

Datasheet for #sbcw8740 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 #sbcw8740 DN

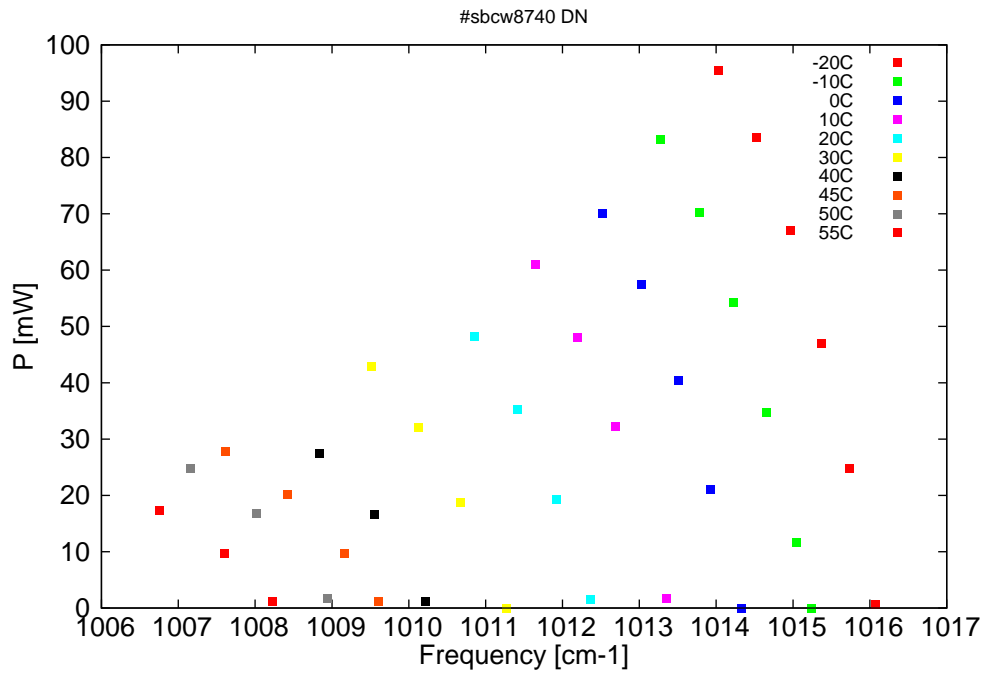


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

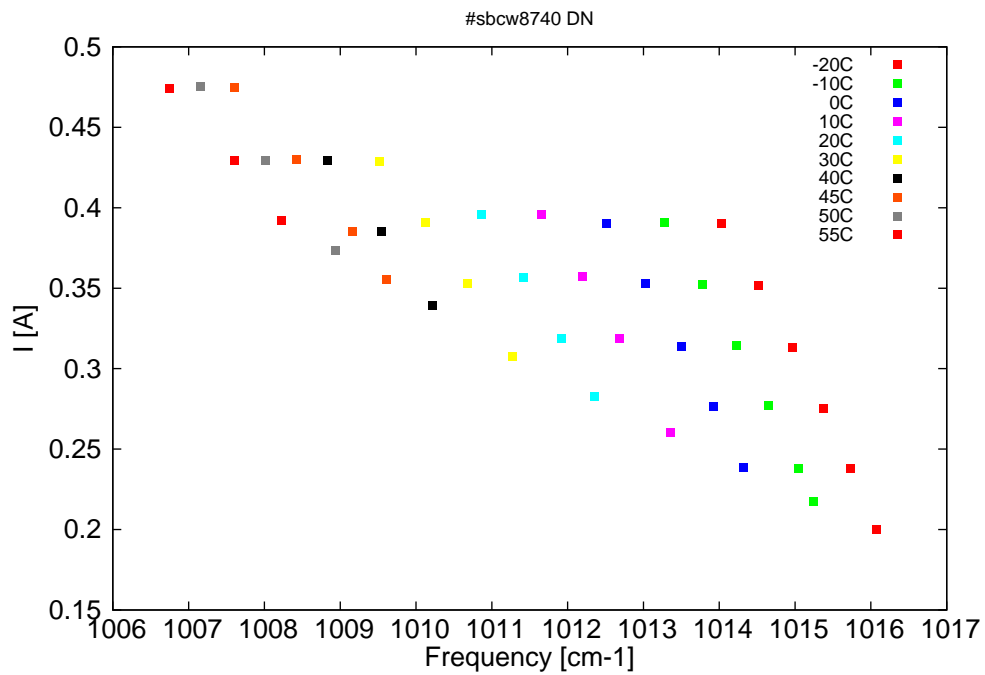


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
9841.8	1016.1	0.7	-20	8.62	0.2
9845.1	1015.7	24.8	-20	8.92	0.238
9848.6	1015.4	47	-20	9.22	0.275
9852.5	1015	67.1	-20	9.5	0.313
9856.9	1014.5	83.5	-20	9.8	0.352
9861.6	1014	95.4	-20	10.08	0.39
9849.8	1015.2	0	-10	8.68	0.217
9851.8	1015	11.6	-10	8.84	0.238
9855.6	1014.7	34.8	-10	9.14	0.277
9859.7	1014.2	54.3	-10	9.43	0.315
9864.1	1013.8	70.3	-10	9.72	0.352
9869	1013.3	83.1	-10	10.01	0.391
9858.8	1014.3	0	0	8.76	0.238
9862.6	1013.9	21	0	9.06	0.277
9866.8	1013.5	40.4	0	9.35	0.314
9871.4	1013	57.5	0	9.65	0.353
9876.4	1012.5	70.1	0	9.93	0.39
9868.2	1013.4	1.6	10	8.87	0.26
9874.7	1012.7	32.2	10	9.32	0.319
9879.5	1012.2	48.1	10	9.61	0.357
9884.8	1011.7	61.1	10	9.91	0.396
9877.9	1012.4	1.5	20	8.97	0.282
9882.2	1011.9	19.3	20	9.26	0.319
