

**Datasheet for #sbcw20230 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 be used with a high compliance CW laser driver capable of reaching the operating current and voltage indicated in this datasheet, or up to 2.5A/20V.



Figure 1: Mechanical and electrical interface for #sbcw20230 DN

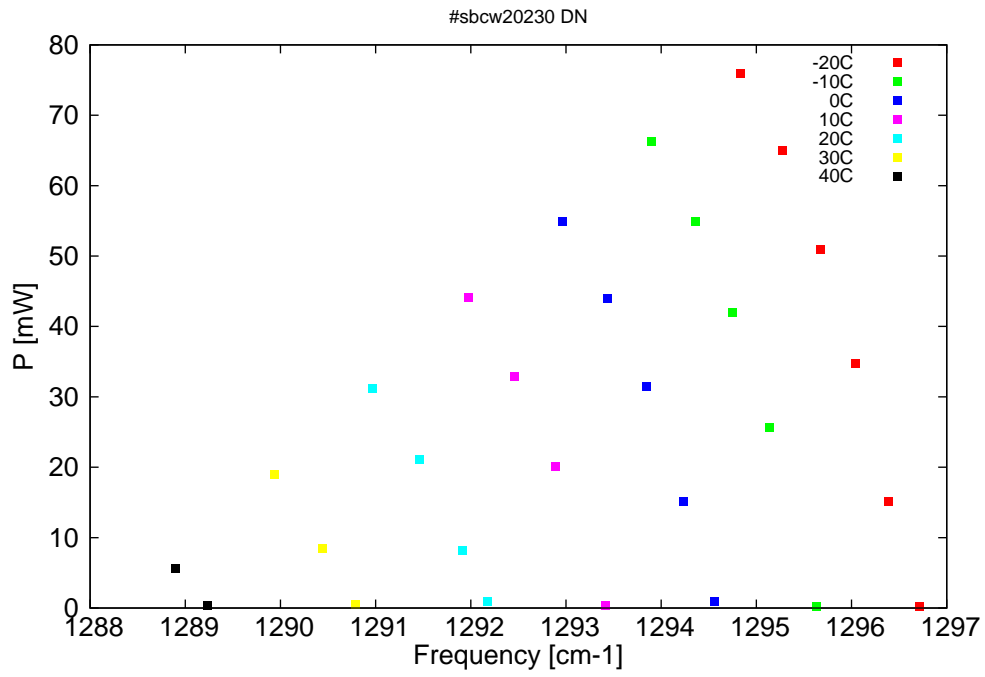


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

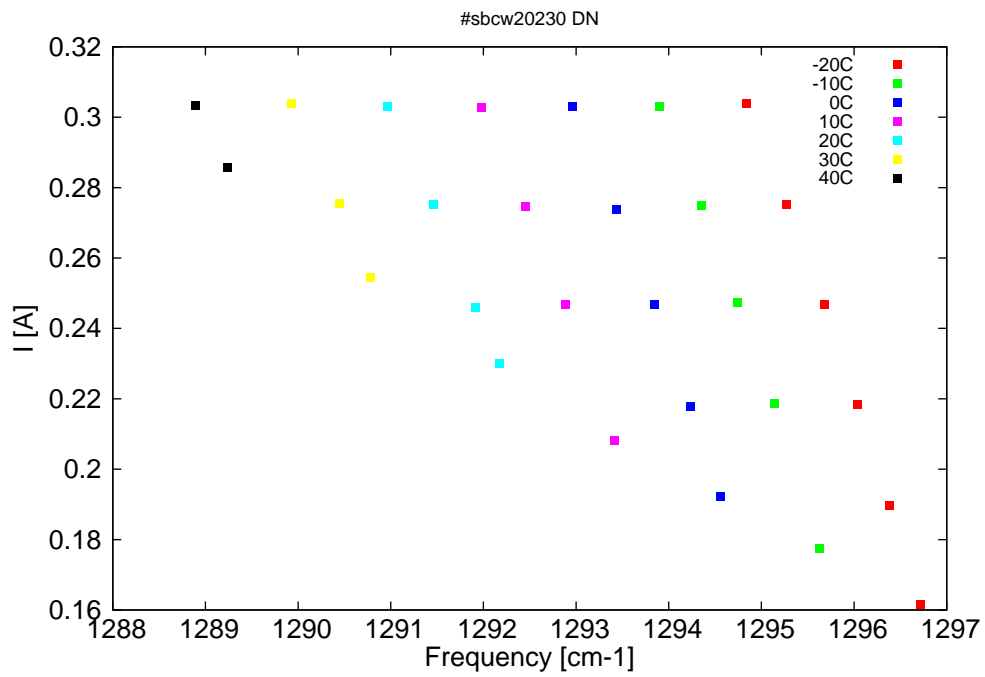


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
7711.8	1296.7	0.2	-20	8.94	0.161
7713.7	1296.4	15.2	-20	9.18	0.19
7715.8	1296	34.7	-20	9.42	0.218
7718	1295.7	51	-20	9.65	0.247
7720.4	1295.3	65	-20	9.87	0.275
7723	1294.8	76	-20	10.1	0.304
7718.3	1295.6	0.3	-10	8.94	0.177
7721.2	1295.1	25.7	-10	9.29	0.219
7723.5	1294.7	41.9	-10	9.52	0.247
7725.8	1294.4	54.9	-10	9.73	0.275
7728.6	1293.9	66.3	-10	9.96	0.303
