

Datasheet for #sbcw1313 UP

Recommendations:

Please read the starter kit user manual (at least installation chapter 5), 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.

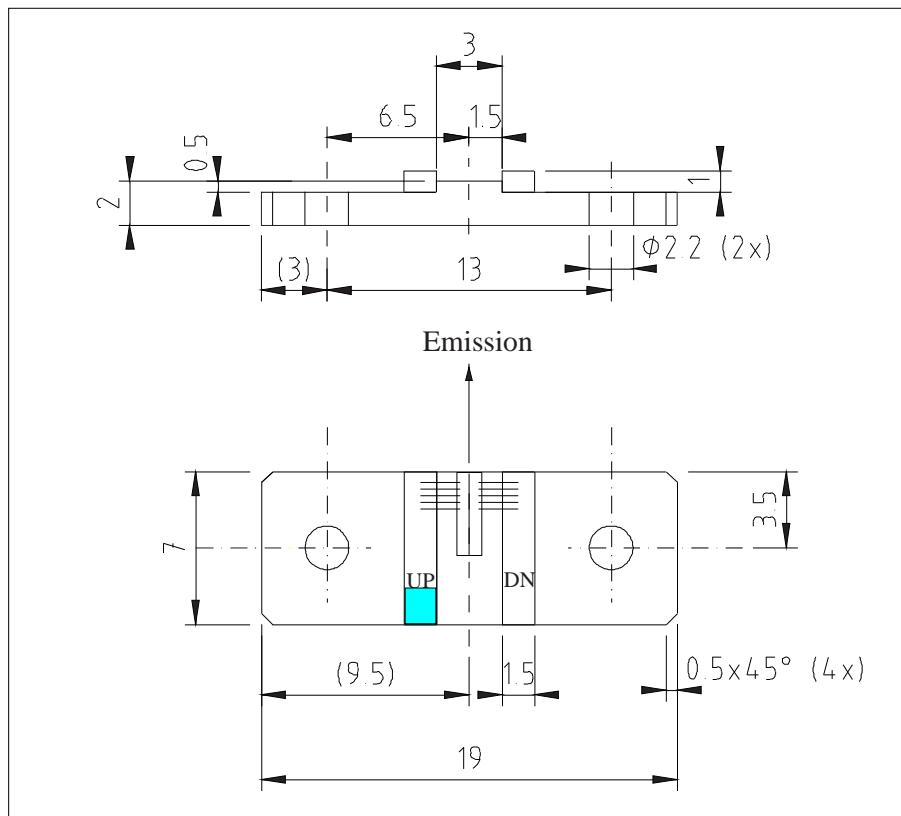


Figure 1: Support mounting for #sbcw1313 UP (please note that the laser is connected to the UP pad drawn in blue)

