

Datasheet for #sbcw6198 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 use with a power-supply ILX Lightwave LDX-3232 or equivalent.

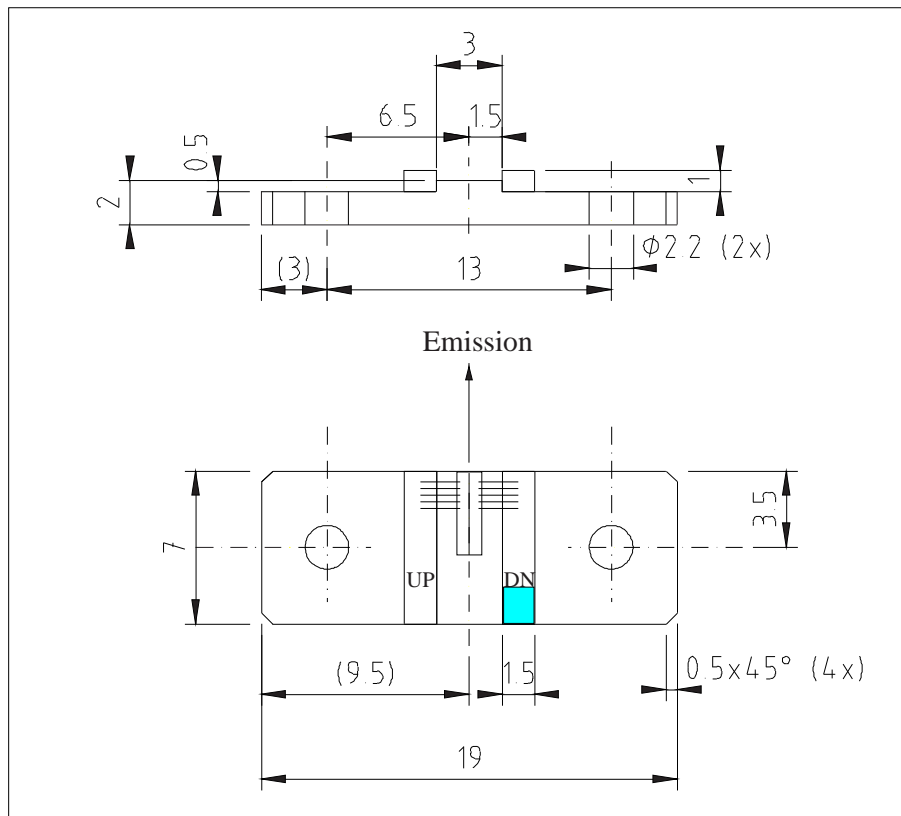


Figure 1: Support mounting for #sbcw6198 DN (please note that the laser is connected to the DN pad drawn in blue)

