

Datasheet for #sbcw4823 DN

Recommendations:

Please read the starter kit user manual, if available, and have a look at the FAQ at <http://www.alpeslasers.ch/alfaqa.pdf>

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.

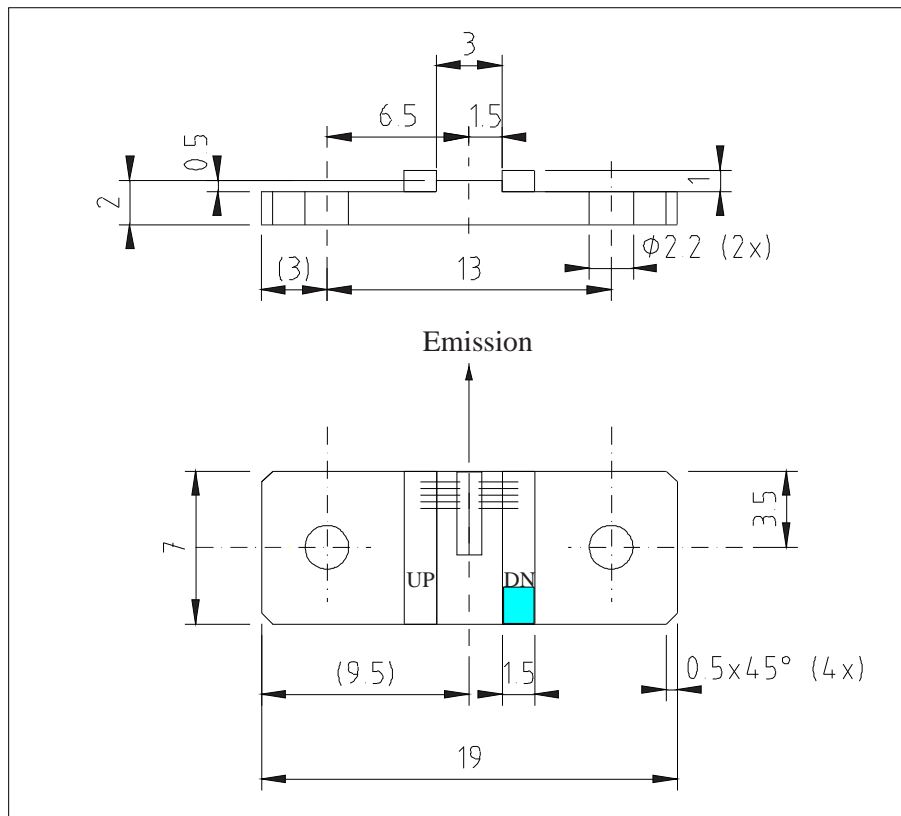


Figure 1: Support mounting for #sbcw4823 DN (please note that the laser is connected to the DN pad drawn in blue)

