

Datasheet for #sbcw15385 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.

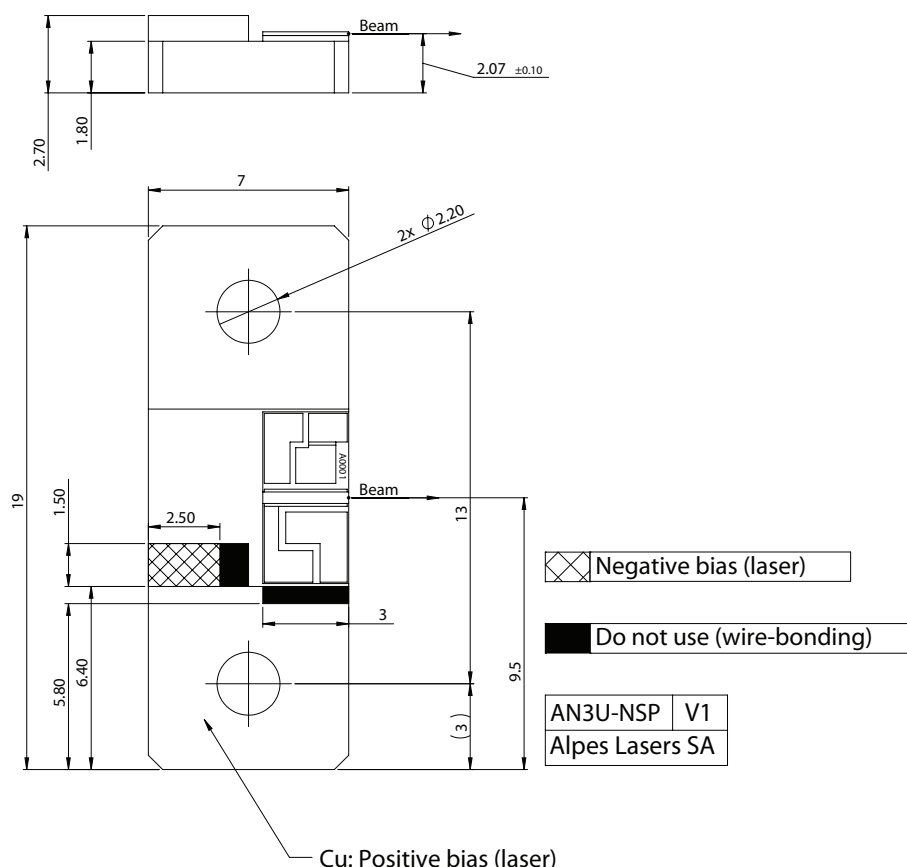


Figure 1: Mechanical and electrical interface for #sbcw15385 DN

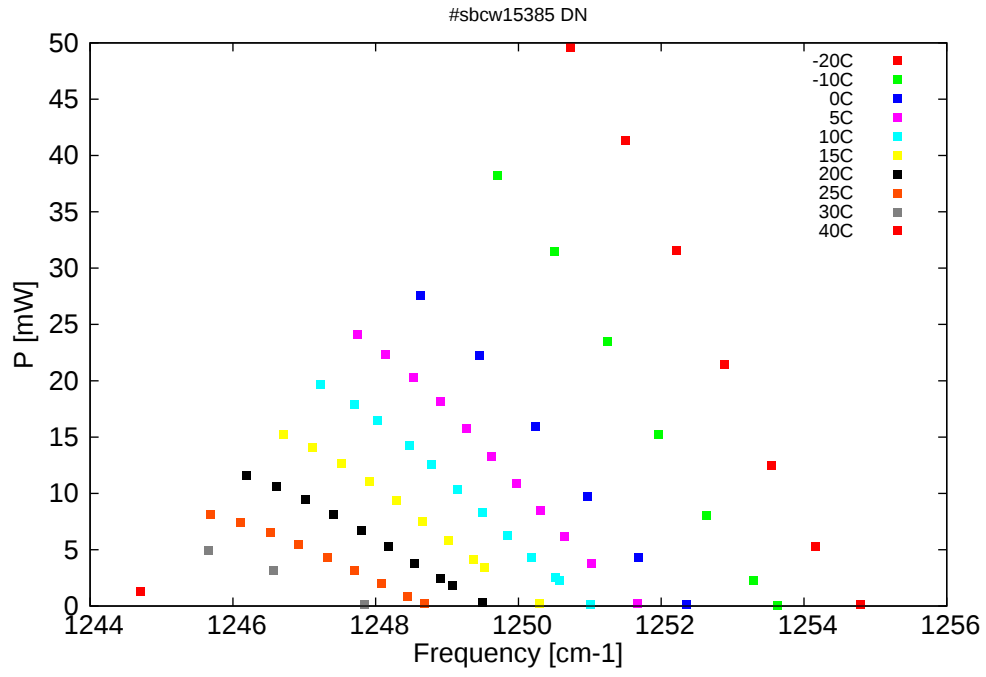


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

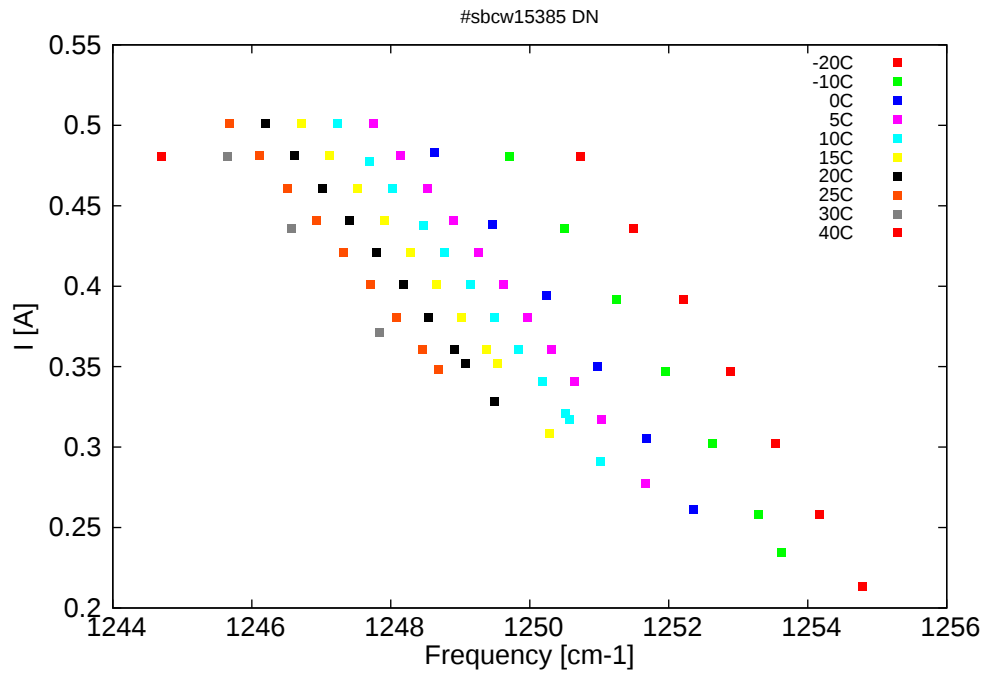


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
7969.4	1254.8	0.2	-20	7.33	0.214
7973.4	1254.2	5.3	-20	7.52	0.258
7977.4	1253.5	12.5	-20	7.69	0.303
7981.6	1252.9	21.5	-20	7.85	0.347
7985.9	1252.2	31.6	-20	8.02	0.392
7990.4	1251.5	41.3	-20	8.2	0.436
7995.4	1250.7	49.6	-20	8.38	0.481
7976.8	1253.6	0.1	-10	7.36	0.235
7979	1253.3	2.3	-10	7.46	0.258
7983.2	1252.6	8.1	-10	7.64	0.303
7987.5	1252	15.3	-10	7.81	0.347
7992	1251.3	23.5	-10	7.99	0.392
7996.8	1250.5	31.5	-10	8.17	0.436
8001.9	1249.7	38.3	-10	8.35	0.481
7984.9	1252.4	0.1	0	7.42	0.261
7989.3	1251.7	4.3	0	7.61	0.306
7993.8	1251	9.7	0	7.78	0.35
7998.5	1250.2	15.9	0	7.96	0.394