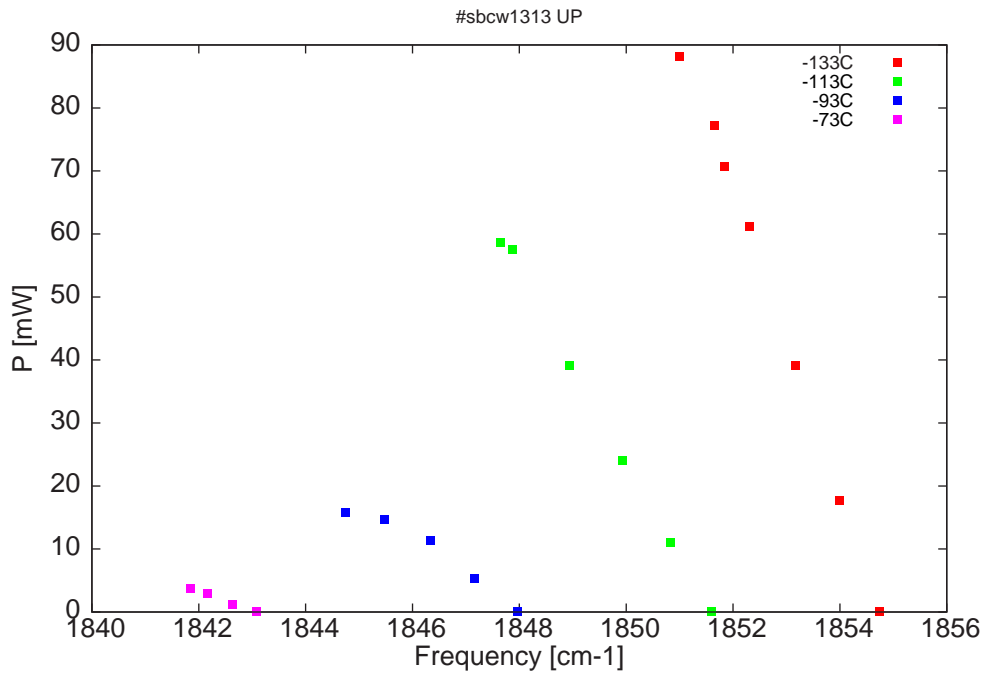


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

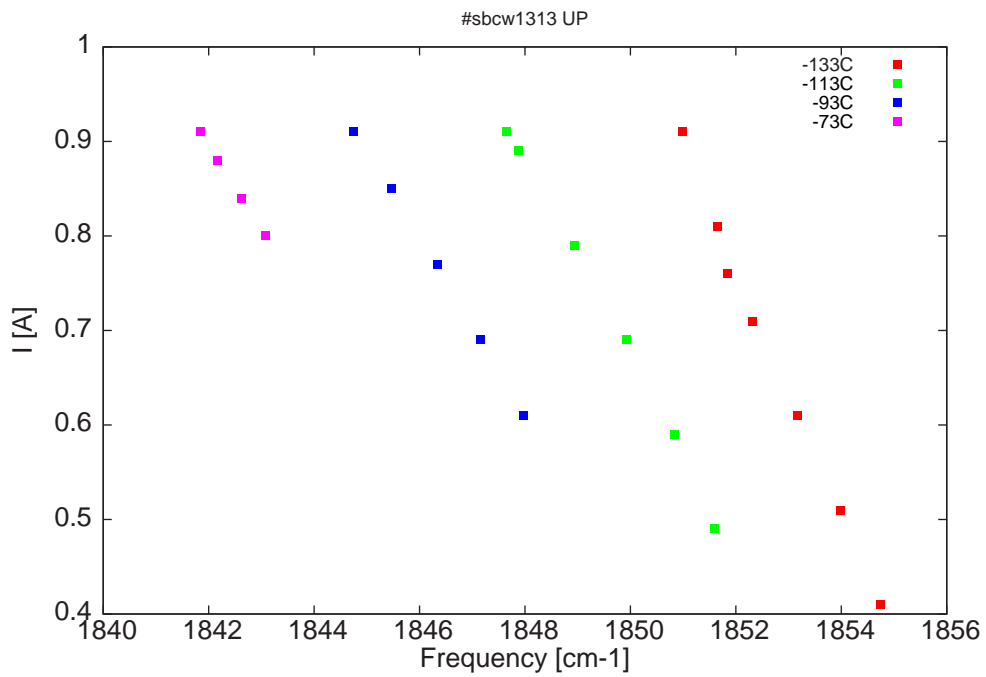


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
5391.6	1854.8	0.1	-133	7.6	0.41
5393.8	1854	17.8	-133	7.7	0.51
5396.2	1853.2	39.2	-133	7.9	0.61
5398.7	1852.3	61.1	-133	8.2	0.71
5400	1851.8	70.7	-133	8.3	0.76
5400.6	1851.7	77.2	-133	8.3	0.81
5402.5	1851	88.1	-133	8.5	0.91
5400.7	1851.6	0.1	-113	7.5	0.49
5403	1850.8	11	-113	7.7	0.59
5405.6	1849.9	24	-113	7.9	0.69
5408.5	1848.9	39.2	-113	8.2	0.79
5411.6	1847.9	57.5	-113	8.4	0.89
5412.3	1847.7	58.7	-113	8.4	0.91
5411.3	1848	0.1	-93	7.6	0.61
5413.7	1847.2	5.2	-93	7.8	0.69
5416.1	1846.3	11.3	-93	8	0.77
5418.7	1845.5	14.7	-93	8.2	0.85
5420.8	1844.8	15.8	-93	8.3	0.91
5425.7	1843.1	0.1	-73	8	0.8
5427	1842.6	1.2	-73	8.1	0.84
5428.4	1842.2	3	-73	8.1	0.88
5429.4	1841.8	3.7	-73	8.2	0.91