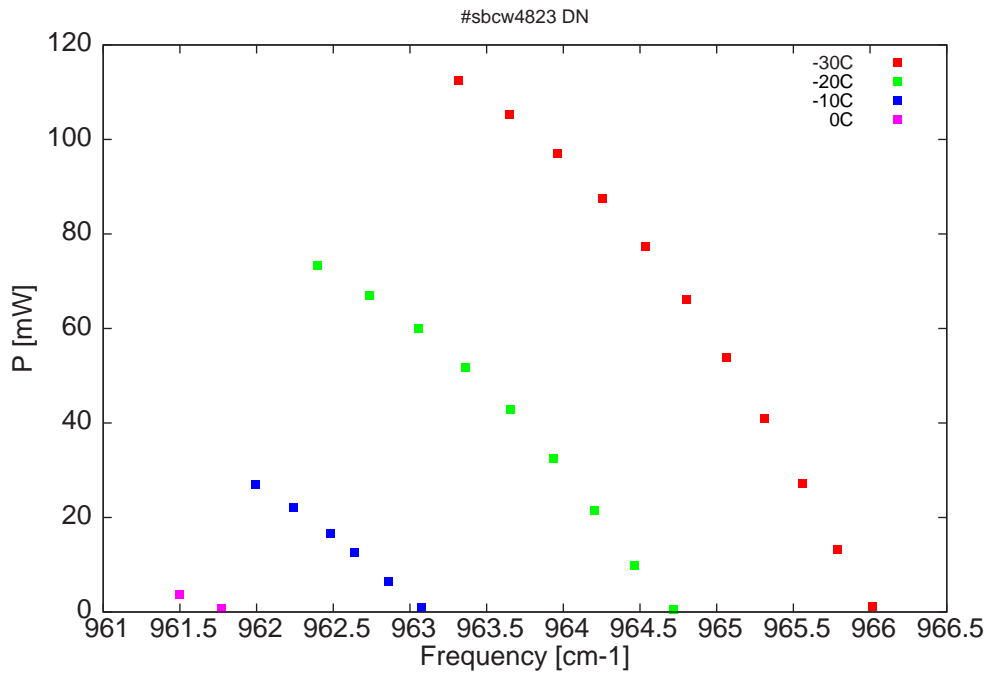


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

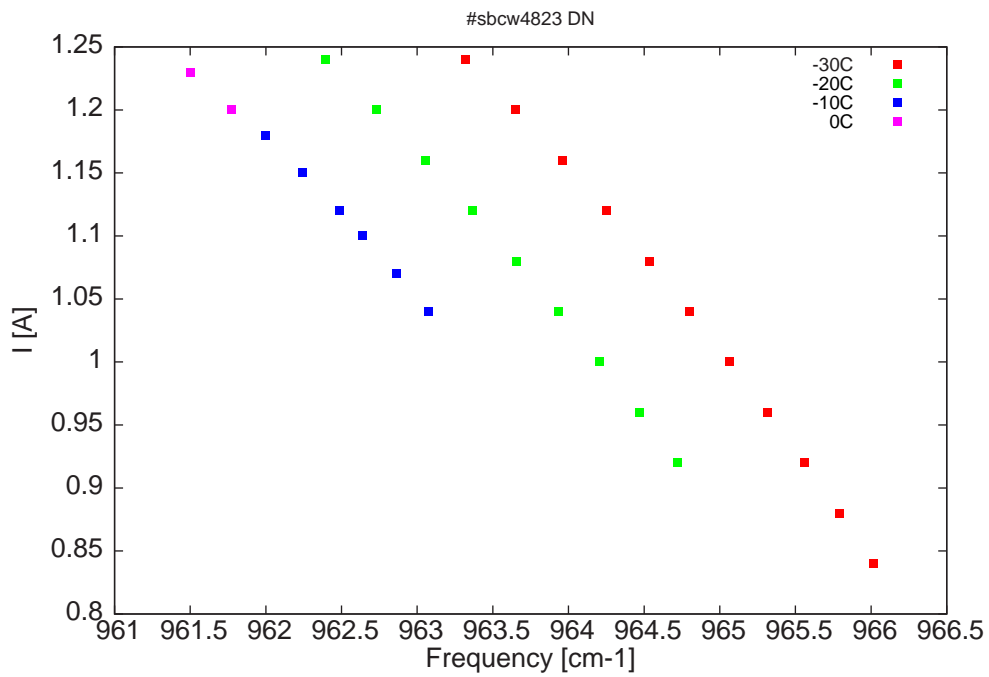


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

| λ [nm] | ν [cm ⁻¹] | P[mW] | Temp[°C] | U_{LASER} [V] | I[A] |
|----------------|---------------------------|-------|----------|-----------------|------|
| 10351.8 | 966 | 1.1 | -30 | 9.1 | 0.84 |
| 10354.2 | 965.8 | 13.2 | -30 | 9.2 | 0.88 |
| 10356.7 | 965.6 | 27.2 | -30 | 9.3 | 0.92 |
| 10359.3 | 965.3 | 40.9 | -30 | 9.5 | 0.96 |
| 10362 | 965.1 | 53.8 | -30 | 9.6 | 1 |
| 10364.8 | 964.8 | 66 | -30 | 9.8 | 1.04 |
| 10367.7 | 964.5 | 77.3 | -30 | 9.9 | 1.08 |
| 10370.7 | 964.3 | 87.6 | -30 | 10.1 | 1.12 |
| 10373.9 | 964 | 97 | -30 | 10.2 | 1.16 |
| 10377.2 | 963.6 | 105.4 | -30 | 10.4 | 1.2 |
| 10380.8 | 963.3 | 112.5 | -30 | 10.5 | 1.24 |
| 10365.7 | 964.7 | 0.6 | -20 | 9.3 | 0.92 |
| 10368.4 | 964.5 | 9.8 | -20 | 9.5 | 0.96 |
| 10371.3 | 964.2 | 21.5 | -20 | 9.6 | 1 |
| 10374.2 | 963.9 | 32.4 | -20 | 9.8 | 1.04 |
| 10377.2 | 963.7 | 42.8 | -20 | 9.9 | 1.08 |
| 10380.3 | 963.4 | 51.8 | -20 | 10.1 | 1.12 |
| 10383.6 | 963.1 | 60.1 | -20 | 10.2 | 1.16 |
| 10387.1 | 962.7 | 67.1 | -20 | 10.4 | 1.2 |
| 10390.7 | 962.4 | 73.4 | -20 | 10.5 | 1.24 |
| 10383.4 | 963.1 | 1 | -10 | 9.7 | 1.04 |
| 10385.7 | 962.9 | 6.5 | -10 | 9.8 | 1.07 |
| 10388.1 | 962.6 | 12.6 | -10 | 10 | 1.1 |
| 10389.8 | 962.5 | 16.6 | -10 | 10 | 1.12 |
| 10392.4 | 962.2 | 22.2 | -10 | 10.2 | 1.15 |
| 10395.1 | 962 | 27 | -10 | 10.3 | 1.18 |
| 10397.5 | 961.8 | 0.8 | 0 | 10.3 | 1.2 |
| 10400.4 | 961.5 | 3.6 | 0 | 10.5 | 1.23 |