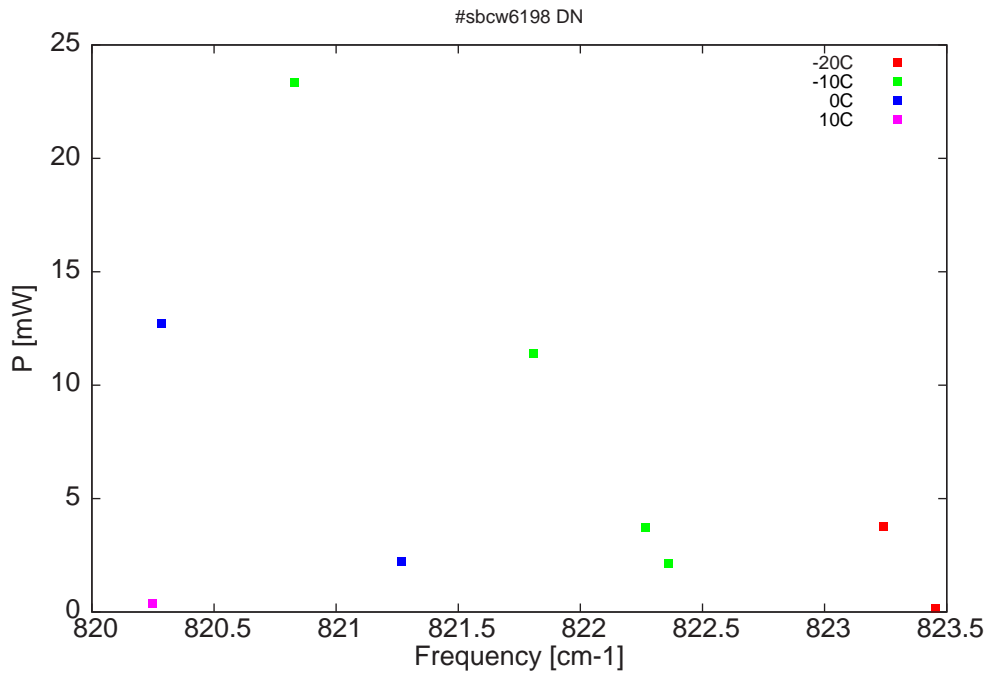


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

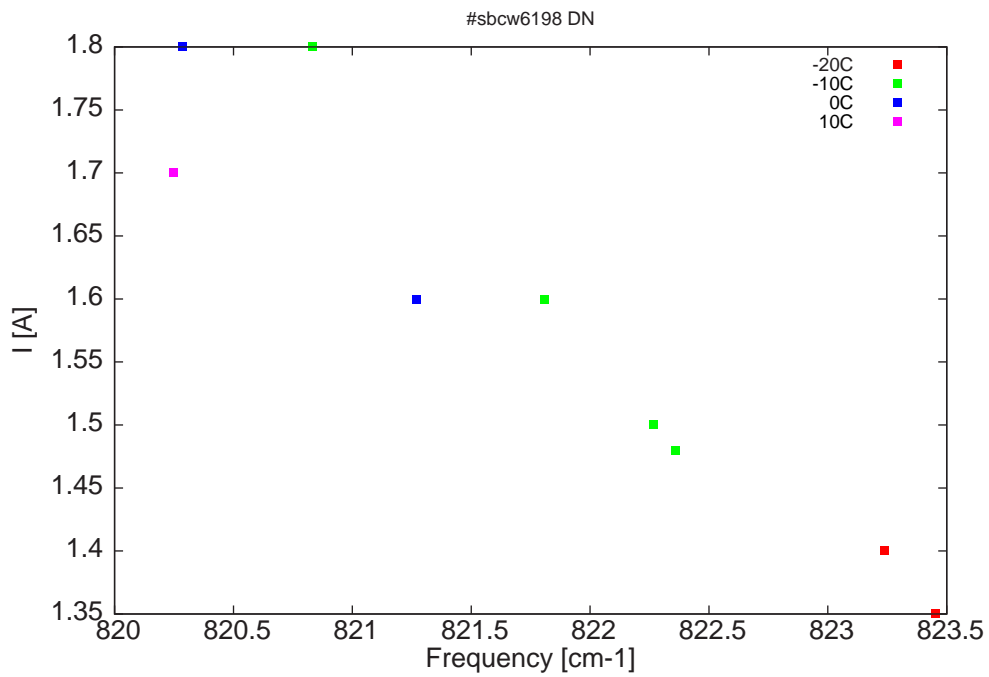


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm^{-1}]	P[mW]	Temp[$^{\circ}\text{C}$]	U_{LASER} [V]	I[A]
12144	823.5	0.2	-20	9.5	1.35
12147.1	823.2	3.8	-20	9.6	1.4
12160.1	822.4	2.1	-10	9.6	1.48
12161.5	822.3	3.7	-10	9.7	1.5
12168.3	821.8	11.4	-10	9.9	1.6
12182.8	820.8	23.4	-10	10.4	1.8
12176.3	821.3	2.2	0	9.8	1.6
12190.9	820.3	12.7	0	10.2	1.8
12191.4	820.2	0.4	10	9.8	1.7

