

**Datasheet for #sbcw16410 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 #sbcw16410 DN

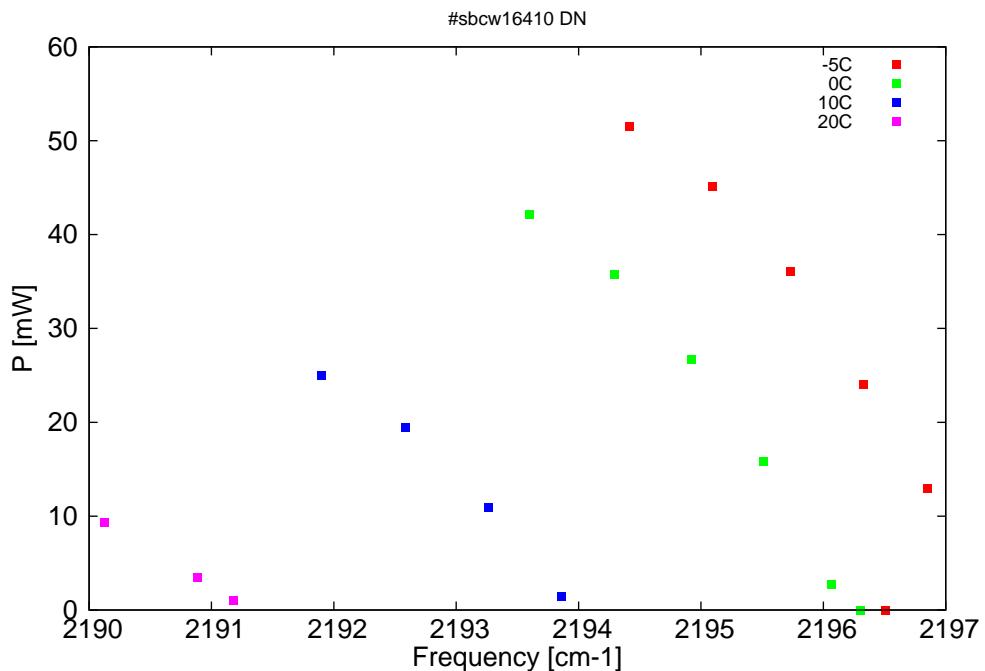


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

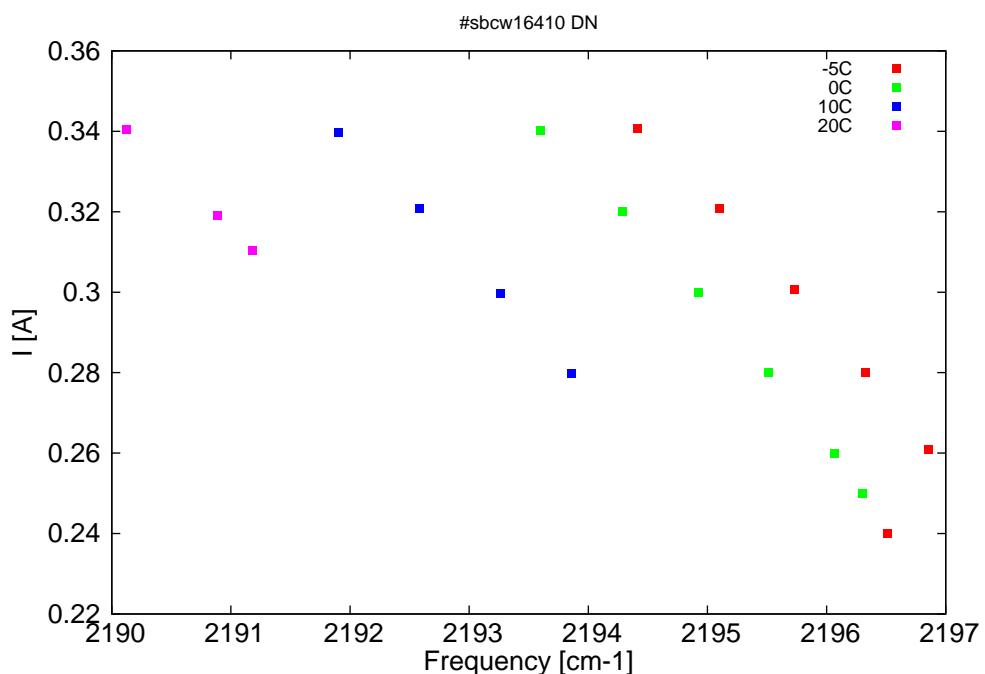


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm $^{-1}$ ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4552.7	2196.5	0	-5	9.35	0.24
4552	2196.9	13	-5	9.5	0.261
4553.1	2196.3	24	-5	9.65	0.28
4554.3	2195.7	36.1	-5	9.81	0.301
4555.6	2195.1	45.2	-5	9.98	0.321
4557	2194.4	51.6	-5	10.15	0.341
4553.1	2196.3	0	0	9.41	0.25
4553.6	2196.1	2.8	0	9.48	0.26
4554.7	2195.5	15.8	0	9.64	0.28
4556	2194.9	26.7	0	9.8	0.3
4557.3	2194.3	35.7	0	9.96	0.32
4558.7	2193.6	42.1	0	10.14	0.34
4558.2	2193.9	1.4	10	9.62	0.28
4559.4	2193.3	10.9	10	9.78	0.3
4560.8	2192.6	19.5	10	9.96	0.321
4562.3	2191.9	25	10	10.12	0.34
4563.7	2191.2	1	20	9.87	0.31
4564.4	2190.9	3.4	20	9.94	0.319
4566	2190.1	9.3	20	10.12	0.34

