Datasheet for #sb2022 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/alfaq.pdf

WARNING: Operating the laser with longer pulses, shorter period, or higher voltage or current than specified in this document may cause damage and will result in loss of warranty, unless agreed upon with Alpes Lasers!

WARNING: Beware of the polarity of the laser. This laser has to be powered with negative bias on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive bias on the base contact (= submount, corresponding to the label "base" on the LLH).
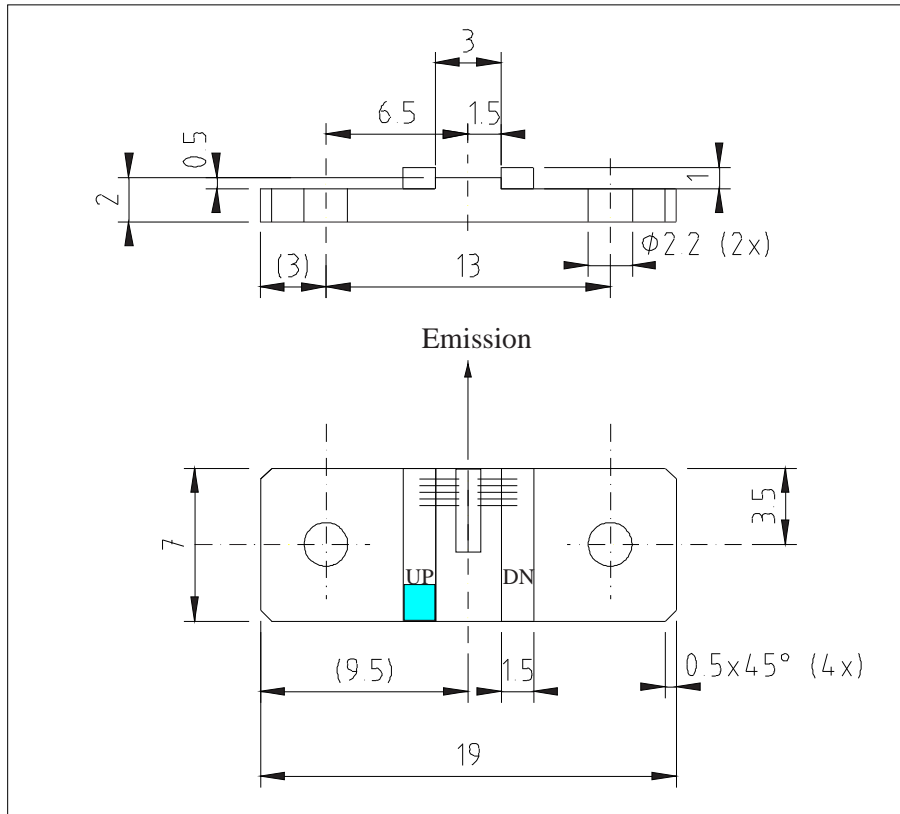

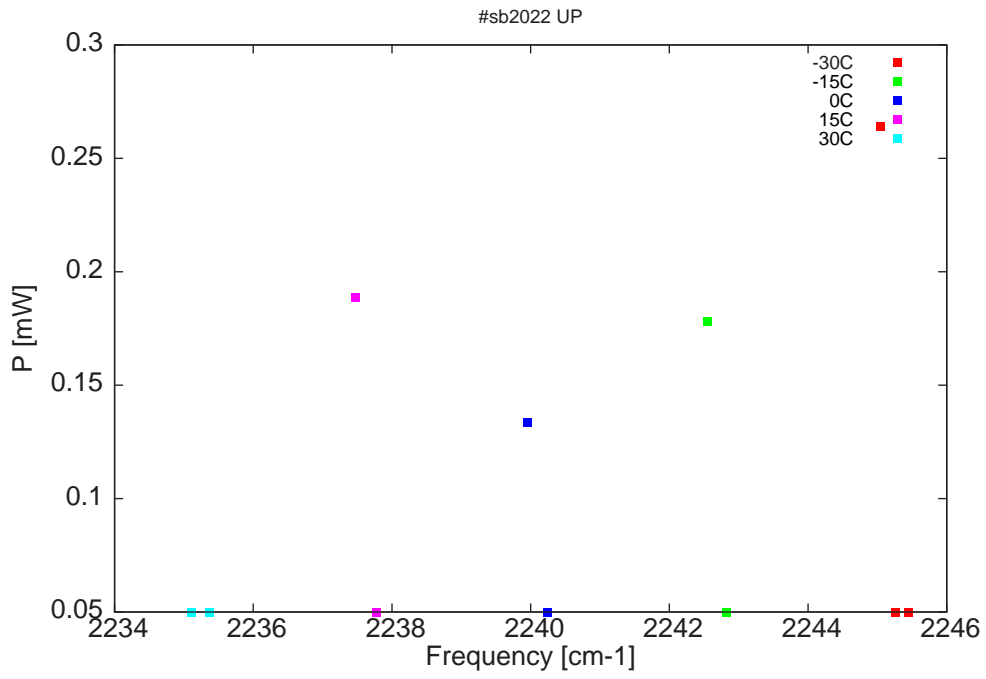Figure 1: Support mounting for #sb2022 UP (please note that the laser is connected to the UP pad drawned in blue)