8003.5	1249.5	22.2	0	8.15	0.439
8008.8	1248.6	27.6	0	8.33	0.483
7989.3	1251.7	0.2	5	7.46	0.277
7993.4	1251	3.7	5	7.63	0.317
7995.9	1250.6	6.2	5	7.72	0.341
7998	1250.3	8.5	5	7.8	0.361
8000.2	1250	10.9	5	7.88	0.381
8002.4	1249.6	13.3	5	7.97	0.401
8004.7	1249.3	15.8	5	8.05	0.421
8007	1248.9	18.2	5	8.14	0.441
8009.4	1248.5	20.3	5	8.22	0.461
8011.9	1248.1	22.3	5	8.31	0.481
8014.4	1247.7	24.1	5	8.39	0.501
7993.5	1251	0.1	10	7.49	0.291
7996.3	1250.6	2.2	10	7.6	0.317
7996.7	1250.5	2.5	10	7.62	0.321
7998.8	1250.2	4.3	10	7.7	0.341
8001	1249.8	6.3	10	7.78	0.361
8003.2	1249.5	8.3	10	7.87	0.381
8005.5	1249.1	10.4	10	7.95	0.401
8007.8	1248.8	12.5	10	8.04	0.421
8009.8	1248.5	14.2	10	8.11	0.438
8012.7	1248	16.4	10	8.21	0.461
8014.7	1247.7	17.9	10	8.28	0.478
8017.8	1247.2	19.7	10	8.38	0.501
7998.1	1250.3	0.2	15	7.54	0.308
8003	1249.5	3.4	15	7.72	0.352
8004	1249.4	4.1	15	7.76	0.361
8006.3	1249	5.8	15	7.85	0.381
8008.6	1248.7	7.5	15	7.93	0.401
8011	1248.3	9.3	15	8.02	0.421