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

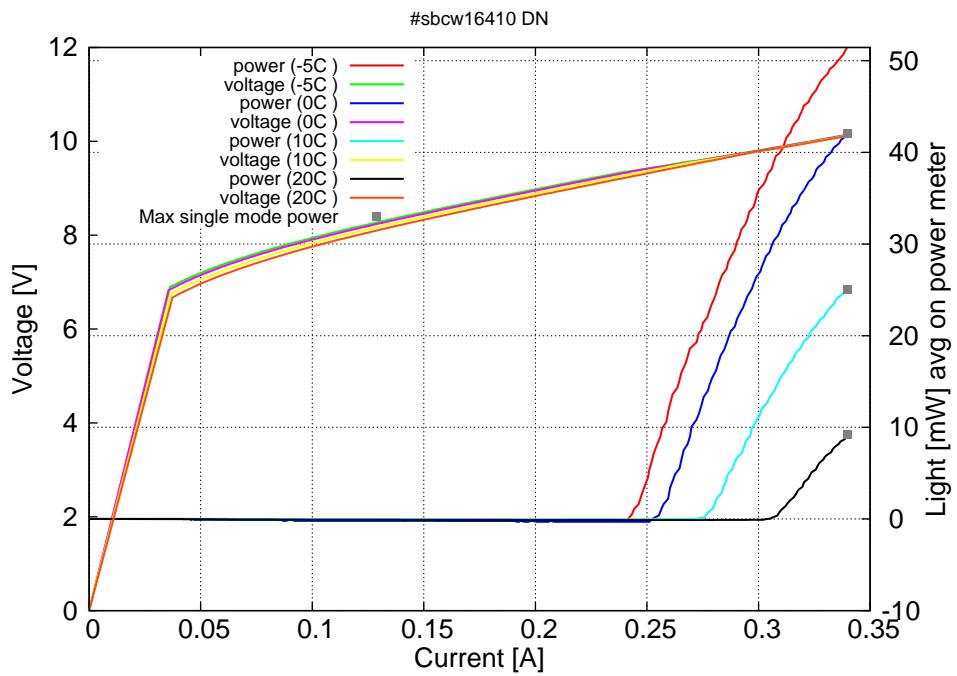
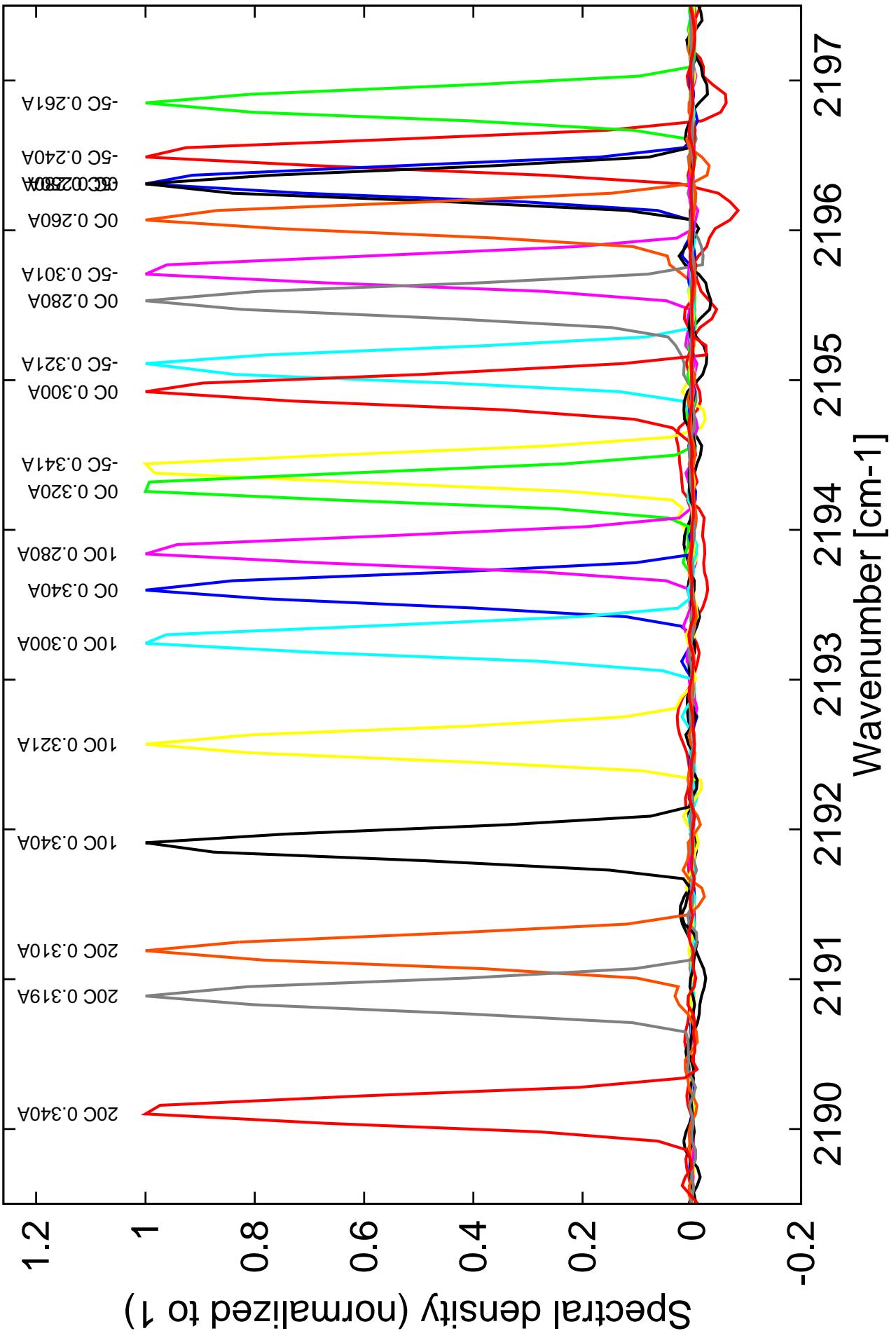


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -5C:  $I_{th}=0.24A$  /  $V_{th}=9.3V$  (2-wires measurements). Maximum operation current: 0.34A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents



