

Datasheet for #sbcw4815 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 use with a power-supply ILX Lightwave LDX-3232 or equivalent.

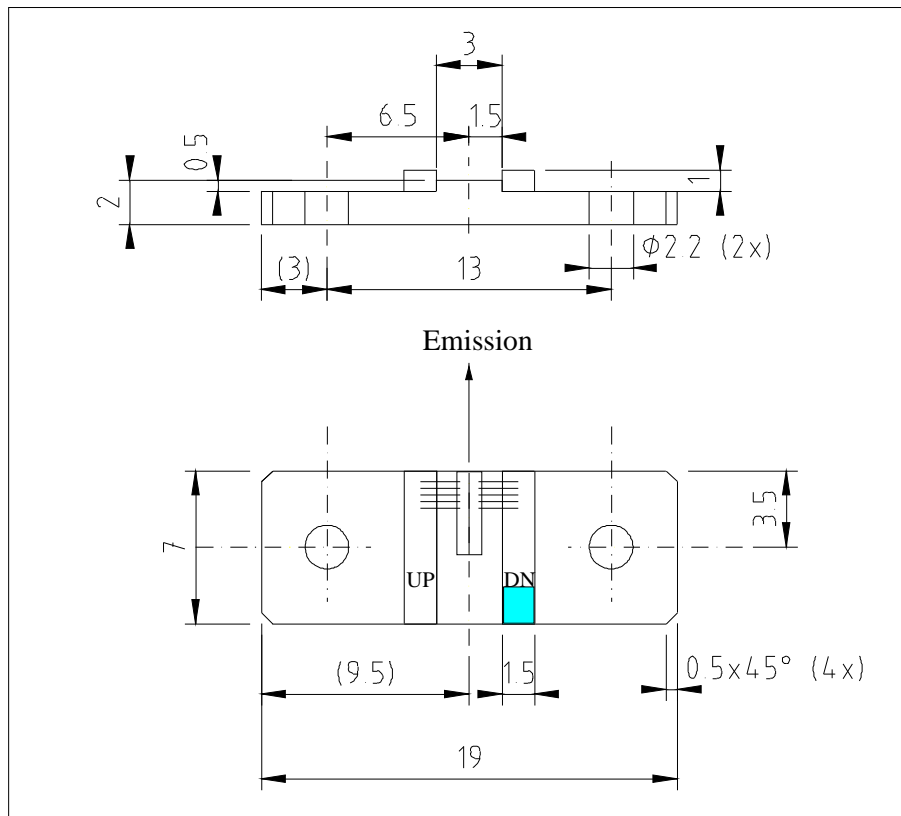


Figure 1: Mechanical and electrical interface for #sbcw4815 DN (please note that the laser is connected to the DN pad drawn in blue)

