

Datasheet for #sbcw9085 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.

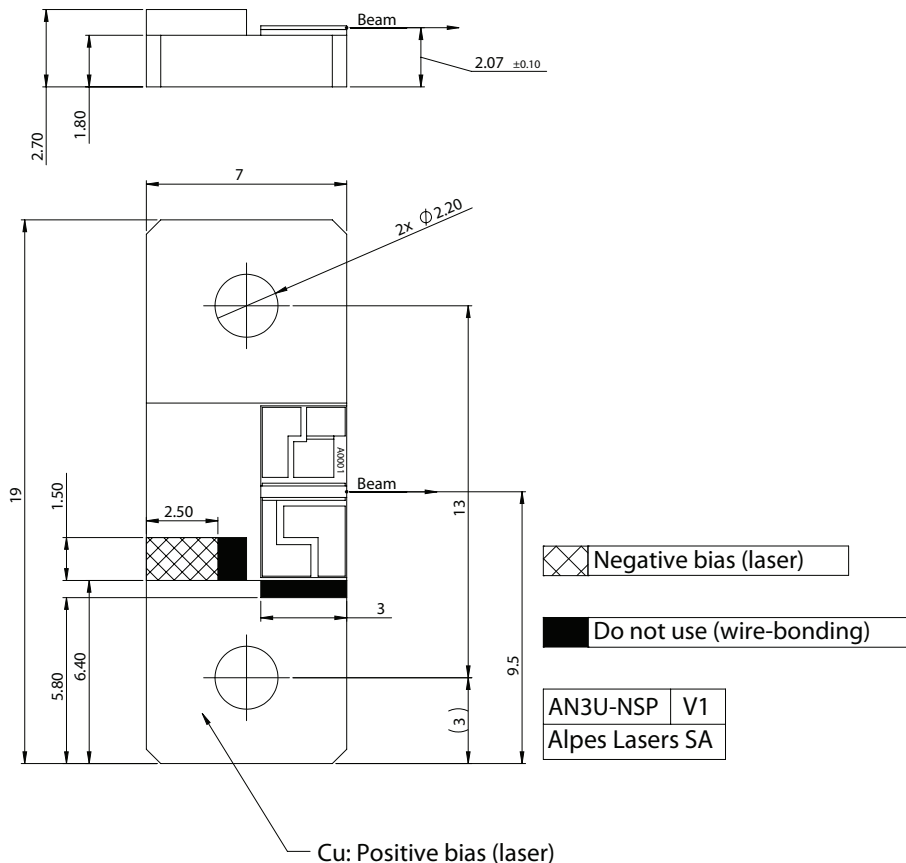


Figure 1: Mechanical and electrical interface for #sbcw9085 DN

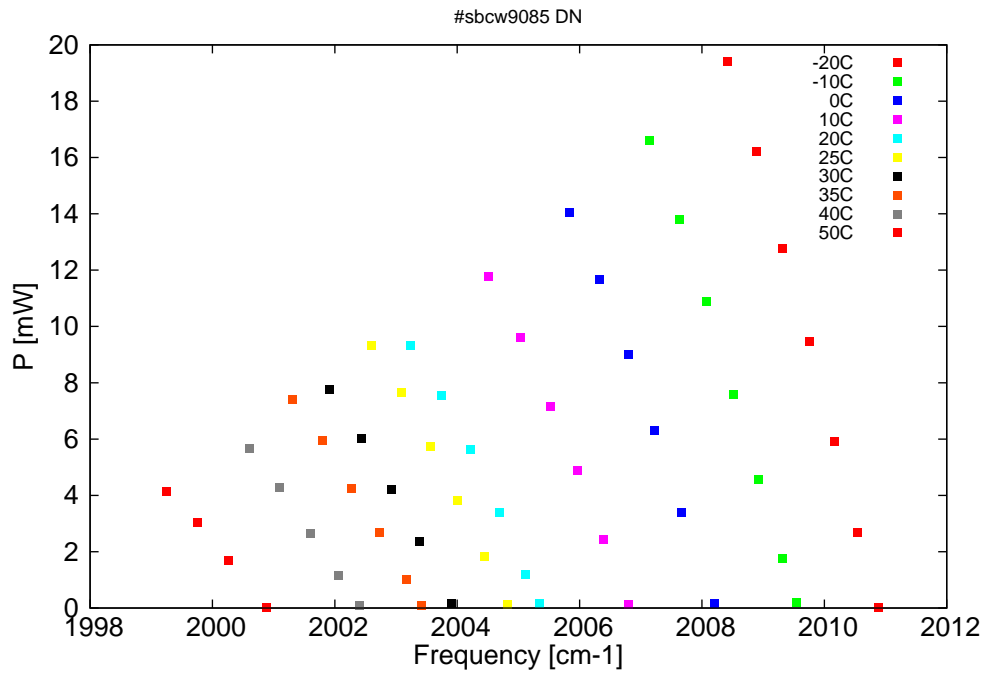


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

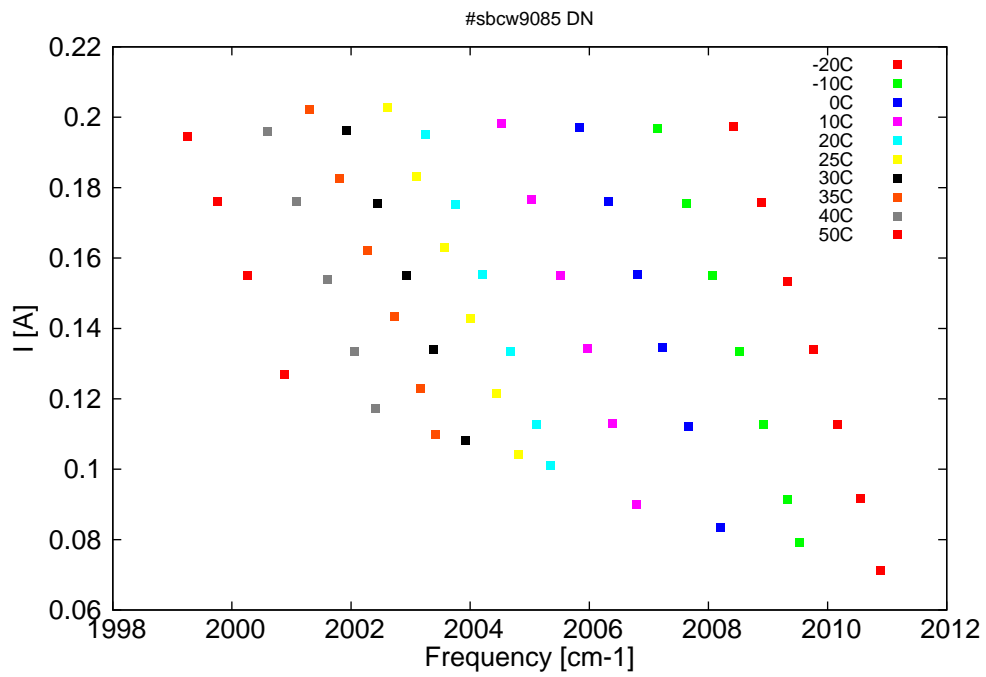


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4972.9	2010.9	0	-20	10.38	0.071
4973.8	2010.5	2.7	-20	10.76	0.092
4974.7	2010.2	5.9	-20	11.1	0.113
4975.7	2009.8	9.5	-20	11.43	0.134
4976.8	2009.3	12.8	-20	11.75	0.153
4977.9	2008.9	16.2	-20	12.05	0.176
4979	2008.4	19.4	-20	12.36	0.197
4976.3	2009.5	0.2	-10	10.42	0.079
4976.8	2009.3	1.8	-10	10.62	0.091
4977.8	2008.9	4.6	-10	10.99	0.113
4978.8	2008.5	7.6	-10	11.3	0.133
4979.9	2008.1	10.9	-10	11.62	0.155
4981	2007.6	13.8	-10	11.92	0.175
4982.2	2007.2	16.6	-10	12.23	0.197
4979.6	2008.2	0.2	0	10.38	0.084
