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Datasheet for #sb1406 DN

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).

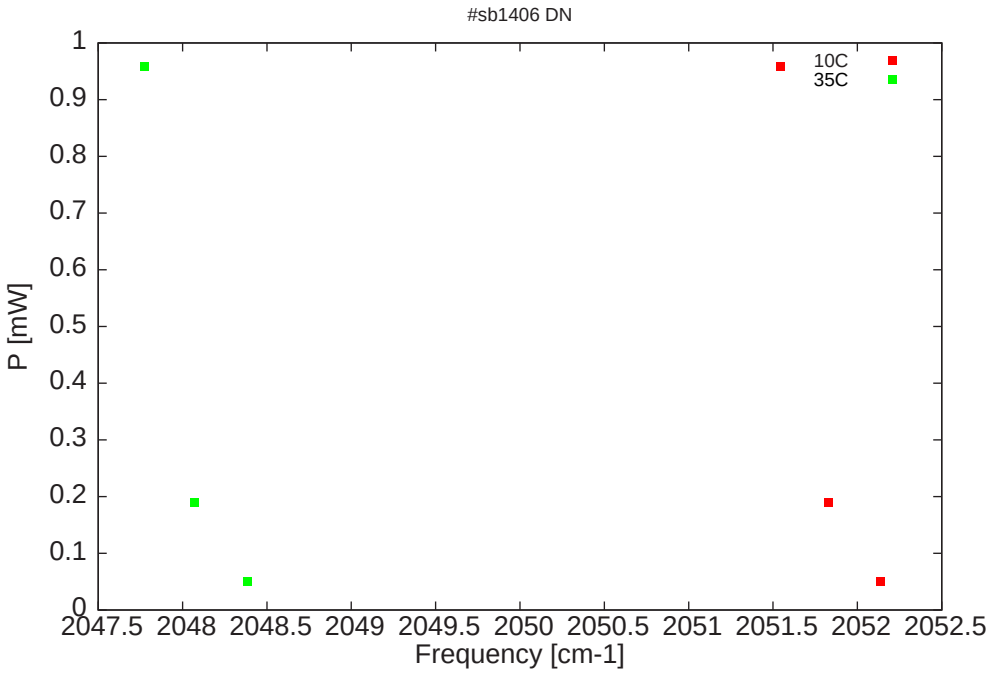

Figure 1: Output power as a function of the singlemode emission frequencies and temperatures

