

Datasheet for #sbcw4258 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.

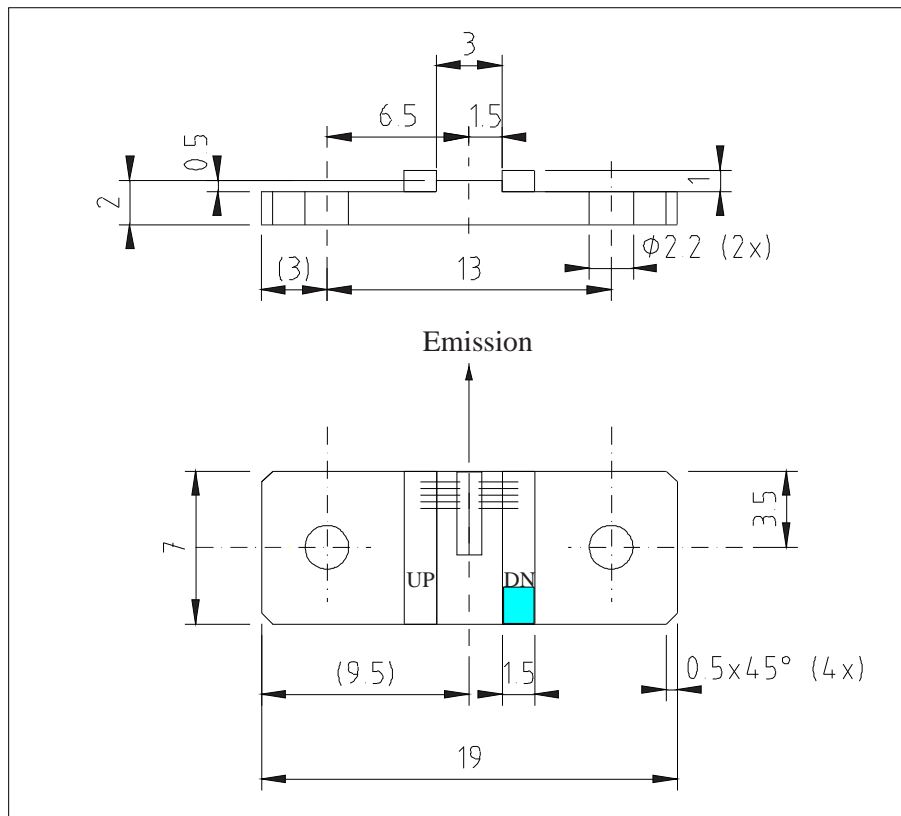


Figure 1: Support mounting for #sbcw4258 DN (please note that the laser is connected to the DN pad drawn in blue)