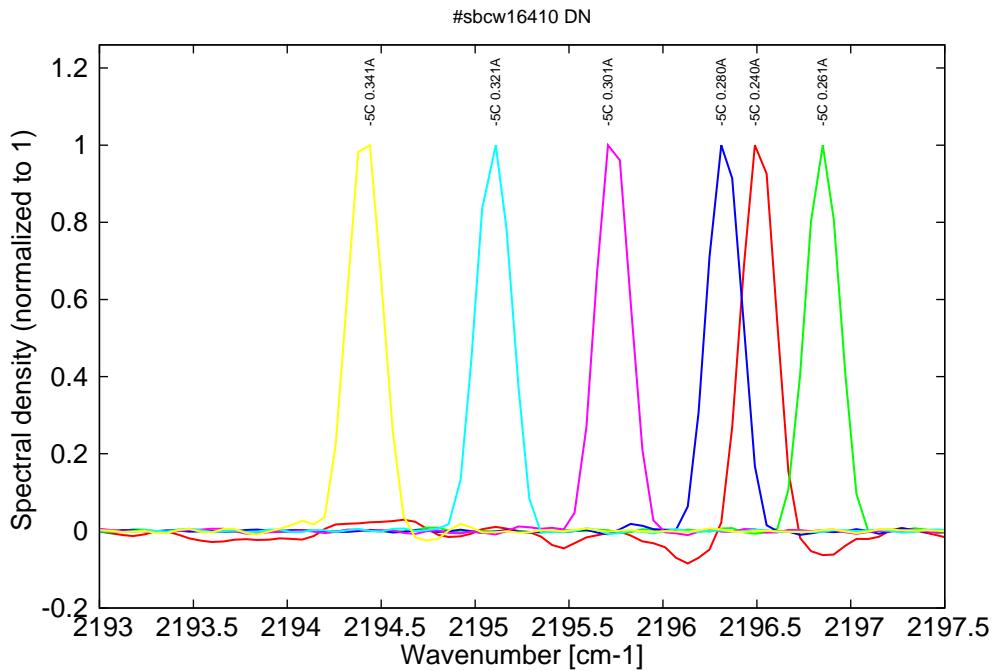


Figure 5: spectra at -5C for various DC currents: monomode on mode 1 at threshold, then monomode on mode 2

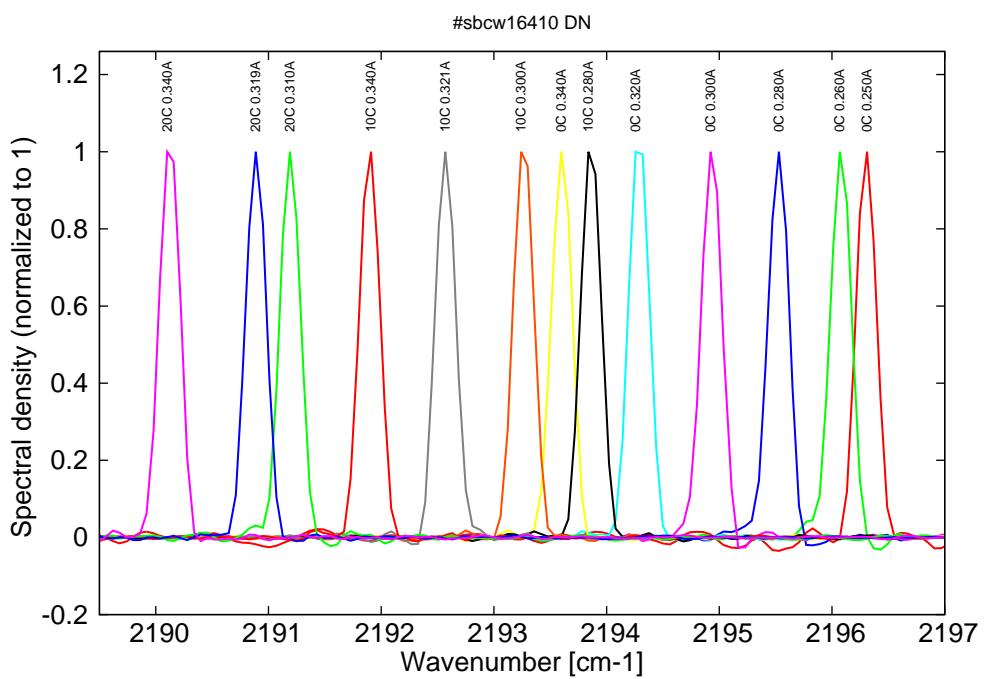


Figure 6: spectra between 0C and 20C for various DC currents: all monomode on mode 2