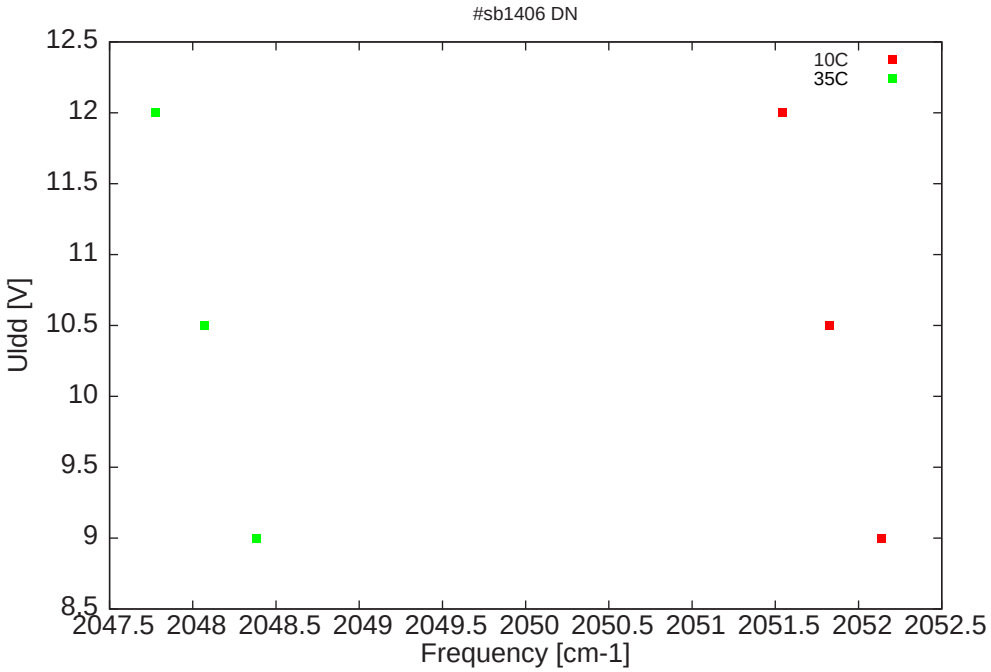

Figure 2: DC voltage fed to LDD (Uldd) as a function of the singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U_{LDD}[V]	I_{pulse}[A]
4873	2052.1	0.1	10	9	0.2
4873.7	2051.8	0.2	10	10.5	0.33
4874.4	2051.5	1	10	12	0.45
4881.9	2048.4	0.1	35	9	0.2
4882.6	2048.1	0.2	35	10.5	0.33
4883.4	2047.8	1	35	12	0.45

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

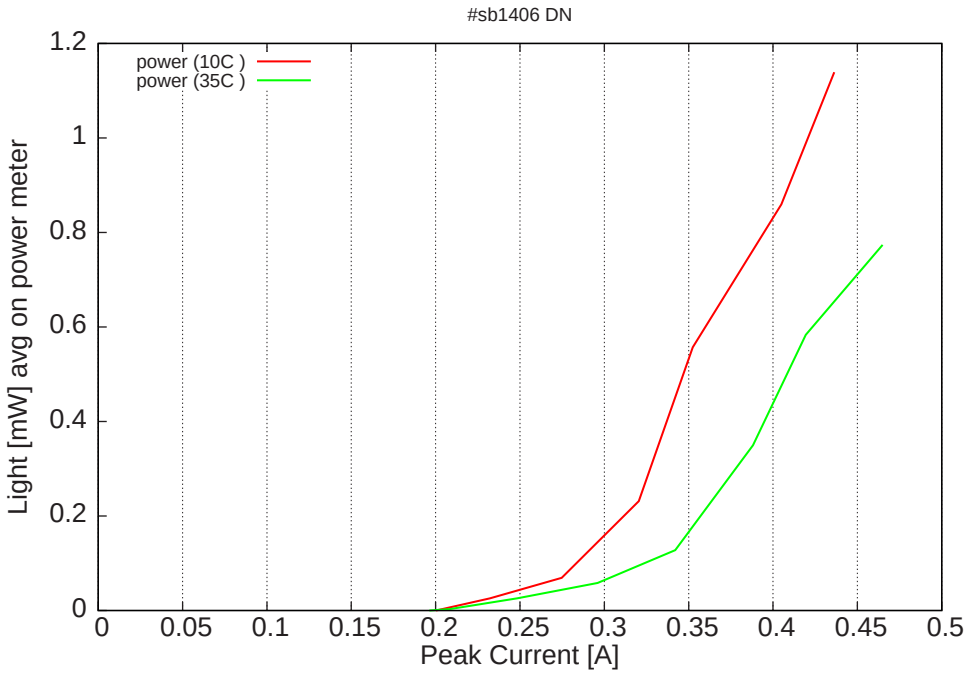

Figure 3: average power vs peak current at 2% dc

Note: data taken with 50ns pulses, 2.5μs period.