4980.9	2007.7	3.4	0	10.86	0.112
4982	2007.2	6.3	0	11.2	0.134
4983.1	2006.8	9	0	11.51	0.155
4984.2	2006.3	11.7	0	11.81	0.176
4985.4	2005.8	14	0	12.11	0.197
4983.1	2006.8	0.1	10	10.41	0.09
4984.1	2006.4	2.5	10	10.75	0.113
4985.1	2006	4.9	10	11.08	0.134
4986.2	2005.5	7.2	10	11.39	0.155
4987.4	2005	9.6	10	11.7	0.177
4988.7	2004.5	11.8	10	12.01	0.198
4986.7	2005.3	0.2	20	10.45	0.101
4987.2	2005.1	1.2	20	10.63	0.113
4988.3	2004.7	3.4	20	10.95	0.134
4989.5	2004.2	5.6	20	11.28	0.155
4990.6	2003.7	7.5	20	11.57	0.175
4991.9	2003.2	9.3	20	11.87	0.195
4988	2004.8	0.1	25	10.5	0.104
4988.9	2004.4	1.8	25	10.79	0.122
4990	2004	3.8	25	11.11	0.143
4991.1	2003.6	5.7	25	11.38	0.163
4992.3	2003.1	7.6	25	11.67	0.183
4993.5	2002.6	9.3	25	11.94	0.203
4990.2	2003.9	0.2	30	10.47	0.108
4991.6	2003.4	2.4	30	10.85	0.134
4992.7	2002.9	4.2	30	11.16	0.155
4993.9	2002.4	6	30	11.46	0.175
