

Datasheet for #sbcw23677 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 #sbcw23677 DN

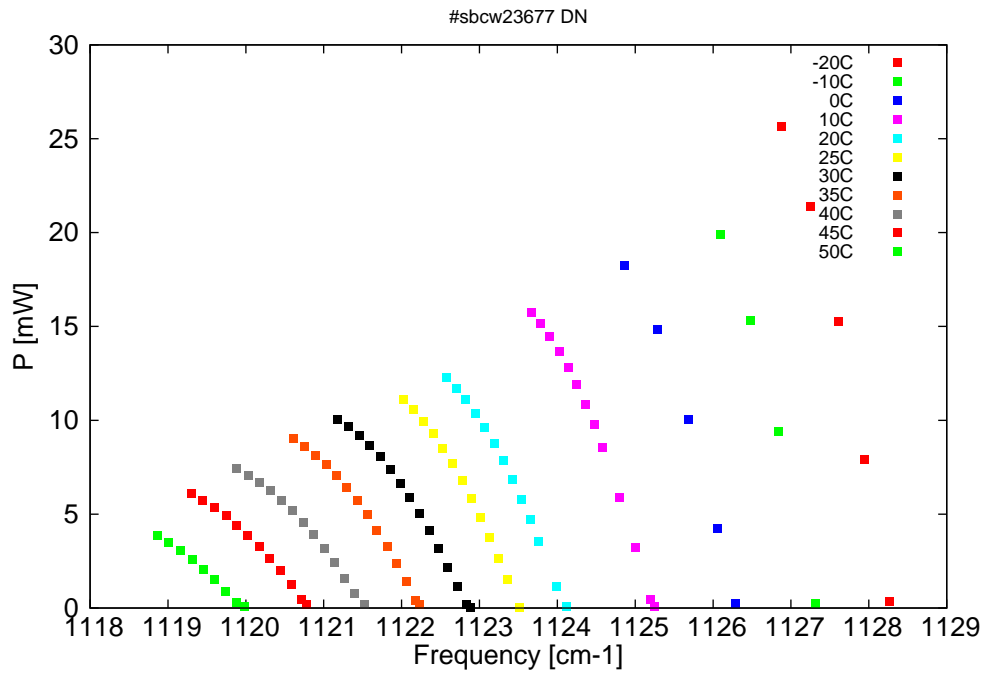


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

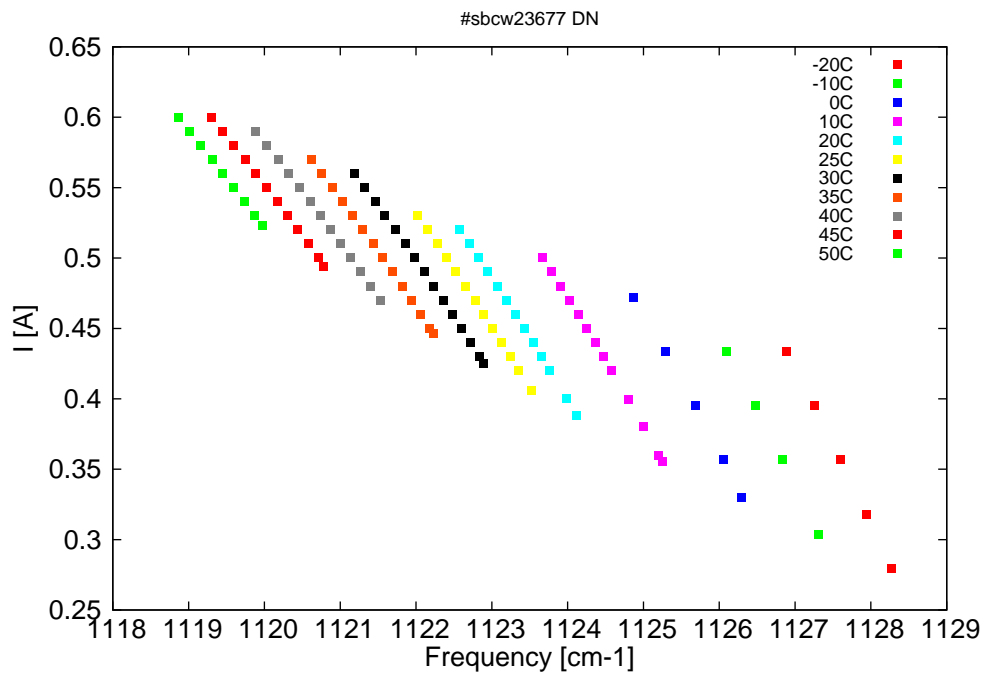


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
8863.1	1128.3	0.4	-20	9.55	0.28
8865.7	1127.9	7.9	-20	9.83	0.318
8868.4	1127.6	15.3	-20	10.1	0.357
8871.1	1127.3	21.4	-20	10.35	0.395
8874	1126.9	25.6	-20	10.61	0.434
8870.7	1127.3	0.2	-10	9.64	0.304
8874.4	1126.8	9.4	-10	10.02	0.357
8877.2	1126.5	15.3	-10	10.28	0.395
8880.2	1126.1	19.9	-10	10.54	0.434
8878.7	1126.3	0.2	0	9.75	0.33
8880.5	1126.1	4.2	0	9.94	0.357
8883.5	1125.7	10.1	0	10.2	0.395
8886.6	1125.3	14.9	0	10.46	0.434
8890	1124.9	18.2	0	10.71	0.472
8886.9	1125.2	0.1	10	9.87	0.356
8887.3	1125.2	0.5	10	9.9	0.36
8888.9	1125	3.2	10	10.04	0.38
8890.5	1124.8	5.9	10	10.17	0.4
8892.2	1124.6	8.6	10	10.31	0.42
8893	1124.5	9.8	10	10.38	0.43
8893.9	1124.4	10.9	10	10.45	0.44
8894.8	1124.2	11.9	10	10.52	0.45
8895.7	1124.1	12.8	10	10.58	0.46
8896.6	1124	13.7	10	10.65	0.47
8897.6	1123.9	14.5	10	10.71	0.48
8898.5	1123.8	15.2	10	10.77	0.49
8899.4	1123.7	15.8	10	10.84	0.5
8895.9	1124.1	0.1	20	10.02	0.388
8896.9	1124	1.1	20	10.1	0.4
8898.7	1123.8	3.6	20	10.24	0.42
8899.5	1123.7	4.7	20	10.3	0.43
8900.4	1123.5	5.8	20	10.37	0.44
8901.4	1123.4	6.9	20	10.44	0.45
8902.3	1123.3	7.9	20	10.51	0.46
8903.2	1123.2	8.8	20	10.58	0.47
8904.2	1123.1	9.6	20	10.64	0.48
8905.2	1122.9	10.4	20	10.7	0.49
8906.1	1122.8	11.1	20	10.77	0.5
8907	1122.7	11.7	20	10.83	0.51
8908.1	1122.6	12.3	20	10.9	0.52
8900.6	1123.5	0	25	10.1	0.406
8901.9	1123.4	1.5	25	10.2	0.42
8902.8	1123.2	2.6	25	10.27	0.43
8903.7	1123.1	3.8	25	10.33	0.44
8904.6	1123	4.8	25	10.4	0.45
