

**Datasheet for #sbcw22872 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 #sbcw22872 DN (please note that AlN submount numbering is A0WZ7)

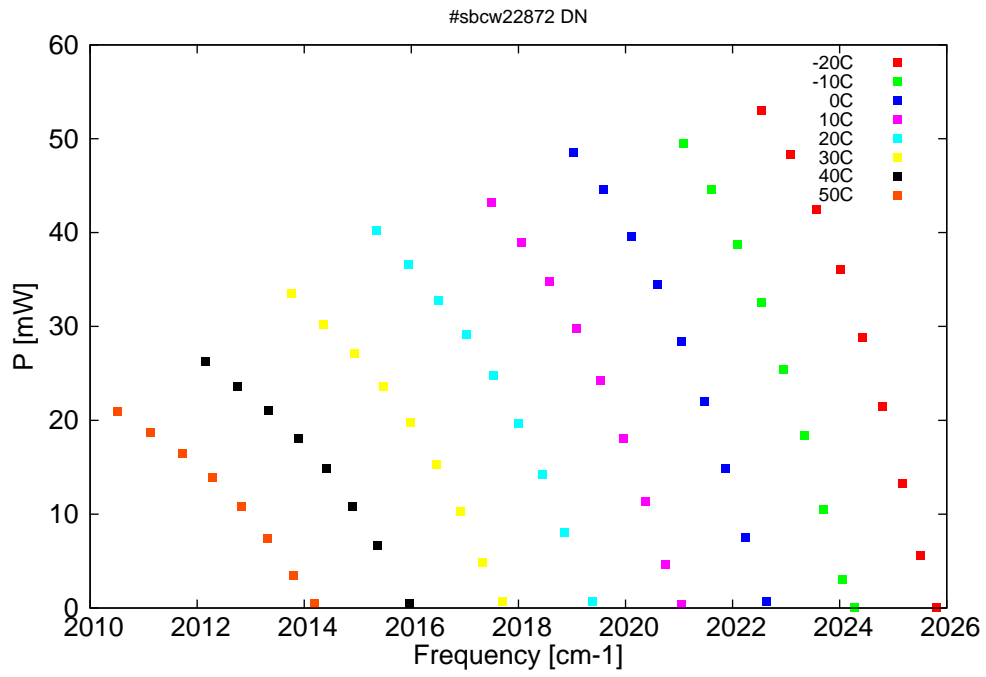


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

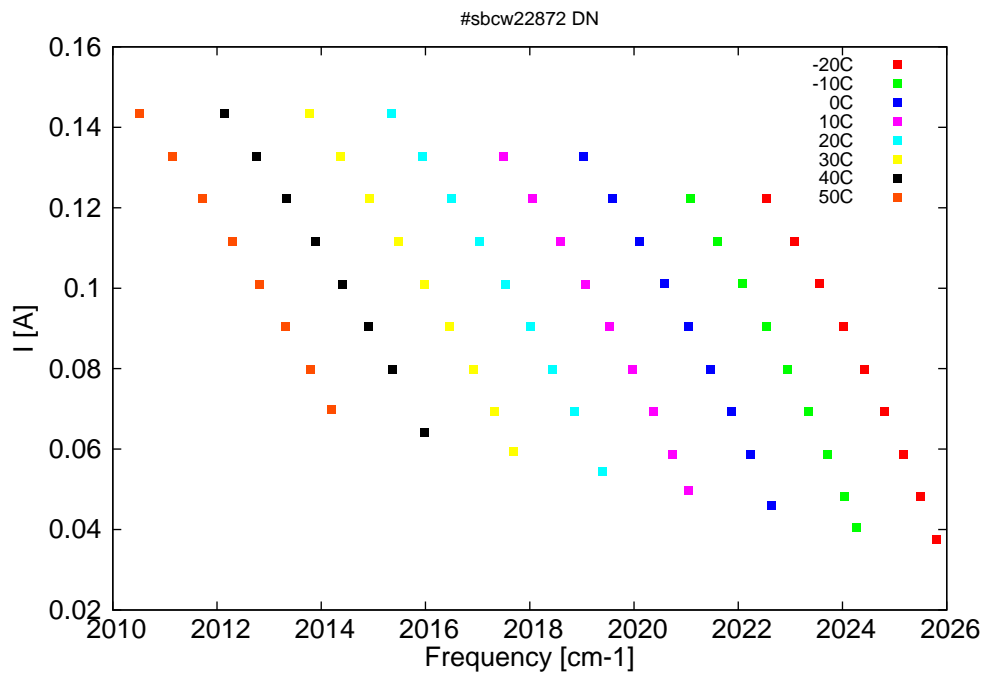


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4936.3	2025.8	0	-20	11.3	0.038
4937	2025.5	5.6	-20	11.68	0.048
4937.9	2025.2	13.3	-20	12.05	0.059
4938.7	2024.8	21.5	-20	12.4	0.069
4939.7	2024.4	28.8	-20	12.73	0.08
4940.7	2024	36.1	-20	13.06	0.091
4941.8	2023.6	42.5	-20	13.4	0.101
4943	2023.1	48.3	-20	13.76	0.112
4944.3	2022.5	53	-20	14.17	0.122
4940	2024.3	0.1	-10	11.25	0.041
4940.6	2024	3	-10	11.5	0.048
4941.4	2023.7	10.5	-10	11.86	0.059
4942.3	2023.3	18.3	-10	12.19	0.069
4943.3	2023	25.4	-10	12.51	0.08
4944.3	2022.5	32.5	-10	12.82	0.091
4945.4	2022.1	38.8	-10	13.13	0.101
4946.6	2021.6	44.6	-10	13.45	0.112
4947.9	2021.1	49.5	-10	13.81	0.122
4944	2022.6	0.7	0	11.27	0.046
4945	2022.2	7.6	0	11.68	0.059
4945.9	2021.9	14.9	0	12	0.069
4946.9	2021.5	22	0	12.31	0.08
4947.9	2021	28.4	0	12.61	0.091
4949	2020.6	34.5	0	12.9	0.101
4950.2	2020.1	39.6	0	13.21	0.112
4951.5	2019.6	44.5	0	13.52	0.122
4952.9	2019	48.6	0	13.87	0.133
4947.9	2021	0.4	10	11.25	0.05
4948.7	2020.7	4.7	10	11.52	0.059
4949.6	2020.4	11.3	10	11.84	0.069
4950.6	2020	18	10	12.14	0.08
4951.6	2019.5	24.2	10	12.43	0.091
4952.8	2019.1	29.8	10	12.71	0.101
4954	2018.6	34.8	10	13	0.112
4955.3	2018.1	39	10	13.29	0.122
4956.6	2017.5	43.2	10	13.6	0.133
4952	2019.4	0.7	20	11.27	0.054
4953.3	2018.9	8.1	20	11.69	0.069