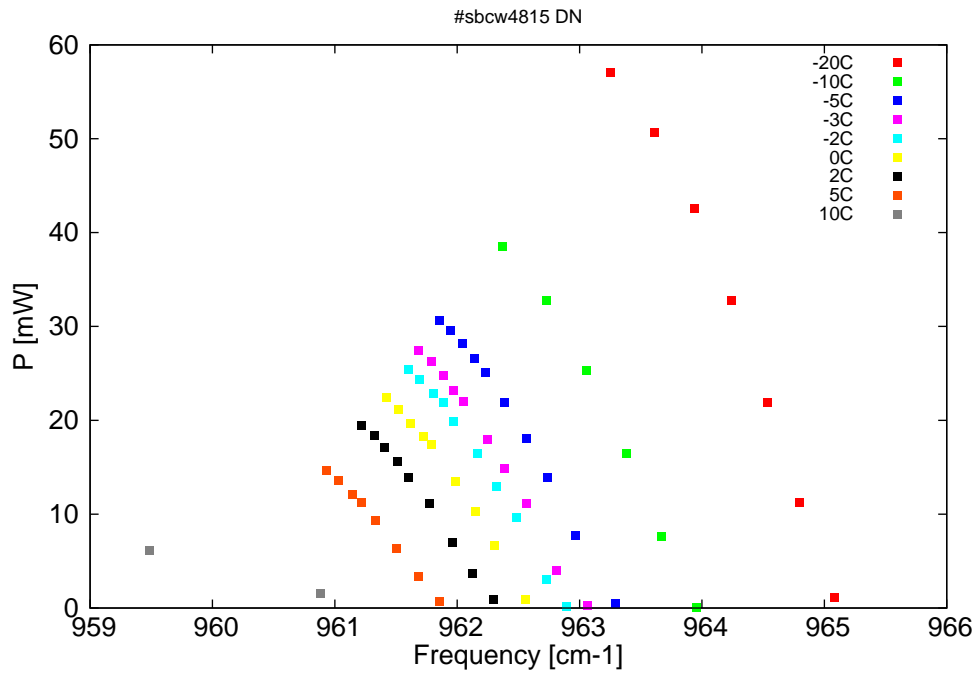


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

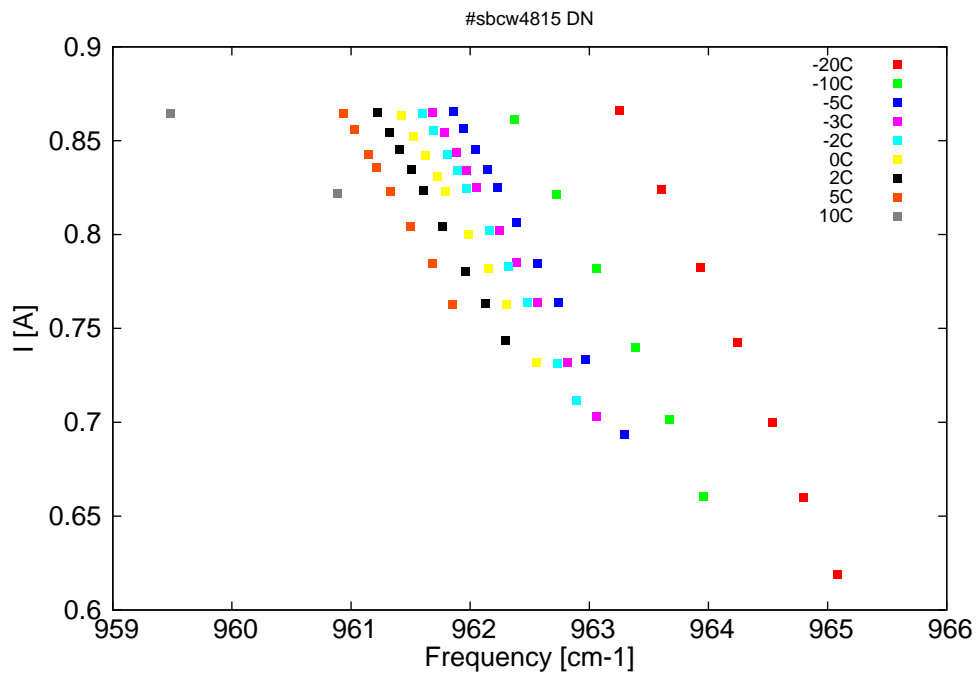


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
10361.8	965.1	1.1	-20	8.3	0.62
10364.9	964.8	11.3	-20	8.4	0.66
10367.7	964.5	21.9	-20	8.6	0.7
10370.8	964.2	32.8	-20	8.7	0.74
10374.1	963.9	42.5	-20	8.9	0.78
10377.7	963.6	50.7	-20	9	0.82
10381.5	963.3	57.1	-20	9.2	0.87
10373.9	964	0.1	-10	8.4	0.66
10377	963.7	7.6	-10	8.6	0.7
10380.1	963.4	16.5	-10	8.7	0.74
10383.6	963.1	25.3	-10	8.8	0.78
10387.2	962.7	32.7	-10	9	0.82
10391	962.4	38.5	-10	9.1	0.86
10381	963.3	0.4	-5	8.5	0.69
10384.6	963	7.7	-5	8.7	0.73
10387	962.7	13.9	-5	8.8	0.76
10388.9	962.6	18.1	-5	8.9	0.78
10390.8	962.4	21.9	-5	8.9	0.81
10392.5	962.2	25.1	-5	9	0.83
10393.5	962.1	26.6	-5	9	0.83
10394.5	962	28.1	-5	9.1	0.85
10395.6	961.9	29.6	-5	9.1	0.86
10396.6	961.9	30.6	-5	9.2	0.87
10383.6	963.1	0.2	-3	8.5	0.7
10386.2	962.8	4	-3	8.7	0.73
10388.9	962.6	11.1	-3	8.8	0.76
10390.8	962.4	14.9	-3	8.8	0.79
10392.3	962.2	18	-3	8.9	0.8
10394.5	962.1	22	-3	9	0.83
10395.4	962	23.2	-3	9	0.83
10396.2	961.9	24.8	-3	9.1	0.84
10397.3	961.8	26.2	-3	9.1	0.85
10398.5	961.7	27.4	-3	9.2	0.87