Table 1 : singlemode optical output power as function of operating parameters

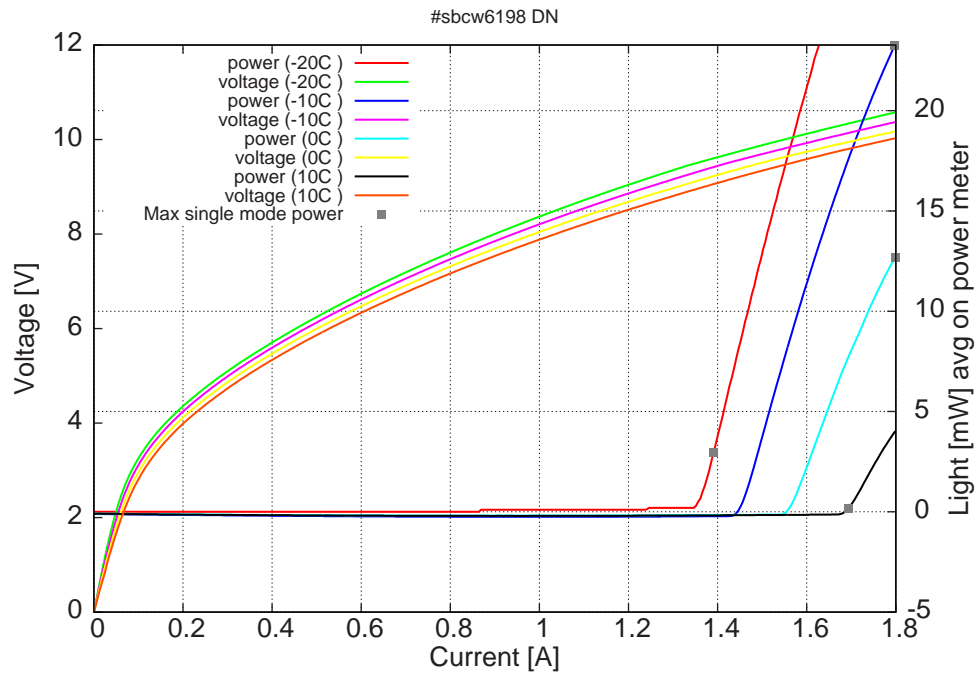
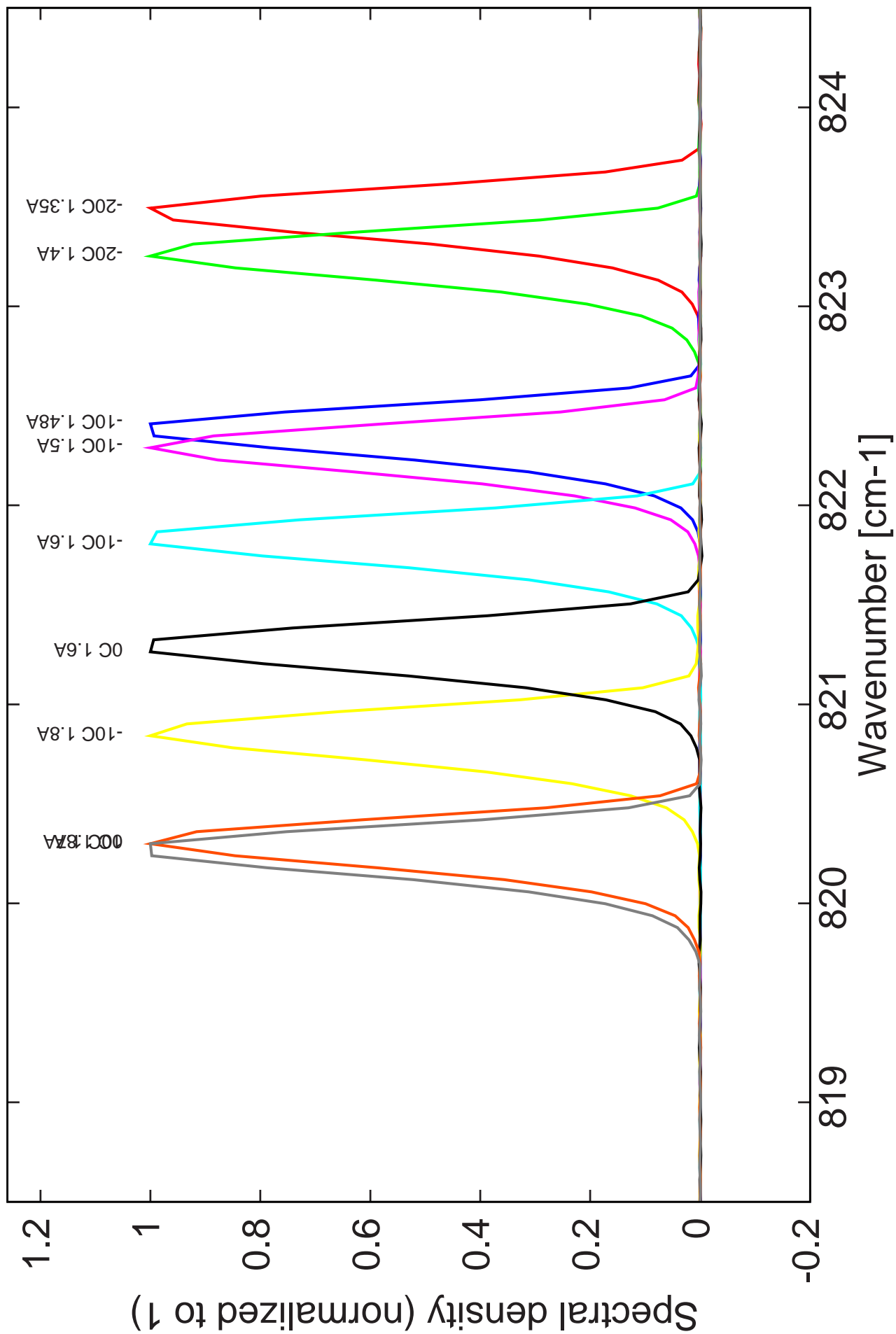