9887.2	1011.4	35.3	20	9.55	0.357
9892.6	1010.9	48.2	20	9.85	0.396
9888.5	1011.3	0	30	9.11	0.308
9894.3	1010.7	18.7	30	9.46	0.353
9899.8	1010.1	32.1	30	9.76	0.391
9905.7	1009.5	42.9	30	10.05	0.429
9898.8	1010.2	1.2	40	9.34	0.339
9905.4	1009.5	16.6	40	9.7	0.385
9912.4	1008.8	27.5	40	10.05	0.43
9904.9	1009.6	1.1	45	9.44	0.355
9909.2	1009.2	9.7	45	9.67	0.385
9916.5	1008.4	20.2	45	10.03	0.43
9924.5	1007.6	27.8	45	10.38	0.475
9911.4	1008.9	1.7	50	9.55	0.373
9920.5	1008	16.8	50	10	0.429
9928.9	1007.2	24.7	50	10.36	0.475
9918.4	1008.2	1.1	55	9.68	0.392
9924.5	1007.6	9.6	55	9.97	0.429
9932.9	1006.8	17.3	55	10.33	0.474

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

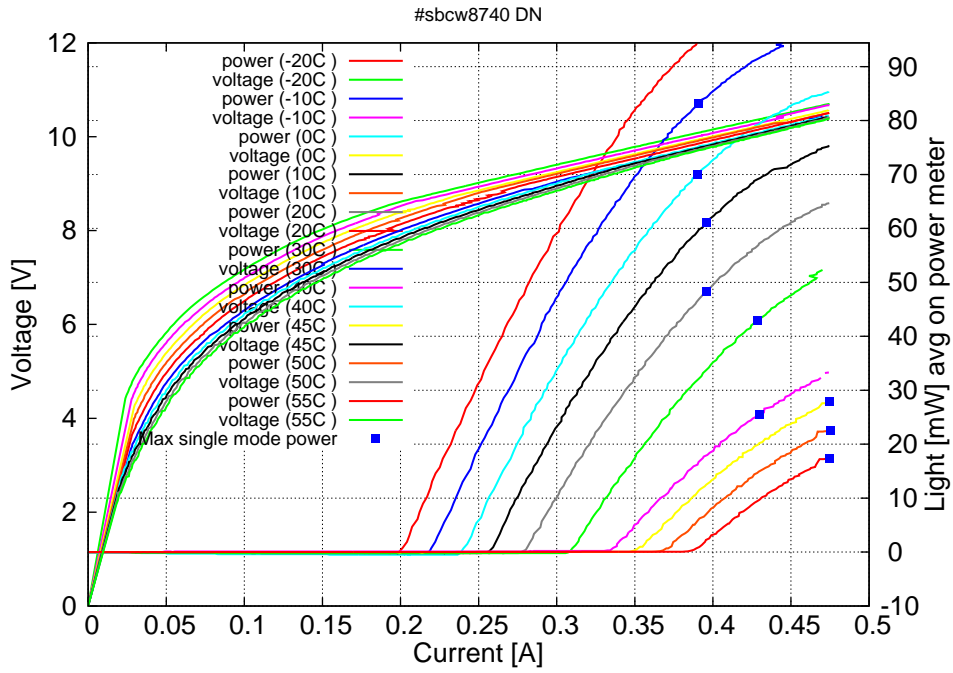


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.20A$  /  $V_{th}=8.6V$  (2-wires measurements). Maximum operation current: 0.4A between -20C and 20C, 0.43A between 30C and 40C, 0.475A between 45C and 55C.

Figure 3: spectra at different temperatures for various DC currents