4995.2	2001.9	7.7	30	11.75	0.196
4991.5	2003.4	0.1	35	10.49	0.11
4992.1	2003.2	1	35	10.68	0.123
4993.2	2002.7	2.7	35	10.99	0.143
4994.3	2002.3	4.2	35	11.27	0.162
4995.5	2001.8	6	35	11.54	0.183
4996.7	2001.3	7.4	35	11.82	0.202

*continued on next page*

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4994	2002.4	0.1	40	10.52	0.117
4994.8	2002.1	1.1	40	10.75	0.134
4996	2001.6	2.7	40	11.05	0.154
4997.3	2001.1	4.3	40	11.35	0.176
4998.5	2000.6	5.7	40	11.63	0.196
4997.8	2000.9	0	50	10.57	0.127
4999.3	2000.3	1.7	50	10.95	0.155
5000.6	1999.8	3	50	11.25	0.176
5001.9	1999.3	4.1	50	11.53	0.195

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

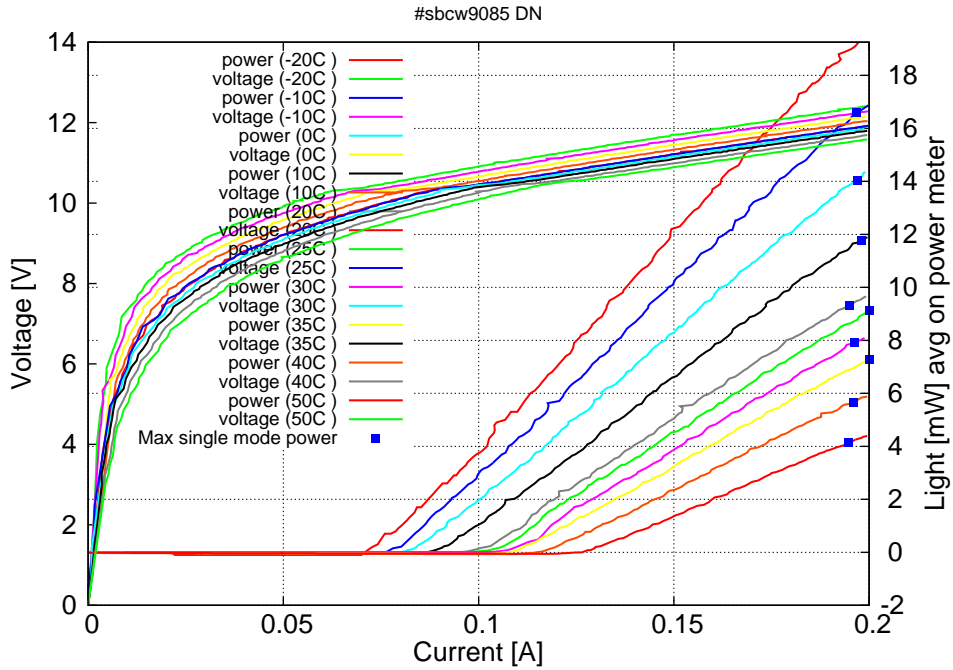


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.07A$  /  $V_{th}=10.4V$  (2-wires measurements). Maximum operation current: 0.20A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