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=1.35\text{A}$ / $V_{th}= 9.4\text{V}$ (2-wires measurements). Maximum operation current: 1.4A at -20C, 1.8A between -10C and 10C.

Figure 3: spectra at different temperatures for various DC currents



Pulsed measurements

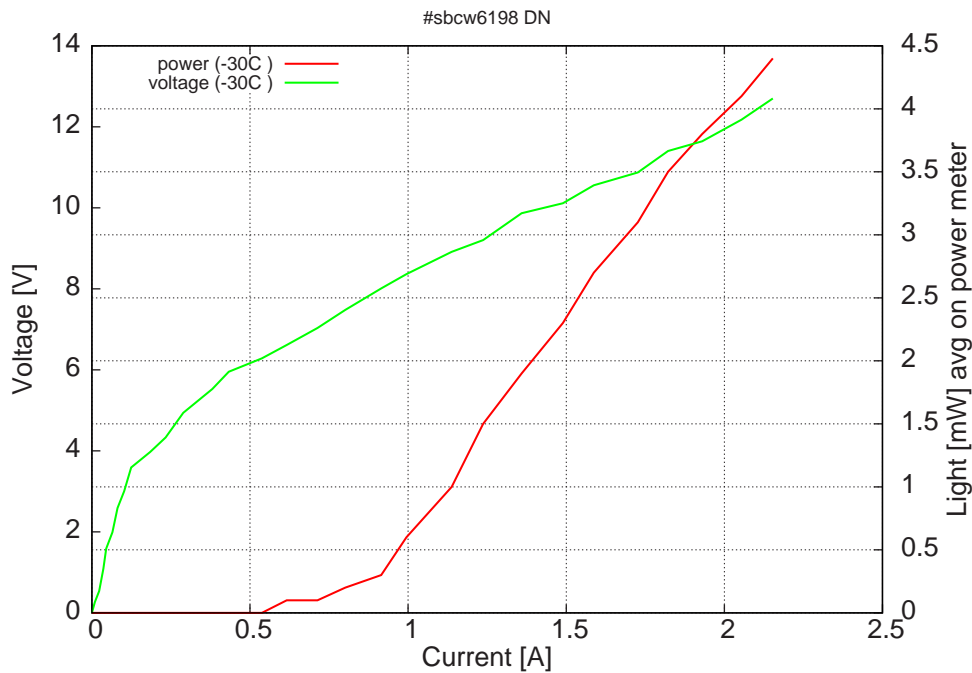


Figure 5: average power vs peak current at 2% duty-cycle (50ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