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

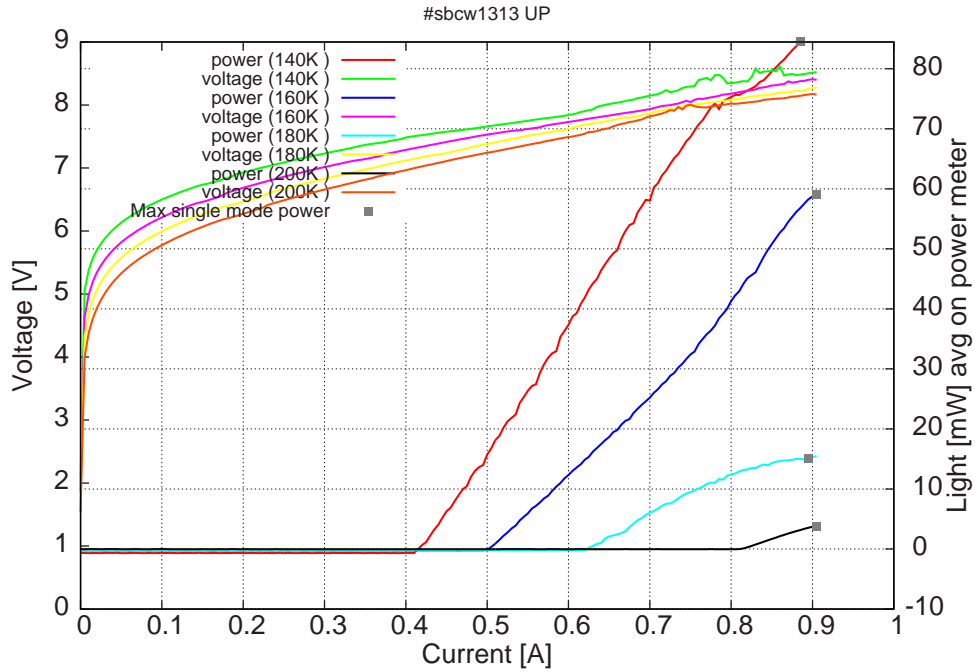


Figure 4: peak voltage and average power vs peak current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at 140K: $I_{th}=440\text{mA}$ / $V_{th}= 7.51\text{V}$ (4-wires measurements)
Maximum operation current: 0.91A for all temperatures.