10385.3	962.9	0.2	-2	8.6	0.71
10387.1	962.7	3	-2	8.7	0.73
10389.8	962.5	9.7	-2	8.8	0.76
10391.5	962.3	12.9	-2	8.8	0.78
10393.2	962.2	16.4	-2	8.9	0.8
10395.4	962	19.9	-2	9	0.82
10396.2	961.9	21.9	-2	9	0.83
10397.1	961.8	22.9	-2	9.1	0.84
10398.4	961.7	24.4	-2	9.1	0.86
10399.3	961.6	25.5	-2	9.2	0.86
10389	962.6	0.9	0	8.6	0.73
10391.7	962.3	6.7	0	8.8	0.76
10393.4	962.2	10.3	0	8.8	0.78
10395.1	962	13.5	0	8.9	0.8
10397.3	961.8	17.4	0	9	0.82
10398	961.7	18.2	0	9	0.83

*continued on next page*

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
10399.1	961.6	19.7	0	9.1	0.84
10400.2	961.5	21.1	0	9.1	0.85
10401.3	961.4	22.5	0	9.2	0.86
10391.8	962.3	0.9	2	8.7	0.74
10393.6	962.1	3.7	2	8.8	0.76
10395.4	962	7	2	8.8	0.78
10397.5	961.8	11.2	2	8.9	0.8
10399.3	961.6	13.9	2	9	0.82
10400.3	961.5	15.6	2	9	0.83
10401.4	961.4	17.1	2	9.1	0.85
10402.3	961.3	18.4	2	9.1	0.85
10403.5	961.2	19.4	2	9.2	0.87
10396.6	961.9	0.7	5	8.8	0.76
10398.5	961.7	3.4	5	8.8	0.78
10400.4	961.5	6.3	5	8.9	0.8
10402.2	961.3	9.3	5	9	0.82
10403.5	961.2	11.2	5	9	0.84
10404.3	961.1	12.1	5	9.1	0.84
10405.5	961	13.6	5	9.1	0.86
10406.5	960.9	14.6	5	9.2	0.86
10407.1	960.9	1.6	10	9	0.82
10422.3	959.5	6.1	10	9.2	0.86