7724.7	1294.6	1	0	8.94	0.192
7726.6	1294.2	15.2	0	9.16	0.218
7728.9	1293.8	31.5	0	9.39	0.247
7731.3	1293.4	44	0	9.61	0.274
7734.2	1293	55	0	9.84	0.303
7731.5	1293.4	0.4	10	8.96	0.208
7734.6	1292.9	20.1	10	9.27	0.247
7737.2	1292.5	32.9	10	9.49	0.275
7740.1	1292	44.2	10	9.72	0.303
7738.9	1292.2	0.9	20	9.02	0.23
7740.4	1291.9	8.1	20	9.15	0.246
7743.2	1291.5	21	20	9.38	0.275
7746.2	1291	31.2	20	9.61	0.303
7747.2	1290.8	0.5	30	9.11	0.255
7749.3	1290.4	8.5	30	9.28	0.275
7752.3	1289.9	19	30	9.5	0.304
7756.5	1289.2	0.4	40	9.26	0.286
7758.6	1288.9	5.6	40	9.4	0.303

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

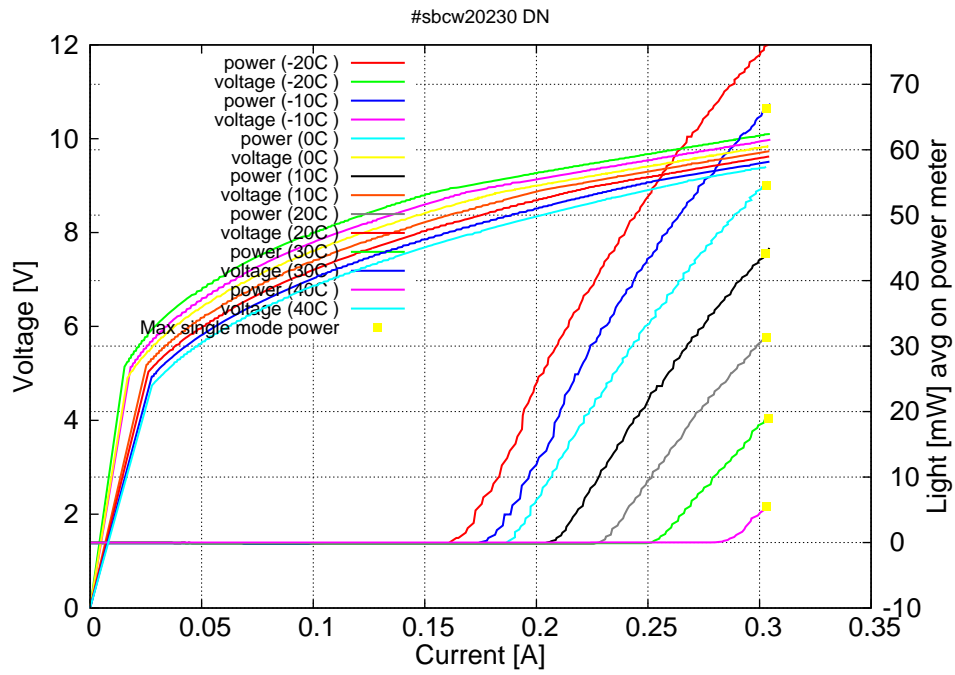


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.16A$  /  $V_{th}=9.0V$  (2-wires measurements). Maximum operation current: 0.305A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