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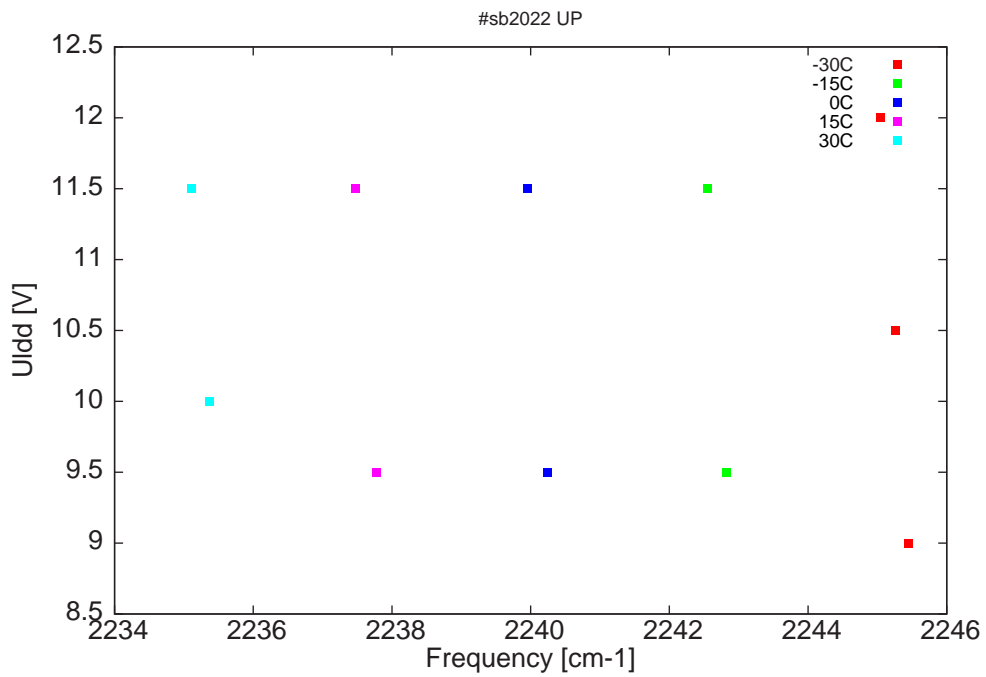

Figure 3: DC voltage fed to LDD (Uldd) as a function of the singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LDD}$[V]	I$_{pulse}$[A]
4453.5	2245.4	0.1	-30	9	0.13
4453.8	2245.3	0.1	-30	10.5	0.27
4454.3	2245	0.3	-30	12	0.41
4458.7	2242.8	0.1	-15	9.5	0.17
4459.2	2242.6	0.2	-15	11.5	0.39
4463.8	2240.2	0.1	0	9.5	0.19
4464.4	2240	0.1	0	11.5	0.37
4468.7	2237.8	0.1	15	9.5	0.19
4469.3	2237.5	0.2	15	11.5	0.36
4473.5	2235.4	0.1	30	10	0.24
4474.1	2235.1	0.1	30	11.5	0.37