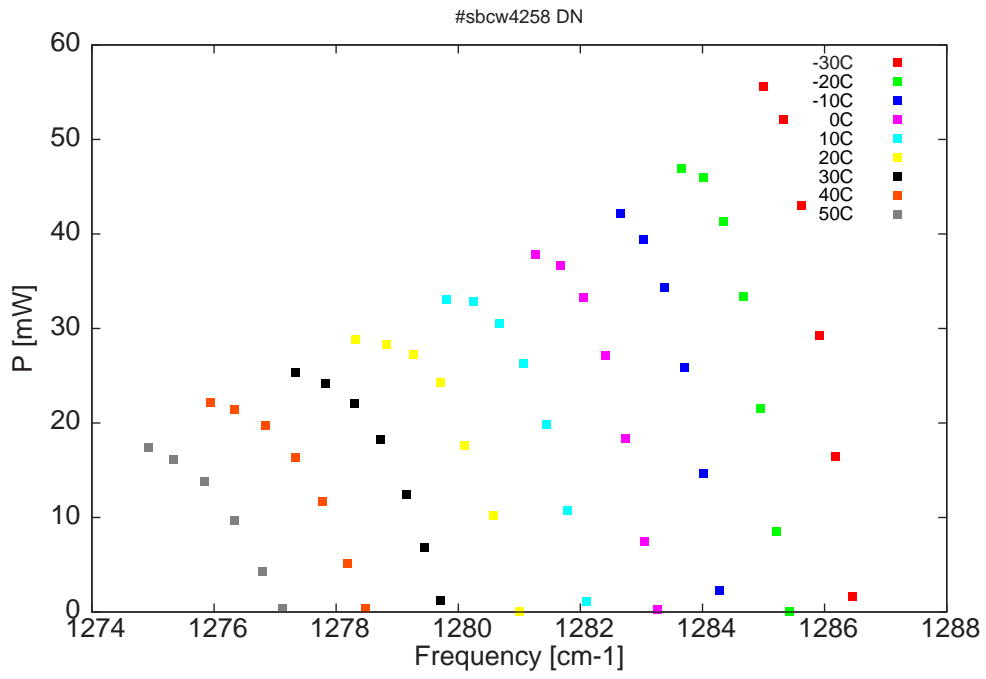


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

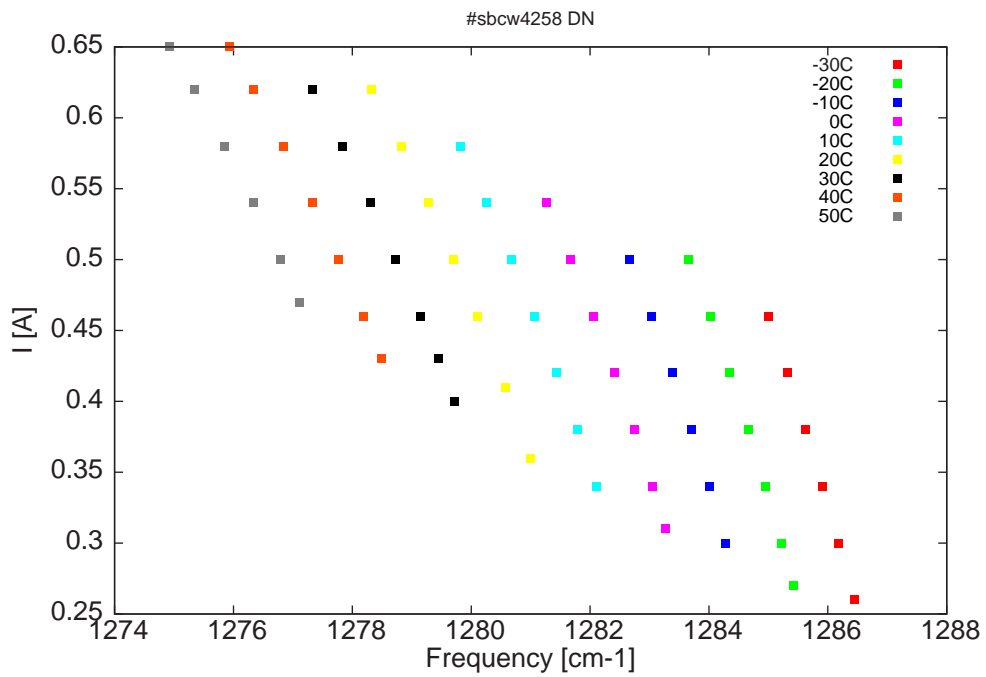


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7773.3	1286.5	1.6	-30	8.1	0.26
7774.9	1286.2	16.4	-30	8.3	0.3
7776.6	1285.9	29.3	-30	8.5	0.34
7778.3	1285.6	43	-30	8.7	0.38
7780.1	1285.3	52.1	-30	8.9	0.42
7782.1	1285	55.6	-30	9.1	0.46
7779.6	1285.4	0.1	-20	8.1	0.27
7780.8	1285.2	8.5	-20	8.2	0.3
7782.4	1284.9	21.5	-20	8.4	0.34
7784.1	1284.7	33.3	-20	8.6	0.38
7786	1284.4	41.3	-20	8.8	0.42
7788	1284	46	-20	9	0.46
7790.2	1283.7	46.9	-20	9.2	0.5
7786.4	1284.3	2.3	-10	8.2	0.3
7788.1	1284	14.6	-10	8.4	0.34
7789.9	1283.7	25.9	-10	8.6	0.38
7791.9	1283.4	34.3	-10	8.8	0.42
7794	1283	39.4	-10	8.9	0.46
7796.3	1282.7	42.1	-10	9.1	0.5
7792.6	1283.3	0.3	0	8.1	0.31
7793.9	1283.1	7.4	0	8.3	0.34
7795.8	1282.7	18.4	0	8.5	0.38
7797.8	1282.4	27.1	0	8.7	0.42
7800	1282.1	33.3	0	8.9	0.46
7802.3	1281.7	36.7	0	9.1	0.5
7804.8	1281.3	37.8	0	9.3	0.54
7799.7	1282.1	1.1	10	8.2	0.34
7801.6	1281.8	10.8	10	8.4	0.38
7803.7	1281.4	19.9	10	8.6	0.42
7806	1281.1	26.3	10	8.8	0.46
7808.4	1280.7	30.5	10	9	0.5
7810.9	1280.3	32.9	10	9.2	0.54
7813.6	1279.8	33	10	9.4	0.58
7806.4	1281	0.1	20	8.3	0.36
7809	1280.6	10.2	20	8.5	0.41
7811.9	1280.1	17.6	20	8.8	0.46
7814.3	1279.7	24.3	20	9	0.5
7816.9	1279.3	27.2	20	9.2	0.54
7819.7	1278.8	28.3	20	9.4	0.58
7822.8	1278.3	28.9	20	9.6	0.62
7814.2	1279.7	1.2	30	8.4	0.4
7815.9	1279.4	6.8	30	8.5	0.43
7817.7	1279.1	12.5	30	8.7	0.46
7820.2	1278.7	18.2	30	8.9	0.5
7822.9	1278.3	22.1	30	9.1	0.54
7825.8	1277.8	24.2	30	9.3	0.58
7828.8	1277.3	25.4	30	9.5	0.62
7821.8	1278.5	0.4	40	8.5	0.43
7823.6	1278.2	5.1	40	8.6	0.46