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

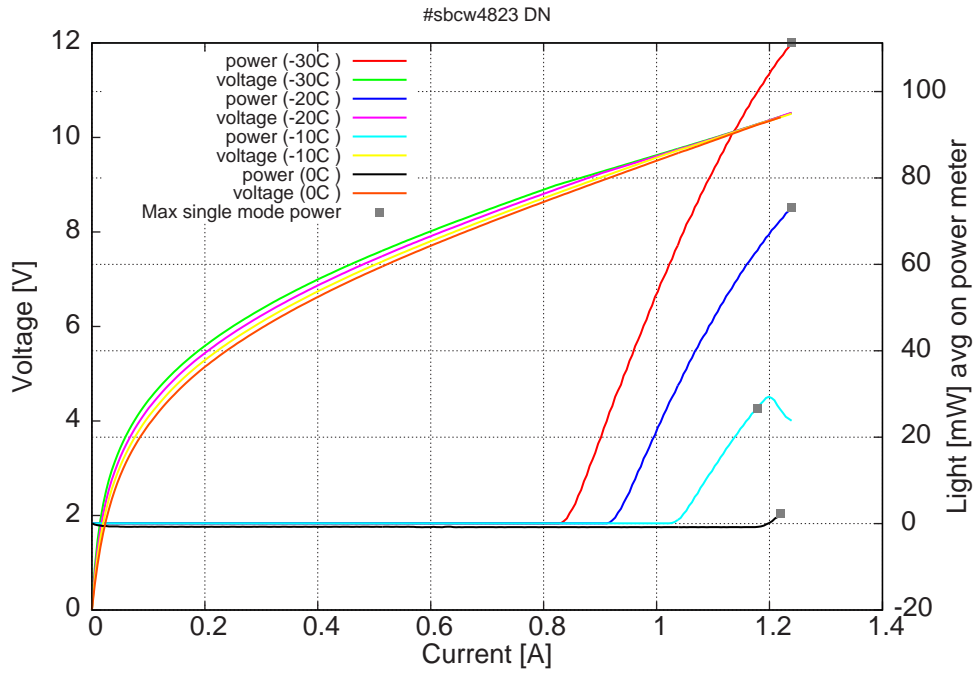


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -30C: $I_{th}=830\text{mA}$ / $V_{th}= 9.0\text{V}$ (2-wires measurements).

Maximum operation current: 1.24A at -30C and -20C, 1.18A at -10C, 1.23A at 0C.