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$\lambda[\text{nm}]$	$\nu[\text{cm}^{-1}]$	P[mW]	Temp[°C]	$U_{LASER}[\text{V}]$	I[A]
8013.4	1247.9	11	15	8.11	0.441
8015.9	1247.5	12.6	15	8.19	0.461
8018.5	1247.1	14.1	15	8.28	0.481
8021.1	1246.7	15.2	15	8.37	0.501
8003.2	1249.5	0.3	20	7.6	0.328
8005.9	1249.1	1.8	20	7.7	0.352
8007	1248.9	2.4	20	7.74	0.361
8009.3	1248.5	3.8	20	7.82	0.381
8011.7	1248.2	5.3	20	7.91	0.401
8014.1	1247.8	6.8	20	8	0.421
8016.6	1247.4	8.1	20	8.09	0.441
8019.1	1247	9.5	20	8.17	0.461
8021.7	1246.6	10.7	20	8.26	0.481
8024.5	1246.2	11.6	20	8.35	0.501
8008.4	1248.7	0.2	25	7.66	0.349
8009.9	1248.5	0.9	25	7.71	0.361
8012.3	1248.1	2	25	7.8	0.381
8014.7	1247.7	3.1	25	7.89	0.401
8017.2	1247.3	4.3	25	7.98	0.421
8019.7	1246.9	5.4	25	8.07	0.441
8022.3	1246.5	6.5	25	8.16	0.461
8025	1246.1	7.4	25	8.24	0.481
8027.7	1245.7	8.1	25	8.34	0.501
8013.9	1247.8	0.2	30	7.73	0.371
8022	1246.6	3.2	30	8.03	0.436
8027.9	1245.7	5	30	8.22	0.481
8034	1244.7	1.2	40	8.18	0.481

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

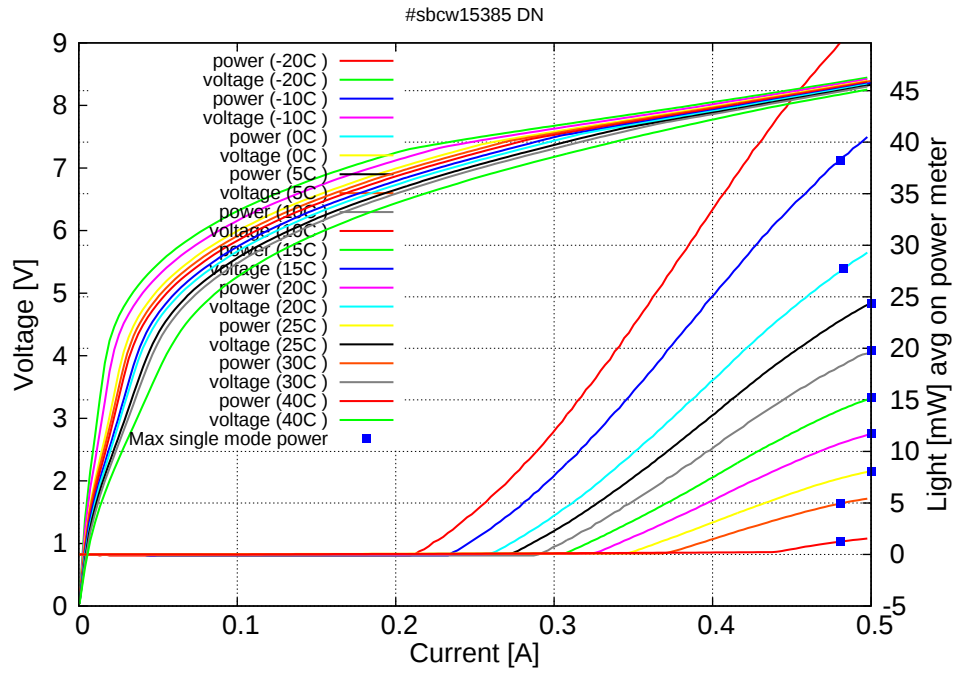


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.21A$ / $V_{th}=7.3V$ (2-wires measurements). Maximum operation current: 0.485A between -20C and 0C, 0.50A between 5C and 40C.

Figure 3: spectra at different temperatures for various DC currents