8905.6	1122.9	5.9	25	10.47	0.46
8906.5	1122.8	6.8	25	10.54	0.47
8907.5	1122.7	7.7	25	10.6	0.48
8908.5	1122.5	8.5	25	10.67	0.49

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
8909.4	1122.4	9.3	25	10.73	0.5
8910.4	1122.3	9.9	25	10.8	0.51
8911.5	1122.1	10.6	25	10.86	0.52
8912.5	1122	11.1	25	10.92	0.53
8905.6	1122.9	0	30	10.2	0.425
8906	1122.8	0.2	30	10.23	0.43
8906.9	1122.7	1.1	30	10.3	0.44
8907.9	1122.6	2.2	30	10.36	0.45
8908.9	1122.5	3.2	30	10.43	0.46
8909.8	1122.4	4.1	30	10.5	0.47
8910.8	1122.2	5	30	10.57	0.48
8911.8	1122.1	5.9	30	10.63	0.49
8912.8	1122	6.6	30	10.7	0.5
8913.8	1121.9	7.4	30	10.76	0.51
8914.8	1121.7	8.1	30	10.82	0.52
8915.9	1121.6	8.7	30	10.89	0.53
8916.9	1121.5	9.2	30	10.95	0.54
8918	1121.3	9.7	30	11.02	0.55
8919.1	1121.2	10.1	30	11.08	0.56
8910.8	1122.2	0.2	35	10.3	0.446
8911.2	1122.2	0.4	35	10.32	0.45
8912.2	1122.1	1.4	35	10.39	0.46
8913.1	1121.9	2.4	35	10.46	0.47
8914.1	1121.8	3.3	35	10.53	0.48
8915.2	1121.7	4.1	35	10.6	0.49
8916.2	1121.6	5	35	10.66	0.5
8917.1	1121.4	5.7	35	10.73	0.51
8918.2	1121.3	6.4	35	10.79	0.52
8919.3	1121.2	7.1	35	10.85	0.53
8920.3	1121	7.6	35	10.92	0.54
8921.5	1120.9	8.1	35	10.98	0.55
8922.6	1120.8	8.6	35	11.04	0.56
8923.7	1120.6	9	35	11.11	0.57
8916.4	1121.5	0.2	40	10.42	0.47
8917.5	1121.4	0.8	40	10.49	0.48
8918.5	1121.3	1.6	40	10.56	0.49
8919.5	1121.1	2.4	40	10.62	0.5
8920.5	1121	3.2	40	10.69	0.51
8921.6	1120.9	3.9	40	10.75	0.52
8922.7	1120.7	4.6	40	10.82	0.53
8923.8	1120.6	5.2	40	10.88	0.54
8924.9	1120.5	5.7	40	10.94	0.55
8926	1120.3	6.2	40	11.01	0.56
8927.1	1120.2	6.7	40	11.07	0.57
8928.3	1120	7.1	40	11.14	0.58
8929.5	1119.9	7.4	40	11.2	0.59
8922.3	1120.8	0.2	45	10.55	0.494
8922.9	1120.7	0.5	45	10.58	0.5
8923.9	1120.6	1.3	45	10.65	0.51