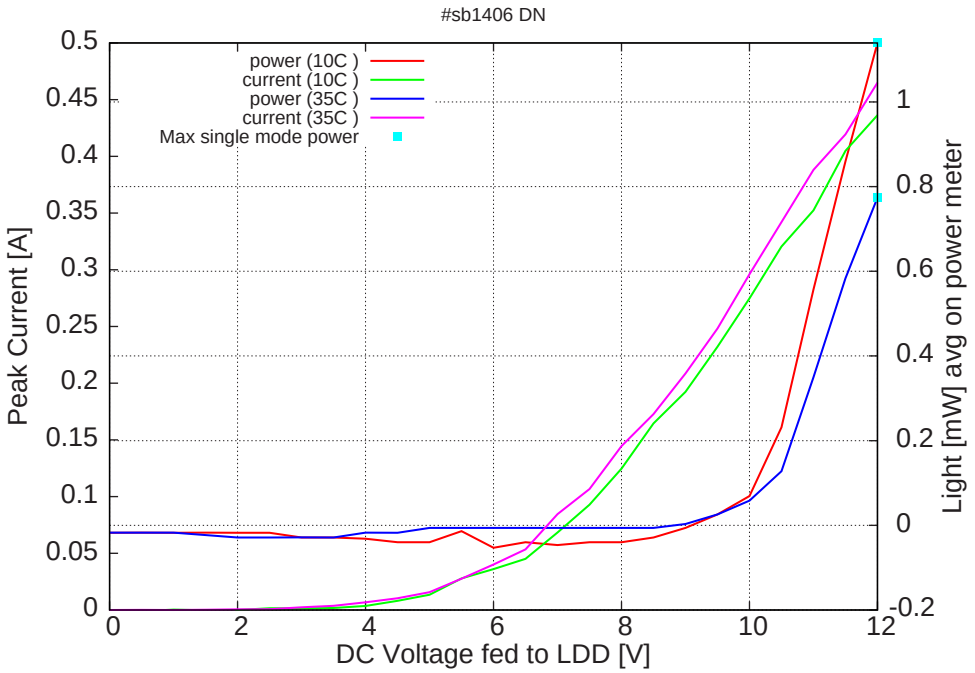

Figure 4: peak current and average power vs LDD voltage at 2% dc (the solid squares indicate the maximum singlemode emitted power)

