

**Datasheet for #sbcw22878 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 bias and positive bias on the specific zones drawn below. 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 #sbcw22878 DN (please note that AlN submount numbering is A0XEZ)

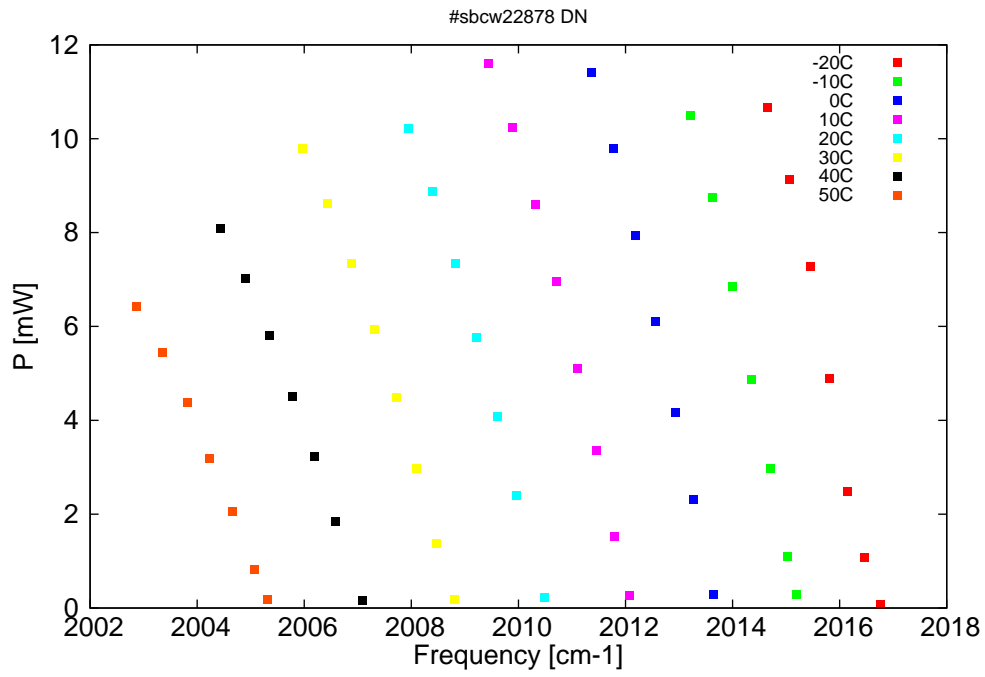


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

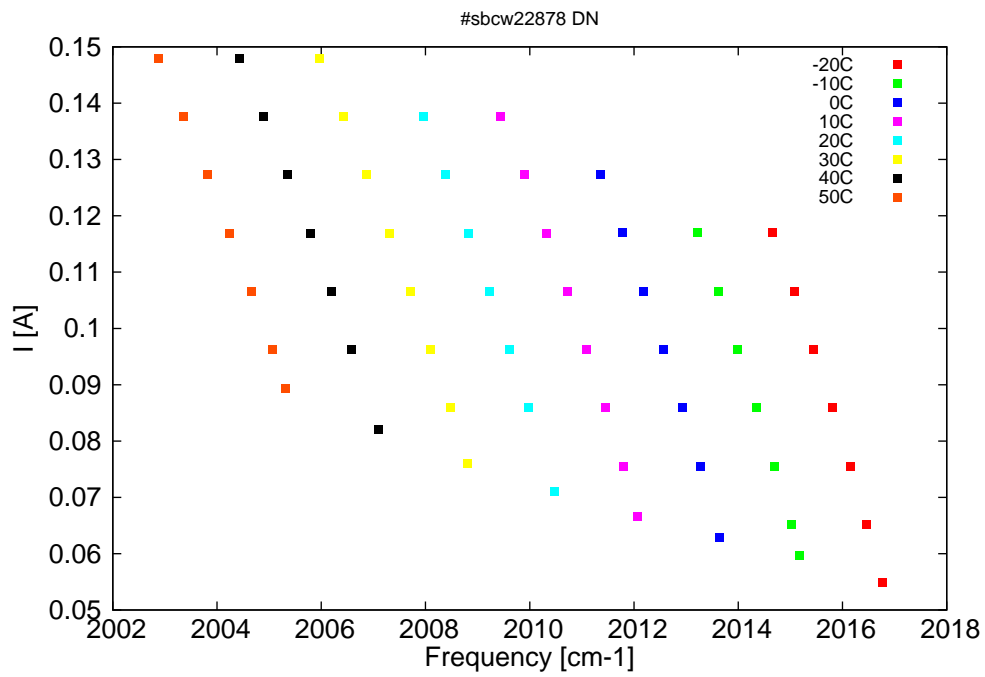


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4958.4	2016.8	0.1	-20	11.81	0.055
4959.2	2016.5	1.1	-20	12.14	0.065
4959.9	2016.2	2.5	-20	12.47	0.076
4960.8	2015.8	4.9	-20	12.79	0.086
4961.7	2015.4	7.3	-20	13.12	0.096
4962.6	2015.1	9.1	-20	13.45	0.107
4963.6	2014.6	10.7	-20	13.81	0.117
4962.3	2015.2	0.3	-10	11.77	0.06
4962.7	2015	1.1	-10	11.94	0.065
4963.5	2014.7	3	-10	12.26	0.076
4964.4	2014.4	4.9	-10	12.57	0.086
4965.3	2014	6.9	-10	12.87	0.096
4966.2	2013.6	8.7	-10	13.18	0.107
4967.2	2013.2	10.5	-10	13.5	0.117
4966.1	2013.6	0.3	0	11.7	0.063
4967	2013.3	2.3	0	12.07	0.076
4967.9	2012.9	4.2	0	12.36	0.086
4968.8	2012.6	6.1	0	12.66	0.096
4969.7	2012.2	7.9	0	12.95	0.107
4970.7	2011.8	9.8	0	13.25	0.117
4971.8	2011.4	11.4	0	13.55	0.127
4970	2012.1	0.3	10	11.66	0.067
4970.7	2011.8	1.5	10	11.91	0.076
4971.5	2011.5	3.4	10	12.19	0.086
4972.4	2011.1	5.1	10	12.47	0.096
4973.3	2010.7	7	10	12.75	0.107
4974.3	2010.3	8.6	10	13.03	0.117
4975.4	2009.9	10.2	10	13.32	0.127
4976.5	2009.4	11.6	10	13.62	0.138