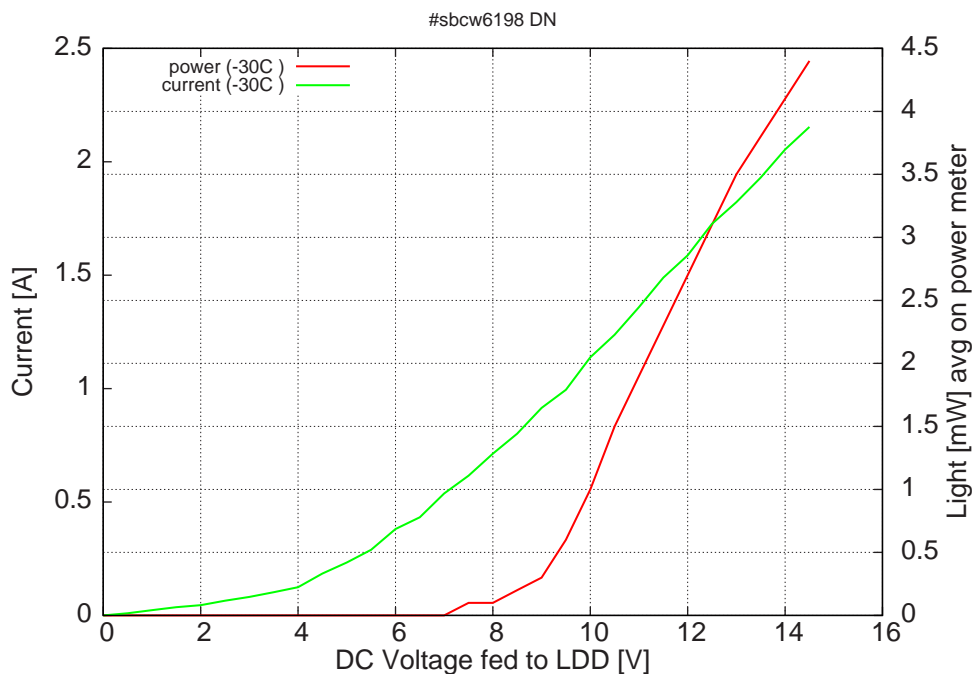
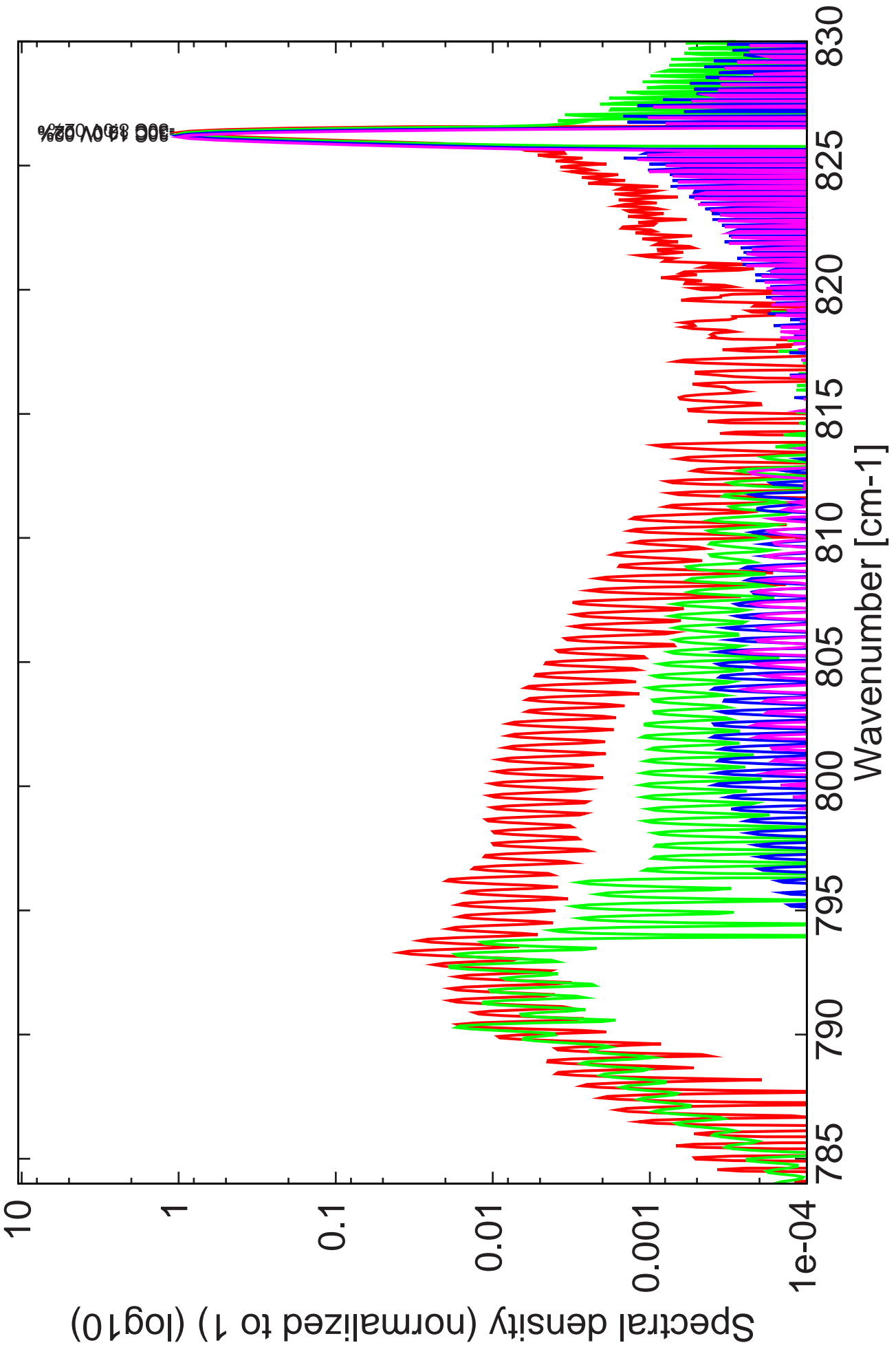


Figure 6: peak current and average power vs LDD voltage at 2% duty-cycle (50ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

Figure 6: spectra at -30C at 2% duty-cycle (22ns pulses) for various LDD voltages (multimode then monomode)