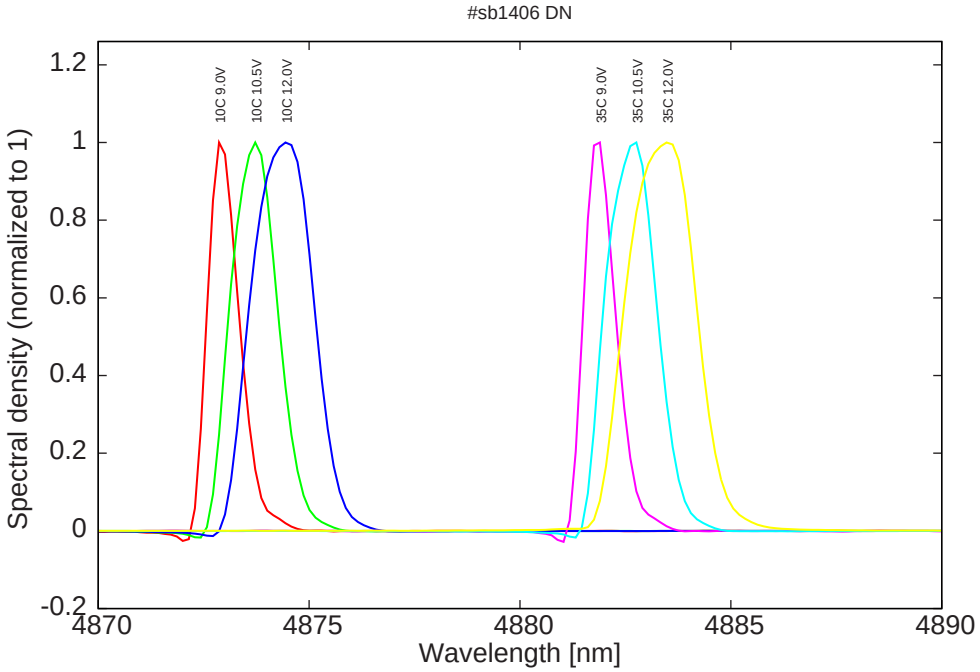

Figure 5: spectra at 10C and 35C at 2% dc for various LDD voltages

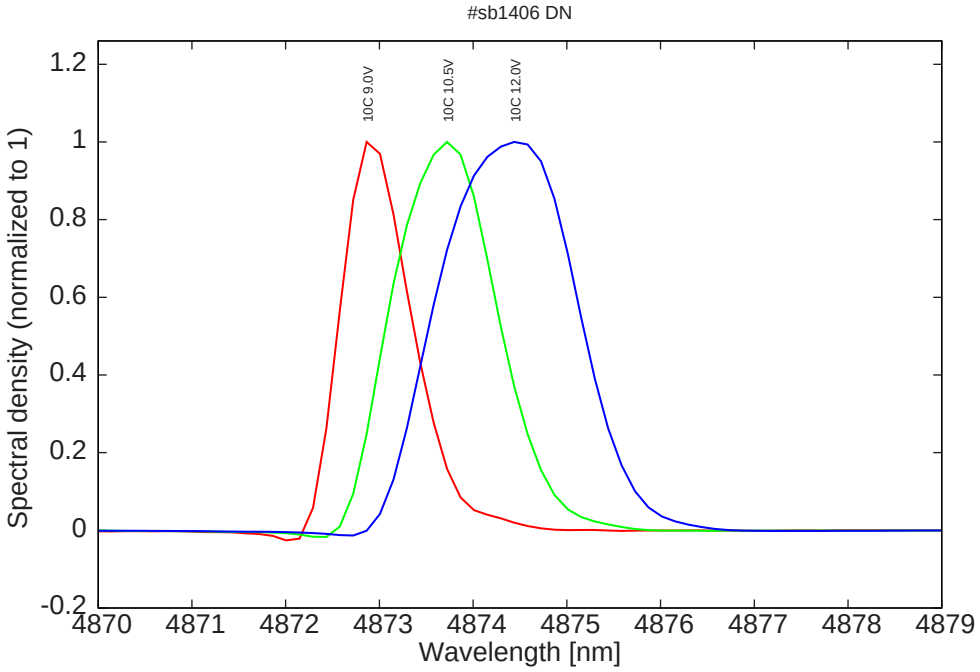

Figure 6: spectra at 10C for various LDD voltages

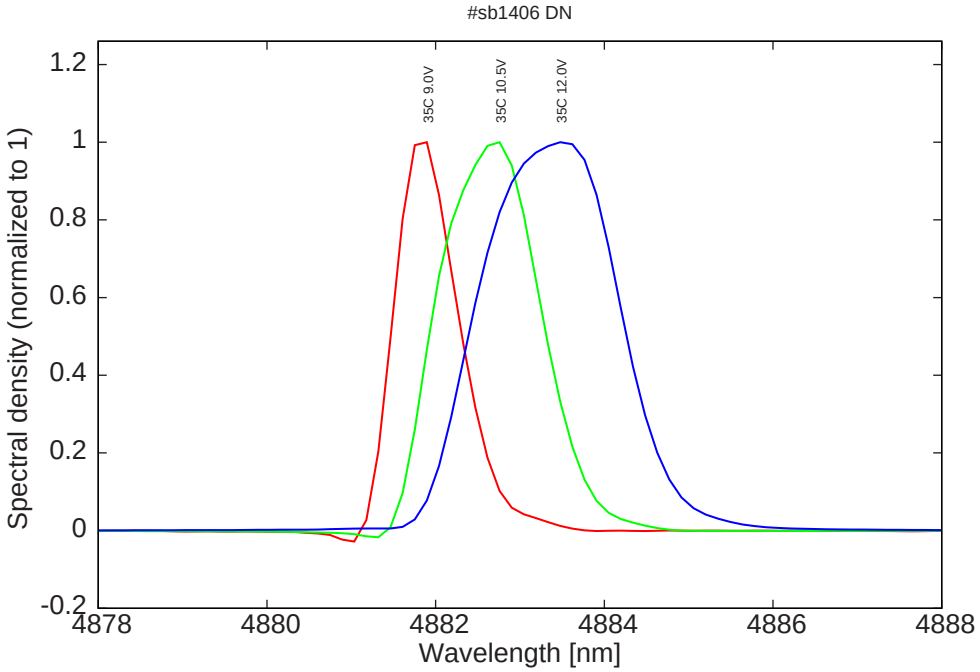

Figure 7: spectra at 35C for various LDD voltages

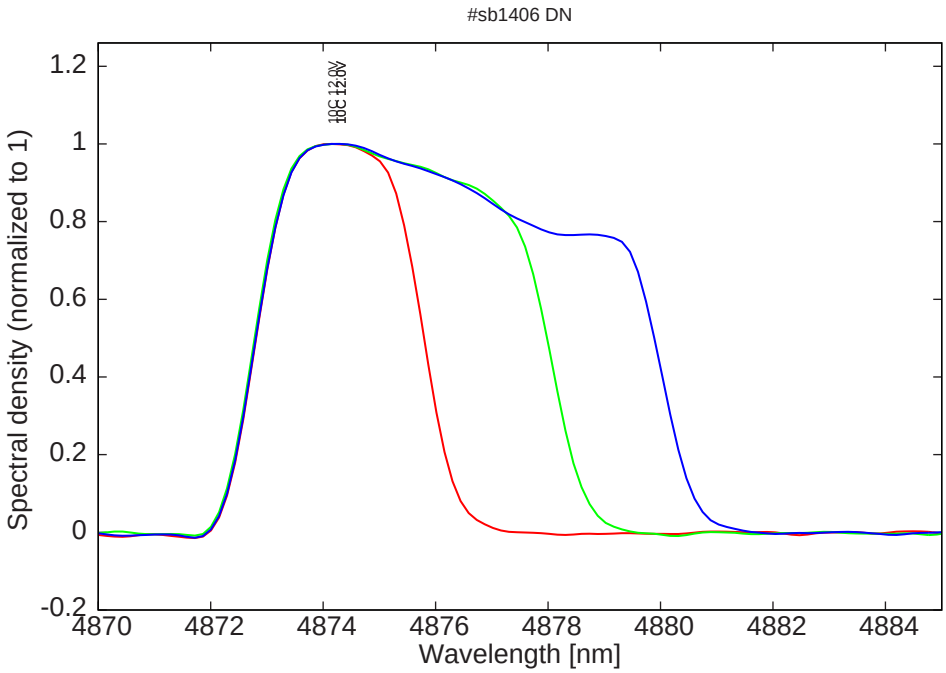