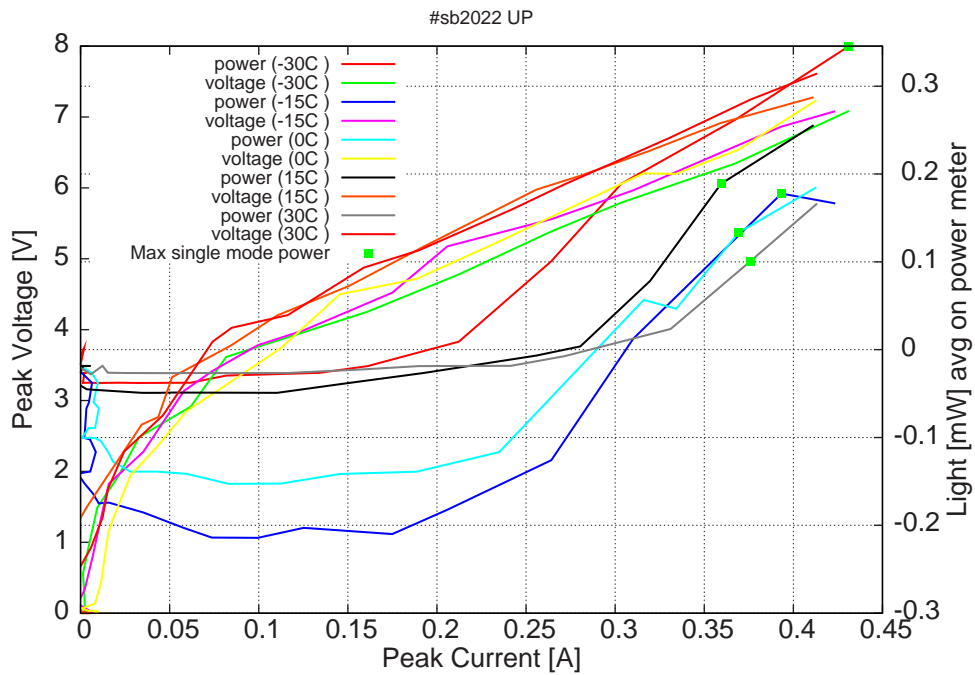Table 1 : singlemode optical output power as function of operating parameters

Figure 4: peak voltage and average power vs peak current at 2% duty-cycle (50ns pulses on the laser, 2.5μs period) (the solid squares indicate the maximum singlemode emitted power)
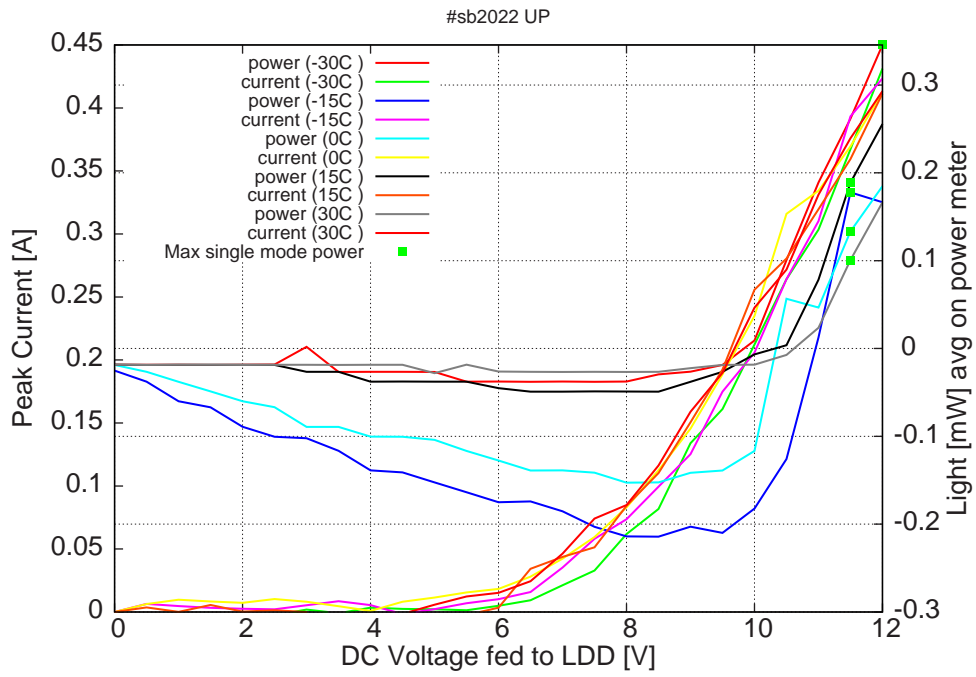
Figure 5: peak current and average power vs LDD voltage at 2% duty-cycle (50ns pulses on the laser, 2.5μs period) (the solid squares indicate the maximum singlemode emitted power)

Figure 4: spectra at different temperatures for various LDD voltage (22ns pulses on the laser)

#sb2022 UP