Figure 3: spectra at different temperatures for various DC currents

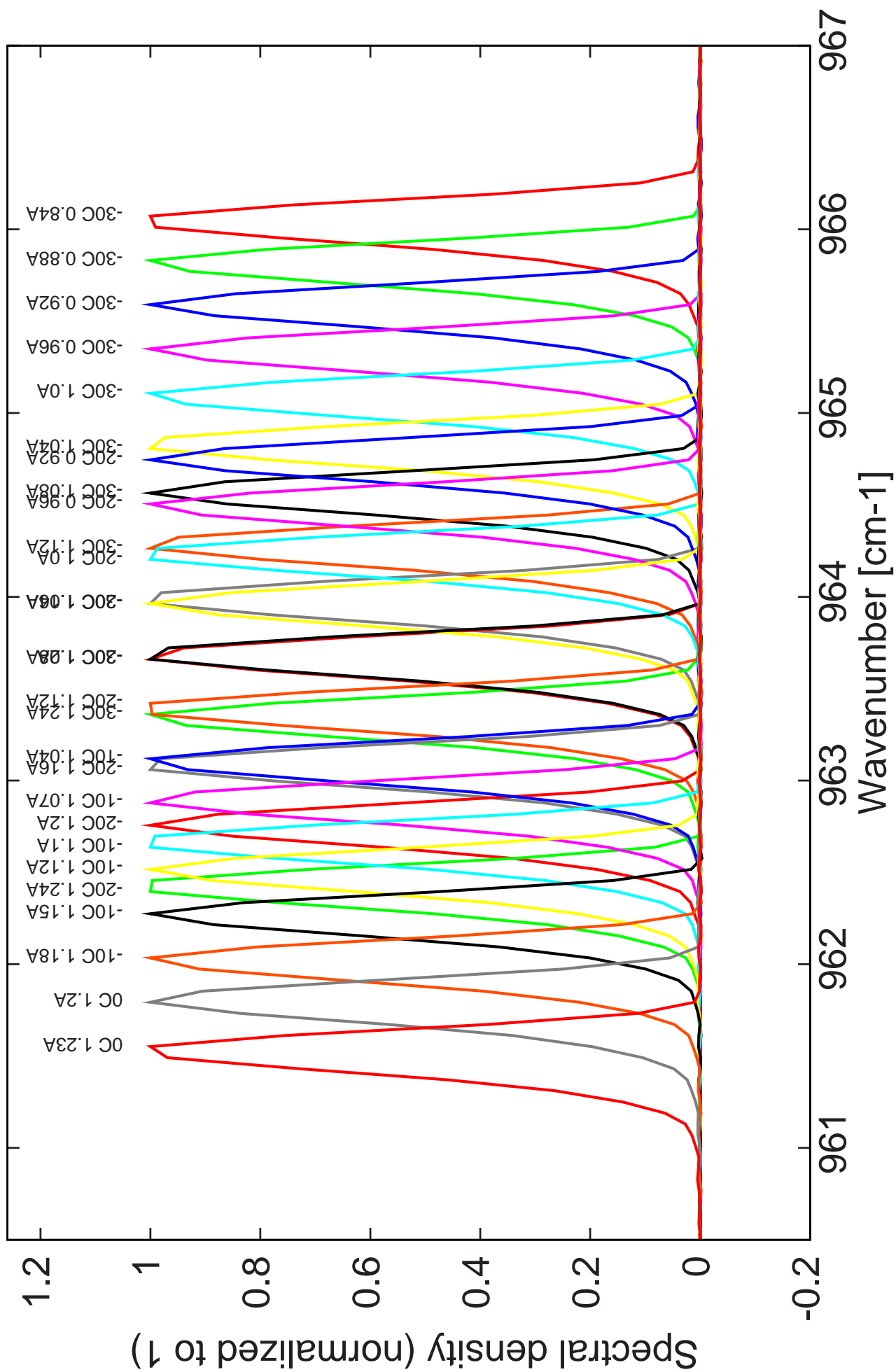
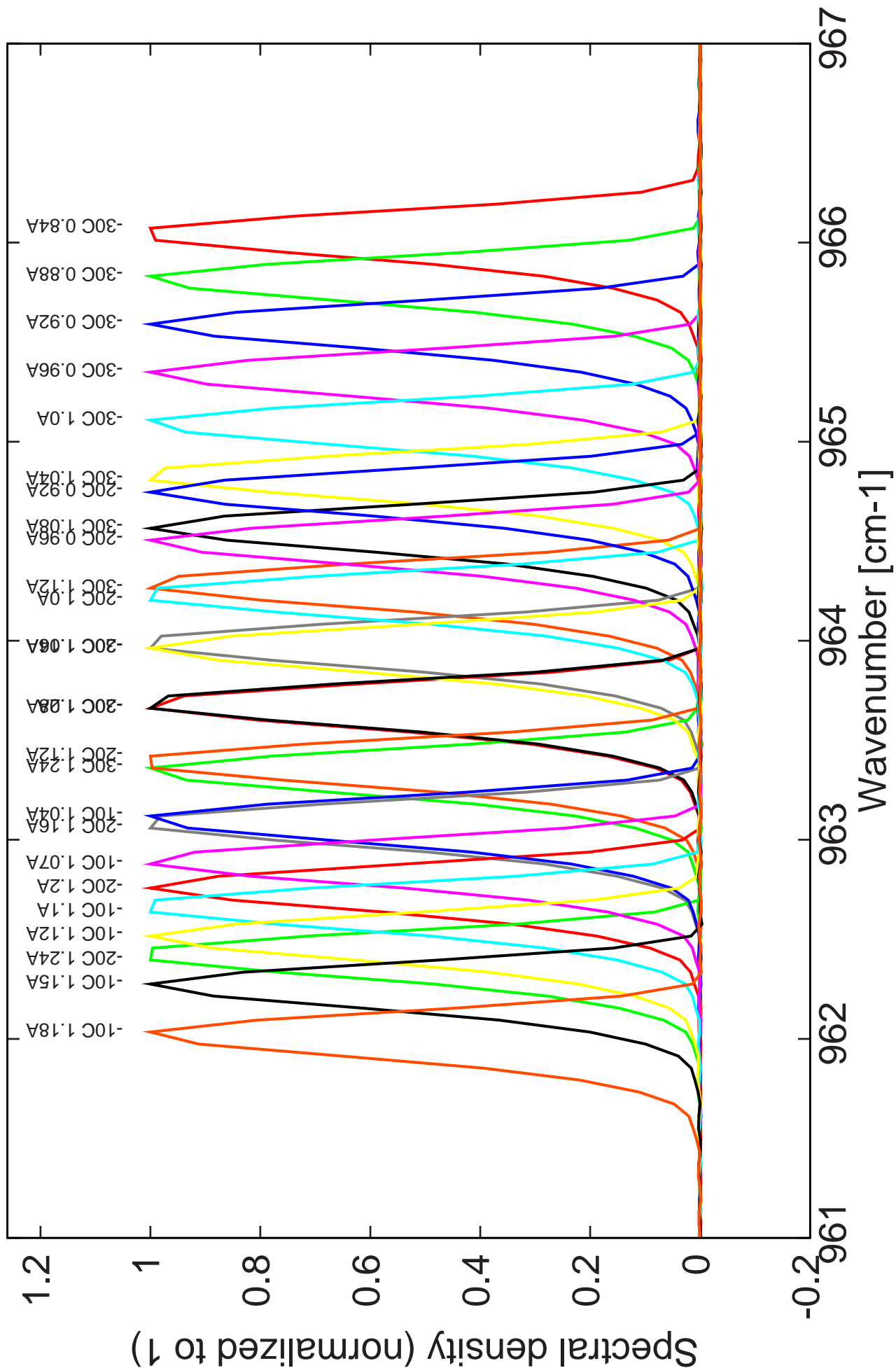