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

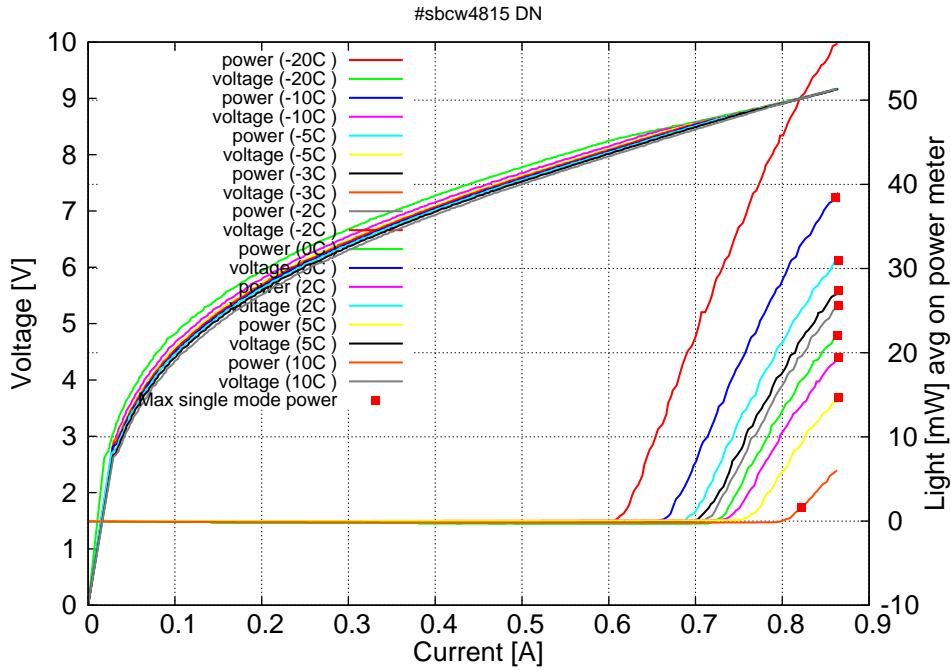


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.61A$  /  $V_{th}=8.3V$  (2-wires measurements). Maximum operation current: 0.865A for all temperatures.



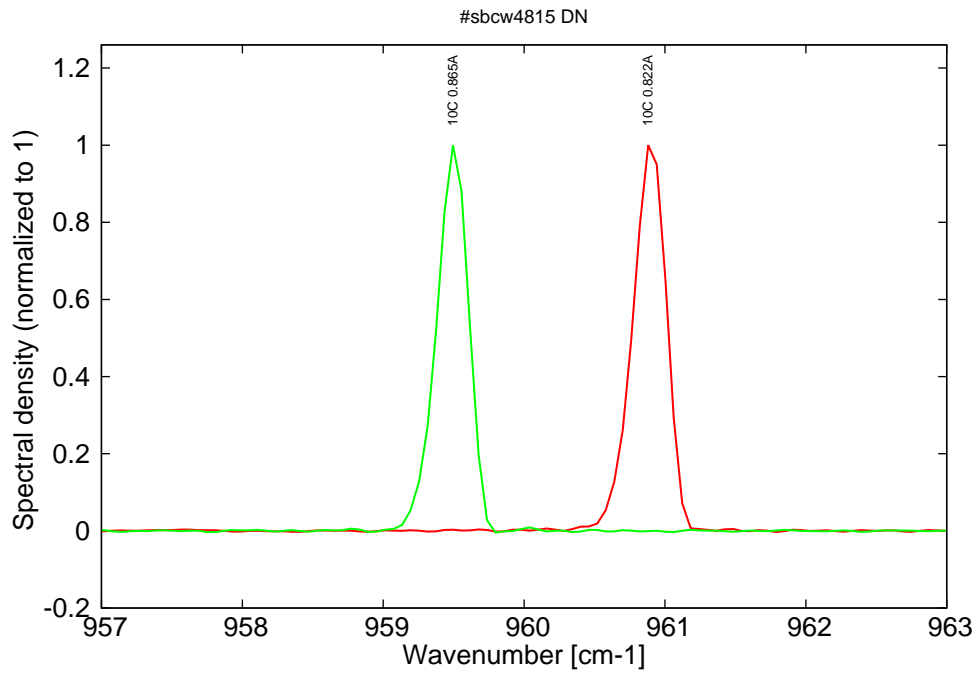


Figure 5: spectra at 10C for various DC currents (monomode on mode 1, then mode jumping on mode 2, see Fig. 2 & 3)