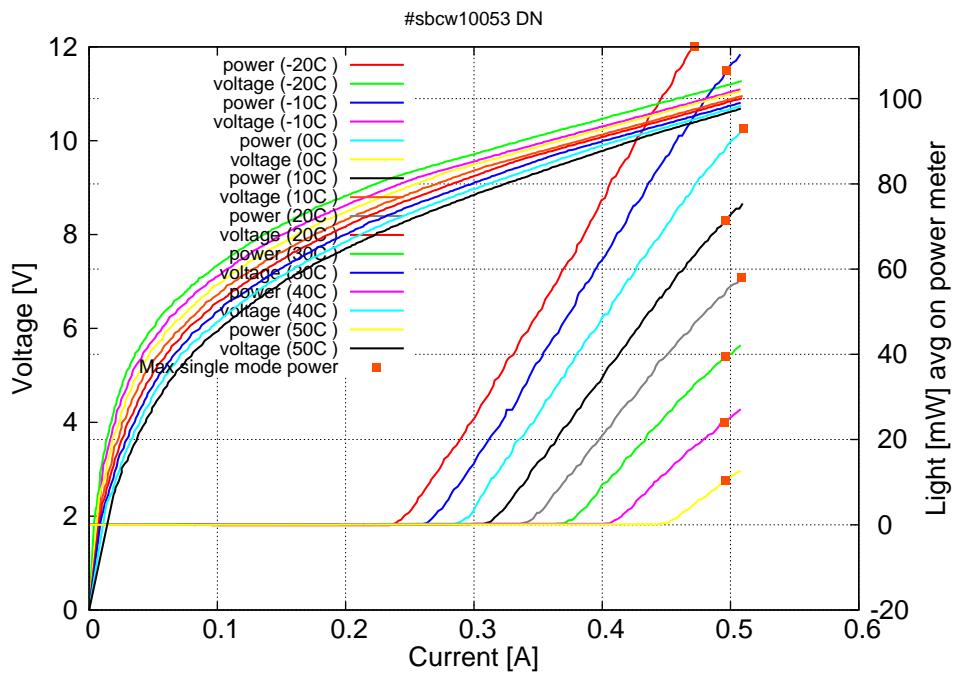
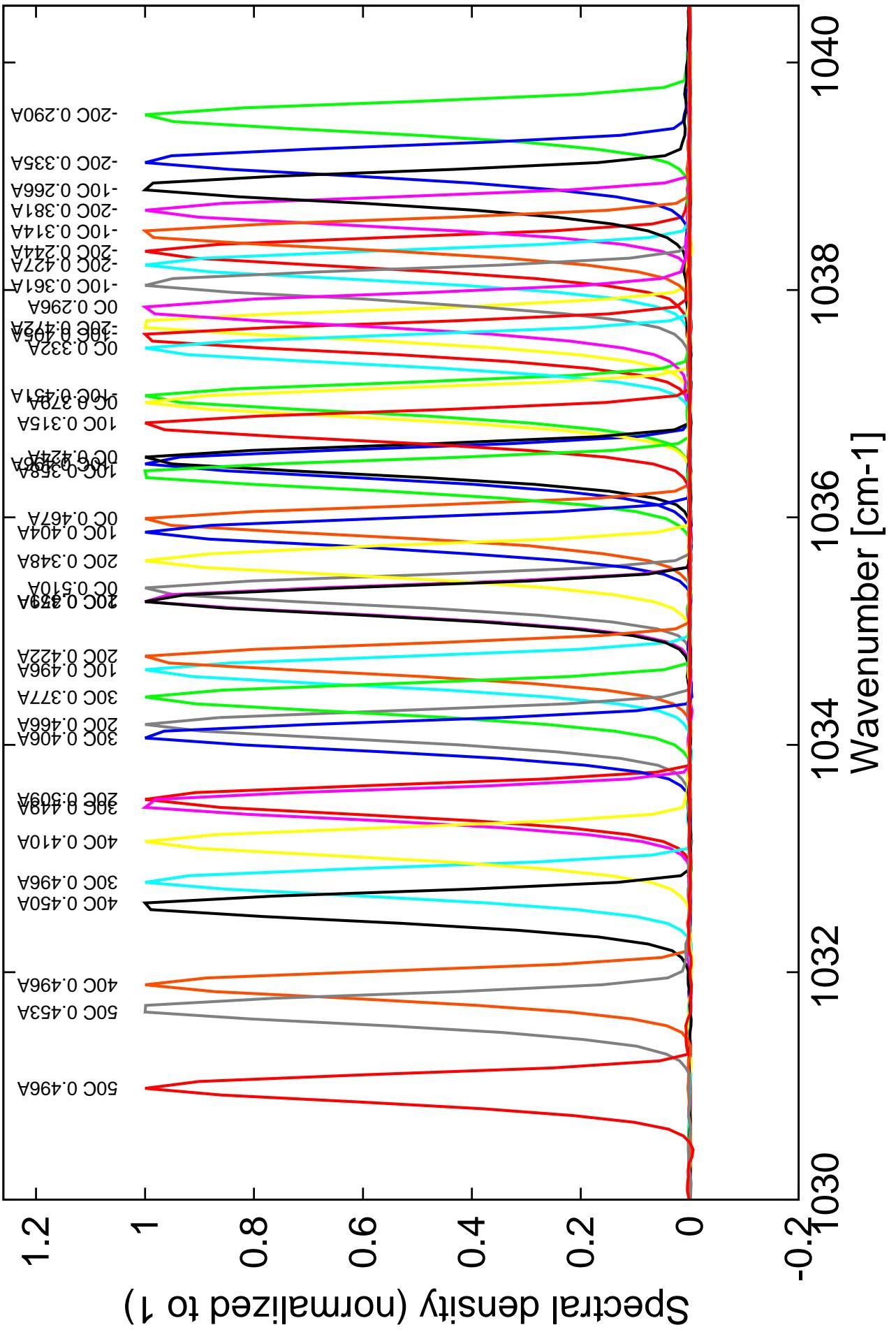