Figure 4: spectra between -30C and -10C for various DC currents (all monomode on mode 1)



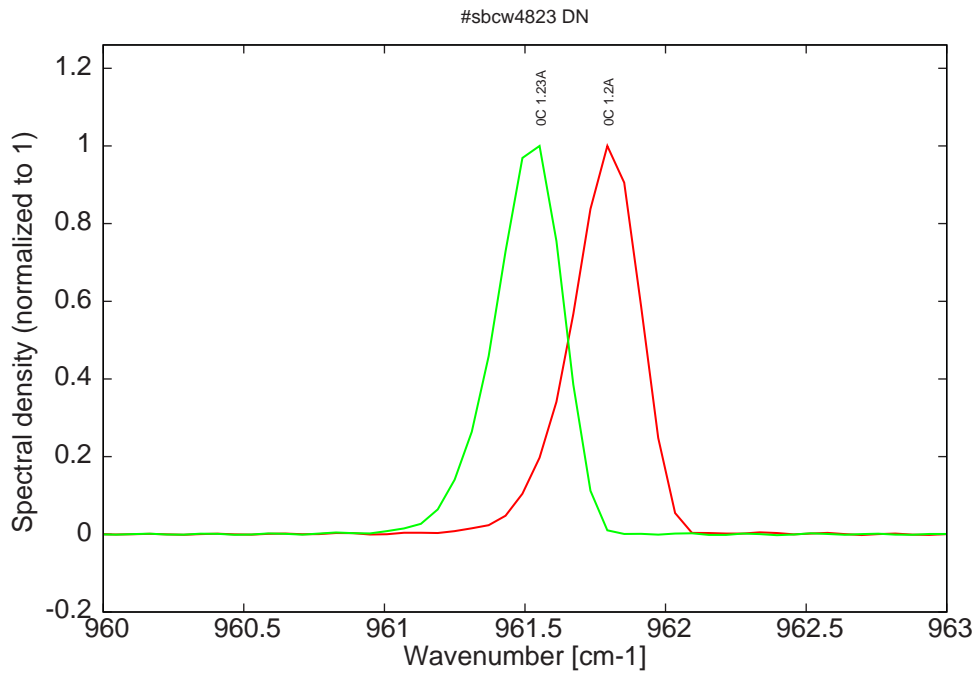


Figure 5: spectra at 0C for various DC currents (all monomode on mode 2, see Fig. 2 & 3)