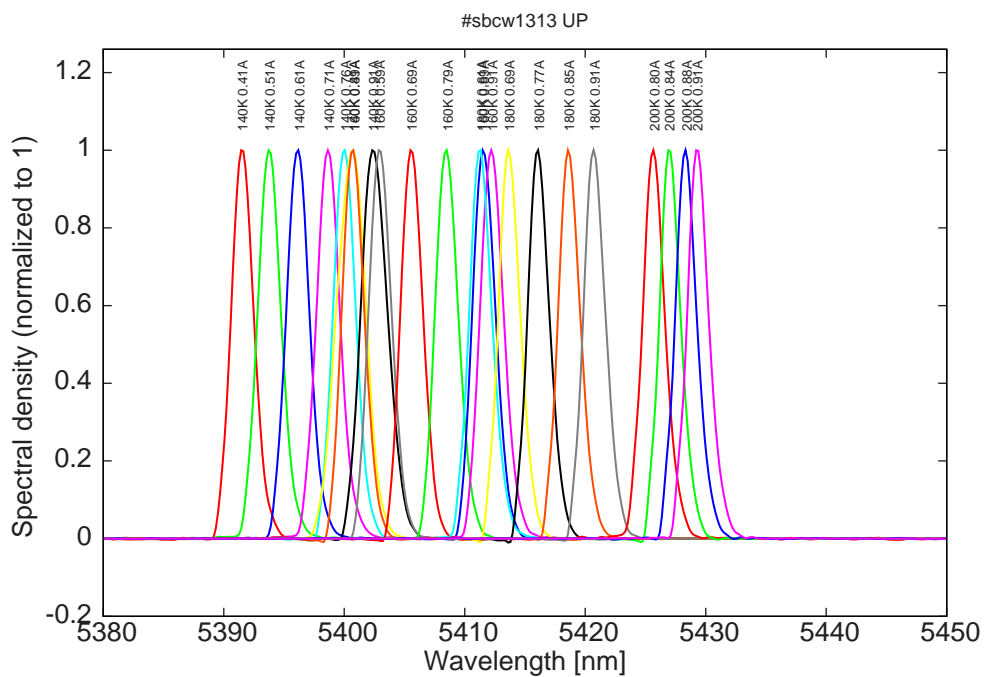


Figure 5: spectra at 140K, 160K, 180K and 200K

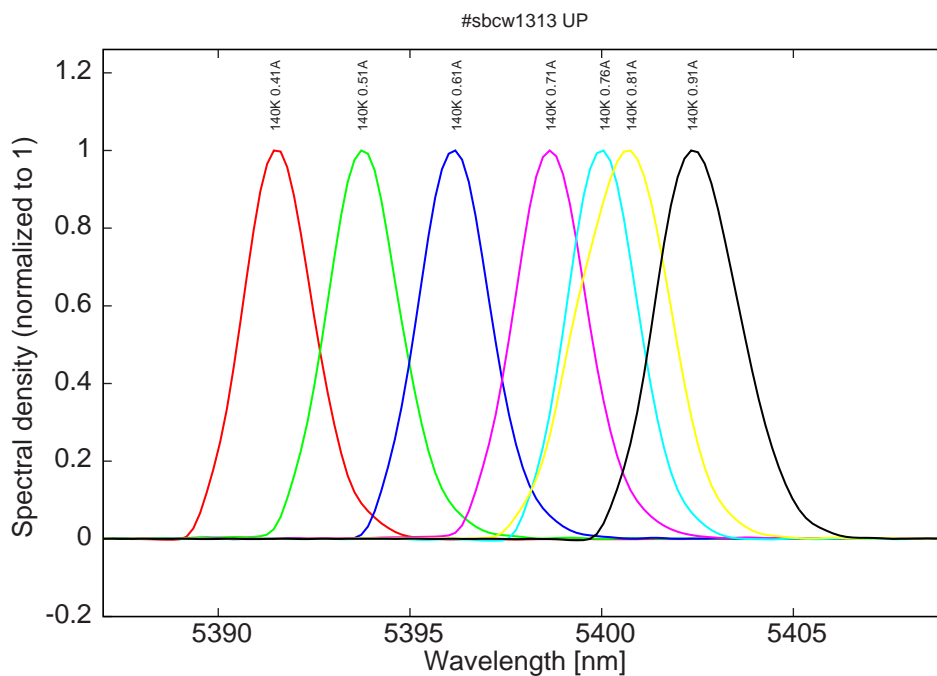


Figure 6: spectra at 140K

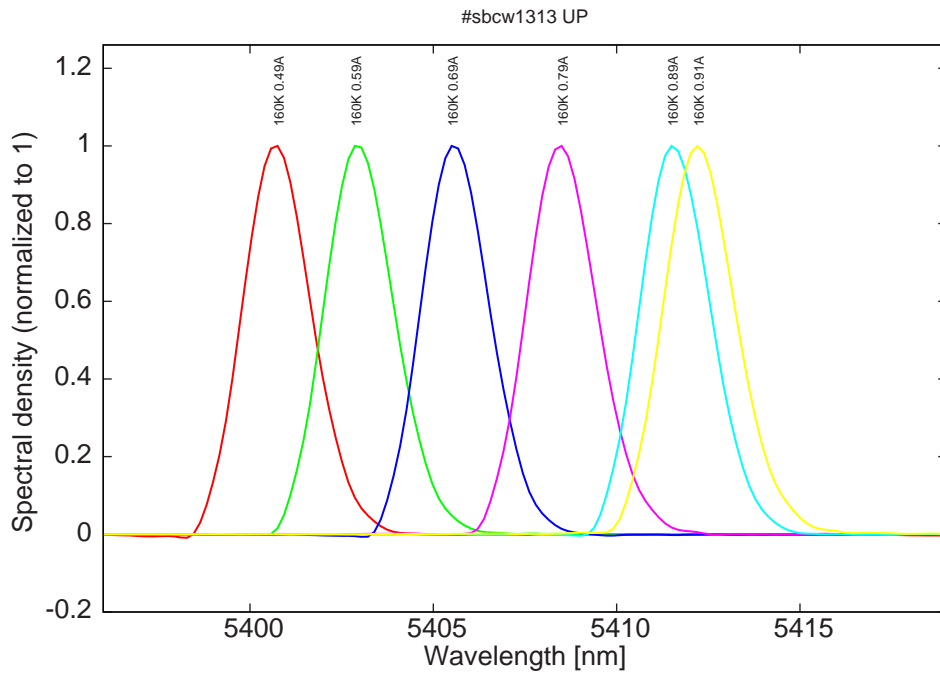