4954.3	2018.4	14.2	20	11.98	0.08
4955.4	2018	19.7	20	12.26	0.091
4956.5	2017.5	24.8	20	12.53	0.101
4957.8	2017	29.1	20	12.8	0.112
4959.1	2016.5	32.7	20	13.08	0.122
4960.5	2015.9	36.6	20	13.36	0.133
4961.9	2015.4	40.2	20	13.67	0.143
4956.2	2017.7	0.7	30	11.3	0.059
4957	2017.3	4.8	30	11.56	0.069
4958.1	2016.9	10.3	30	11.84	0.08
4959.2	2016.5	15.3	30	12.11	0.09

*continued on next page*

$\lambda$ [nm]	$\nu$ [ $\text{cm}^{-1}$ ]	P[mW]	Temp[ $^{\circ}\text{C}$ ]	$U_{LASER}$ [V]	I[A]
4960.4	2016	19.8	30	12.38	0.101
4961.6	2015.5	23.7	30	12.64	0.112
4962.9	2014.9	27.1	30	12.9	0.122
4964.3	2014.4	30.2	30	13.17	0.133
4965.8	2013.8	33.5	30	13.45	0.143
4960.4	2016	0.4	40	11.31	0.064
4961.9	2015.4	6.7	40	11.7	0.08
4963	2014.9	10.9	40	11.97	0.09
4964.2	2014.4	14.9	40	12.22	0.101
4965.5	2013.9	18.1	40	12.48	0.112
4966.9	2013.3	21.1	40	12.73	0.122
4968.3	2012.8	23.6	40	12.99	0.133
4969.8	2012.2	26.2	40	13.25	0.143
4964.8	2014.2	0.5	50	11.36	0.07
4965.8	2013.8	3.4	50	11.58	0.08
4966.9	2013.3	7.4	50	11.84	0.09
4968.2	2012.8	10.8	50	12.09	0.101
4969.5	2012.3	13.9	50	12.33	0.112
4970.9	2011.7	16.5	50	12.58	0.122
4972.3	2011.1	18.7	50	12.82	0.133
4973.8	2010.5	20.9	50	13.07	0.143

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

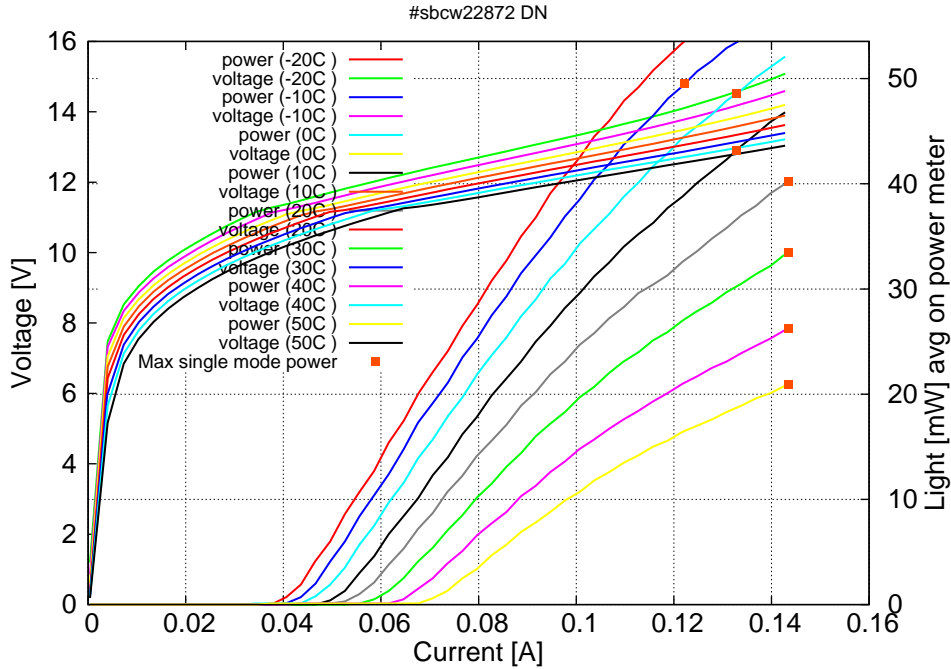


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.04\text{A}$  /  $V_{th}=11.4\text{V}$  (2-wires measurements). Maximum operation

current: 0.12A between -20C and -10C, 0.135A between 0C and 10C, 0.145A between 20C and 50C.

Figure 3: spectra at different temperatures for various DC currents