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.24A$ / $V_{th}=9.2V$ (2-wires measurements). Maximum operation current: 0.510A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



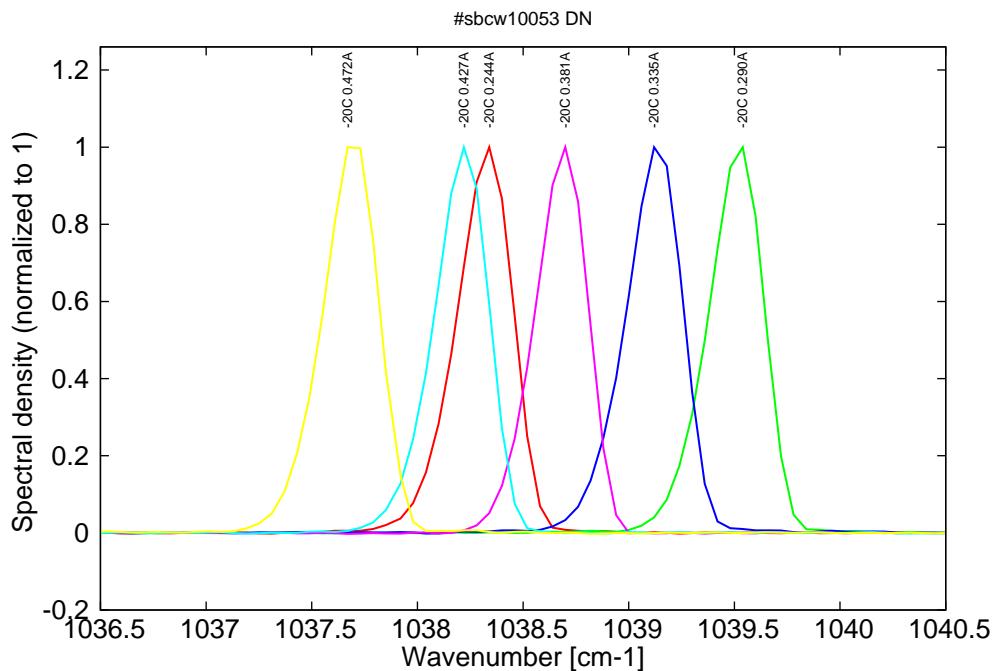


Figure 5: spectra at -20C for various DC currents (monomode on mode 1 up to 0.245A, then becomes monomode on mode 2)

Figure 5: spectra between -10C and 50C for various DC currents all monomde on mode 2)