Figure 8: spectra at 10C and 12.0V on LDD with a period of 300us for various pulse lengths of 100, 200 and 300ns

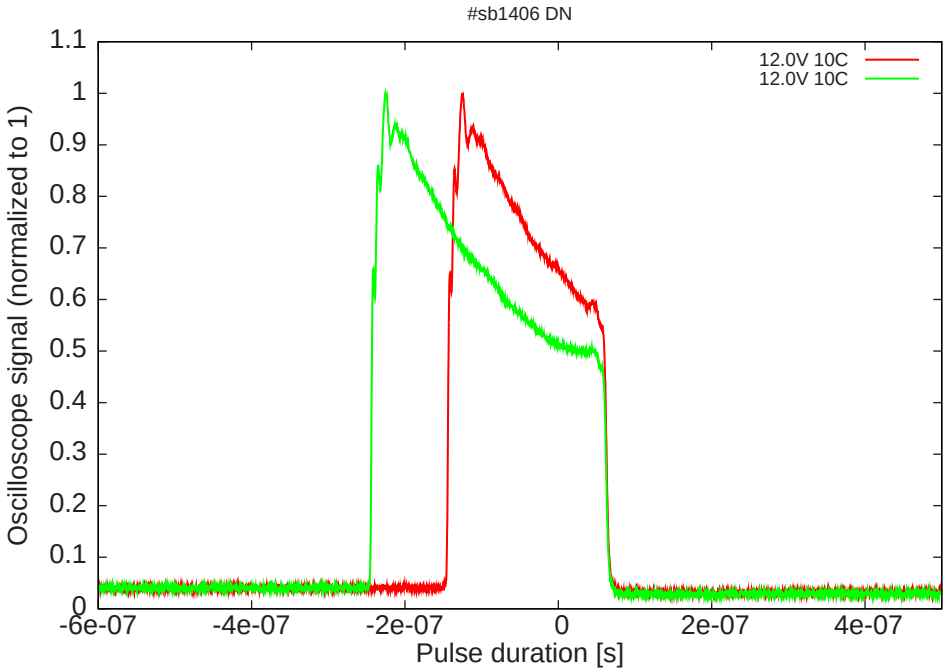

Figure 9: optical pulses at 10C and 12.0V on LDD measured with a VIGO photodetector for electrical pulse lengths of 200 and 300ns (with a period of 300us)