4973.9	2010.5	0.2	20	11.64	0.071
4975.2	2010	2.4	20	12.03	0.086
4976.1	2009.6	4.1	20	12.31	0.096
4977	2009.2	5.8	20	12.58	0.107
4978.1	2008.8	7.3	20	12.84	0.117
4979.1	2008.4	8.9	20	13.12	0.127
4980.2	2008	10.2	20	13.39	0.138
4978.1	2008.8	0.2	30	11.65	0.076
4978.9	2008.5	1.4	30	11.9	0.086
4979.8	2008.1	3	30	12.16	0.096
4980.8	2007.7	4.5	30	12.42	0.107
4981.8	2007.3	5.9	30	12.68	0.117
4982.9	2006.9	7.3	30	12.94	0.127
4984	2006.4	8.6	30	13.2	0.138
4985.1	2006	9.8	30	13.47	0.148
4982.3	2007.1	0.2	40	11.68	0.082
4983.6	2006.6	1.8	40	12.02	0.096
4984.6	2006.2	3.2	40	12.27	0.107
4985.6	2005.8	4.5	40	12.52	0.117
4986.7	2005.3	5.8	40	12.77	0.127

*continued on next page*

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4987.8	2004.9	7	40	13.03	0.138
4989	2004.4	8.1	40	13.28	0.148
4986.8	2005.3	0.2	50	11.75	0.089
4987.4	2005.1	0.8	50	11.9	0.096
4988.4	2004.7	2	50	12.14	0.107
4989.4	2004.2	3.2	50	12.39	0.117
4990.5	2003.8	4.4	50	12.62	0.127
4991.6	2003.3	5.5	50	12.86	0.138
4992.8	2002.9	6.4	50	13.11	0.148

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

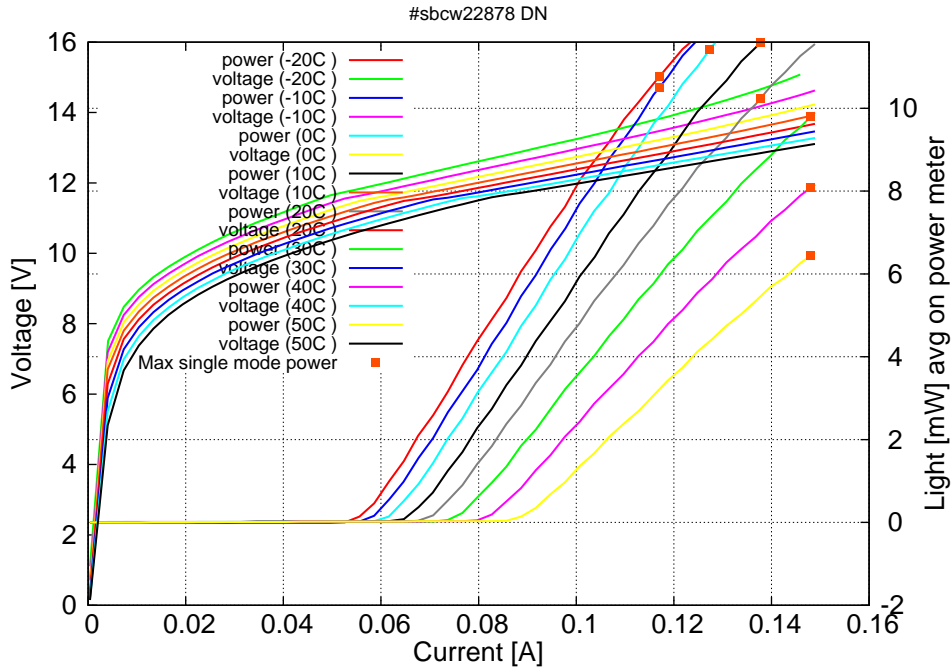


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.06A$  /  $V_{th}=11.8V$  (2-wires measurements). Maximum operation current: 0.12A between -20C and -10C, 0.13A at 0C, 0.14A between 10C and 20C, 0.15A between 30C and 50C.

Figure 3: spectra at different temperatures for various DC currents