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

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7826.1	1277.8	11.7	40	8.8	0.5
7828.8	1277.3	16.3	40	9	0.54
7831.8	1276.8	19.7	40	9.2	0.58
7834.9	1276.3	21.4	40	9.4	0.62
7837.4	1275.9	22.2	40	9.6	0.65
7830.1	1277.1	0.4	50	8.6	0.47
7832.1	1276.8	4.3	50	8.8	0.5
7834.9	1276.3	9.7	50	9	0.54
7837.9	1275.9	13.8	50	9.2	0.58
7841.1	1275.3	16.1	50	9.4	0.62
7843.6	1274.9	17.4	50	9.5	0.65

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

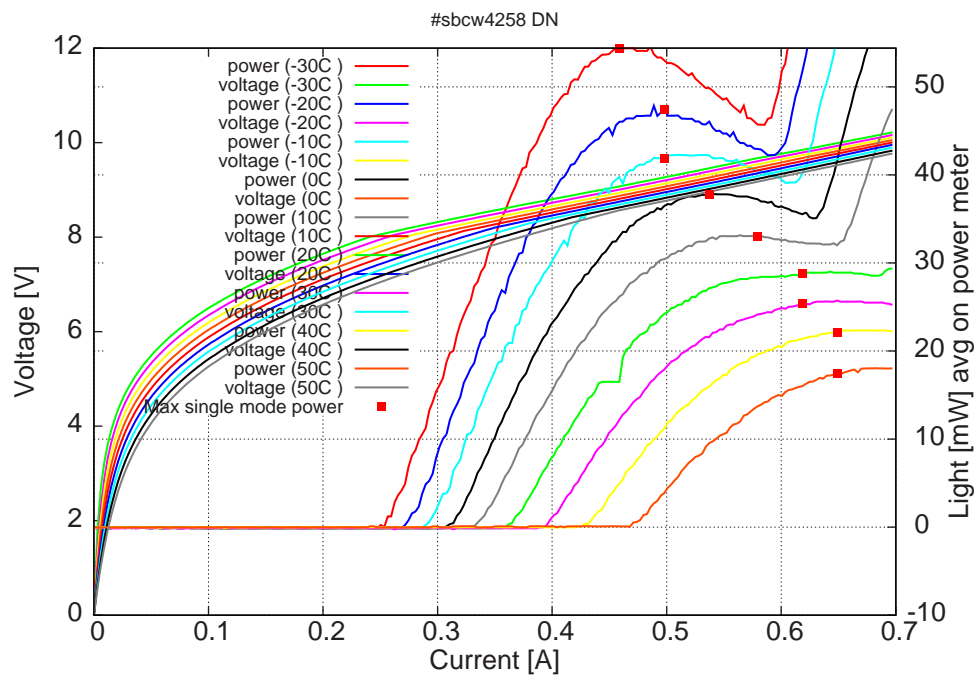


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -30C: I_{th} =260mA / V_{th} = 8.1V (2-wires measurements).

Maximum operation current: 0.46A at -30C, 0.5A between -20C and -10C, 0.54A at 0C, 0.58A at 10C, 0.62A between 20C and 30C, 0.65A between 40C and 50C.

Figure 3: spectra at different temperatures for various DC currents