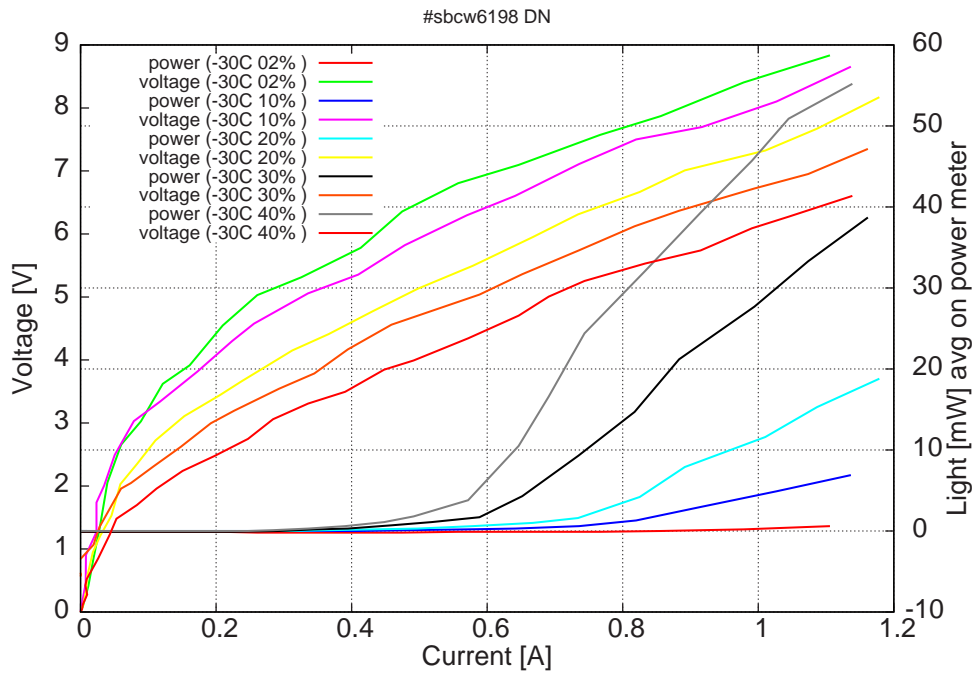


Figure 7: peak voltage and average power vs peak current at -30C for various duty-cycles (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

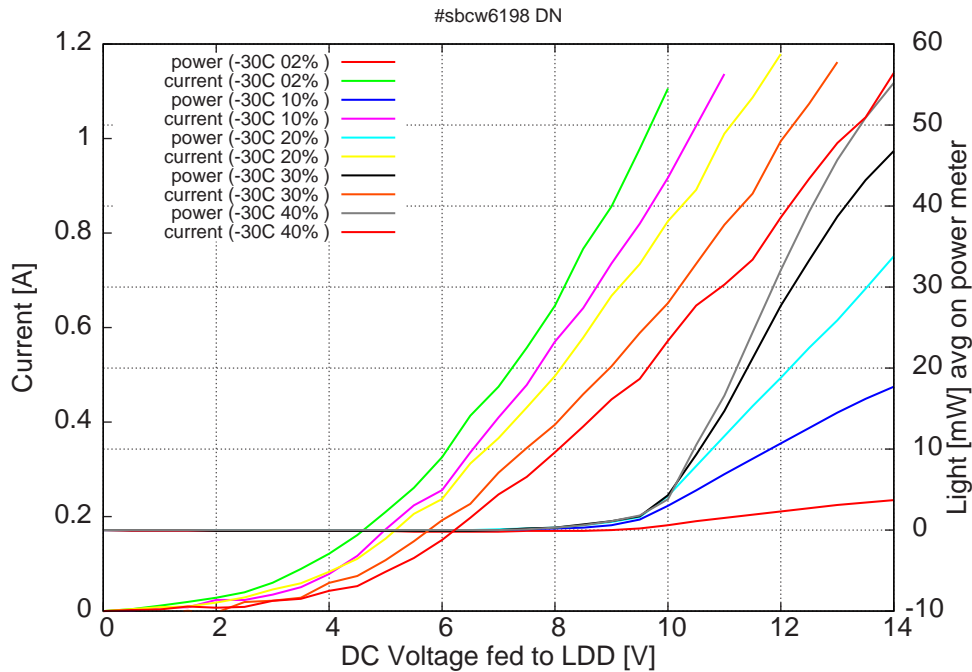


Figure 8: peak current and average power vs LDD voltage at -30C for various duty-cycles (100ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)