Figure 7: spectra at 160K

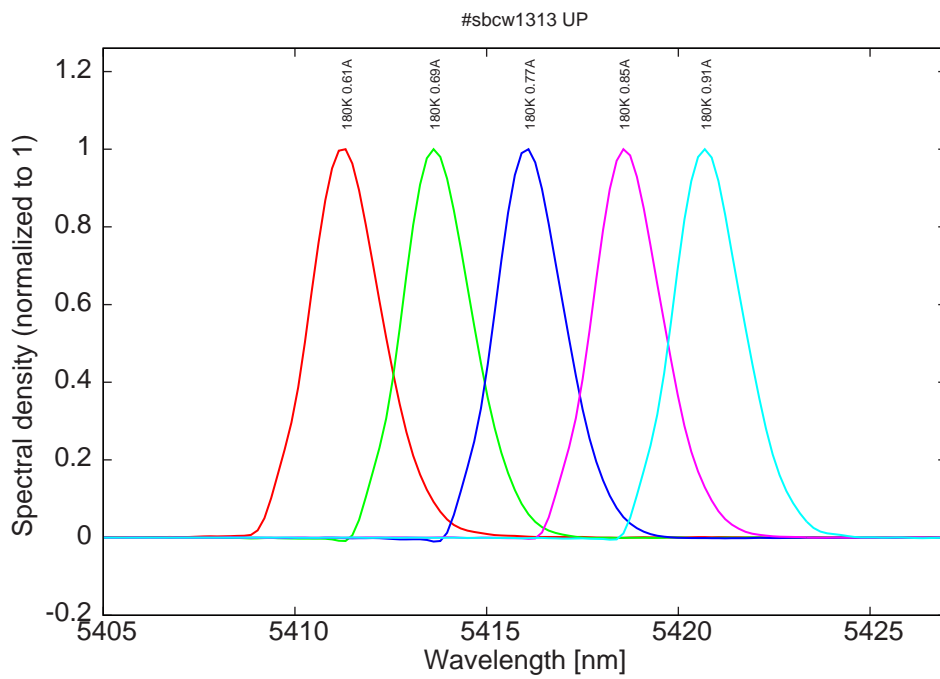


Figure 8: spectra at 180K

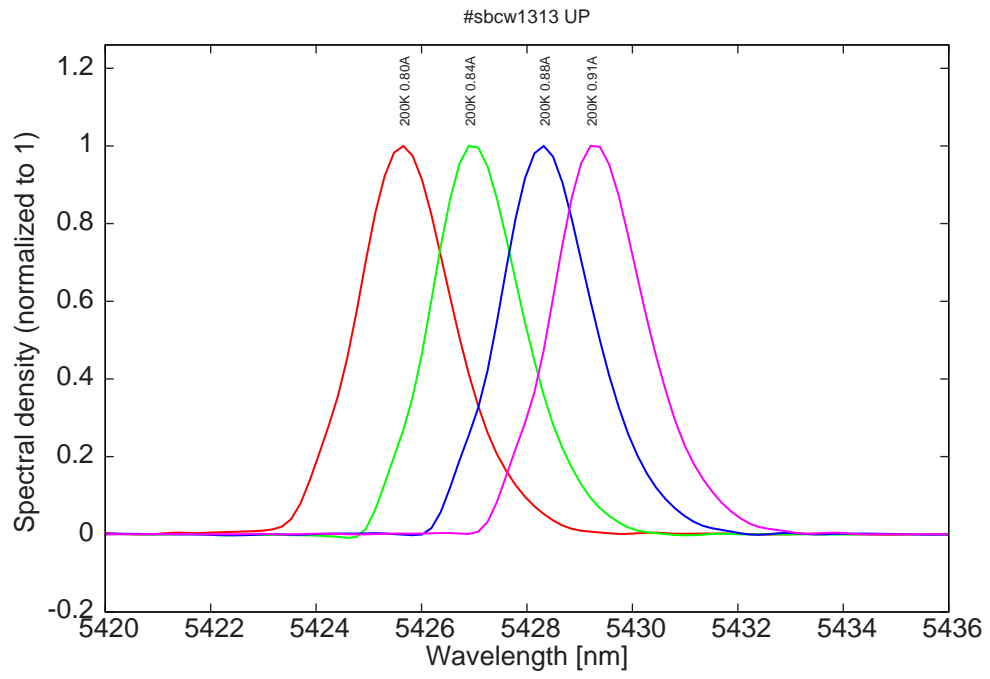


Figure 9: spectra at 200K