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
8925.1	1120.4	2	45	10.72	0.52
8926.1	1120.3	2.7	45	10.78	0.53
8927.2	1120.2	3.3	45	10.84	0.54
8928.4	1120	3.9	45	10.9	0.55
8929.5	1119.9	4.4	45	10.97	0.56
8930.6	1119.7	4.9	45	11.03	0.57
8931.8	1119.6	5.3	45	11.1	0.58
8933	1119.4	5.7	45	11.16	0.59
8934.1	1119.3	6.1	45	11.22	0.6
8928.8	1120	0.1	50	10.69	0.523
8929.6	1119.9	0.3	50	10.74	0.53
8930.6	1119.7	0.9	50	10.8	0.54
8931.8	1119.6	1.5	50	10.87	0.55
8933	1119.5	2.1	50	10.93	0.56
8934.1	1119.3	2.6	50	11	0.57
8935.3	1119.2	3.1	50	11.06	0.58
8936.5	1119	3.5	50	11.13	0.59
8937.7	1118.9	3.9	50	11.19	0.6

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

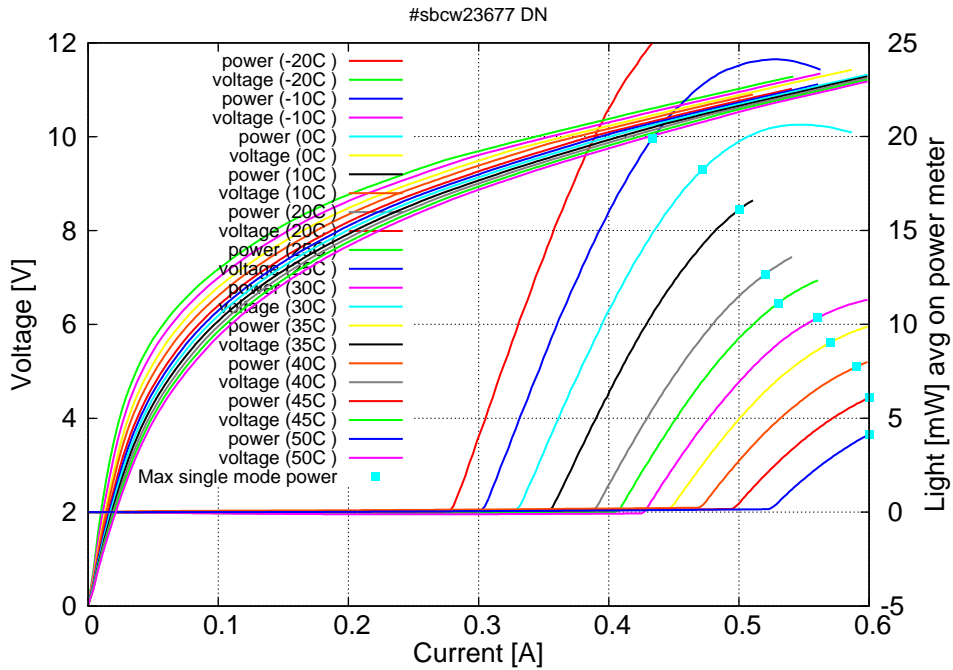


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.27A$ / $V_{th}=9.5V$ (2-wires measurements). Maximum operation current: 0.43A between -20C and -10C, 0.47A at 0C, 0.50A at 10C, 0.52A at 20C, 0.53 at 25C, 0.56A at 30C, 0.57A at 35C, 0.59A at 40C, 0.60A between 45C and 50C.

Figure 3: spectra at different temperatures for various DC currents

