

Datasheet for #sbcw12119 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.

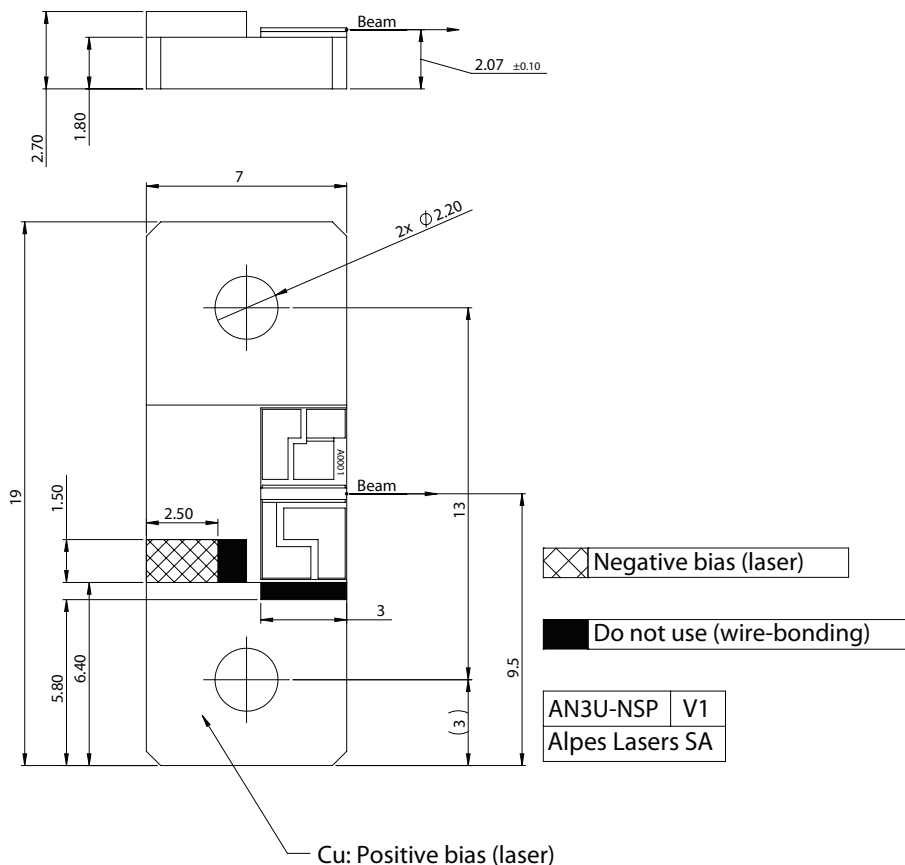


Figure 1: Mechanical and electrical interface for #sbcw12119 DN

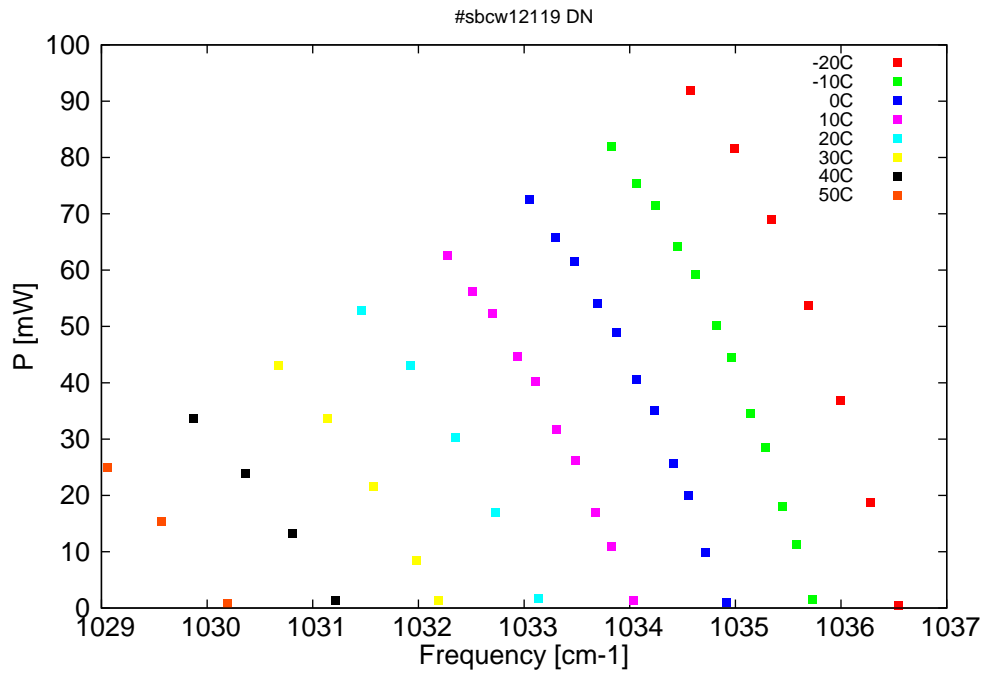


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

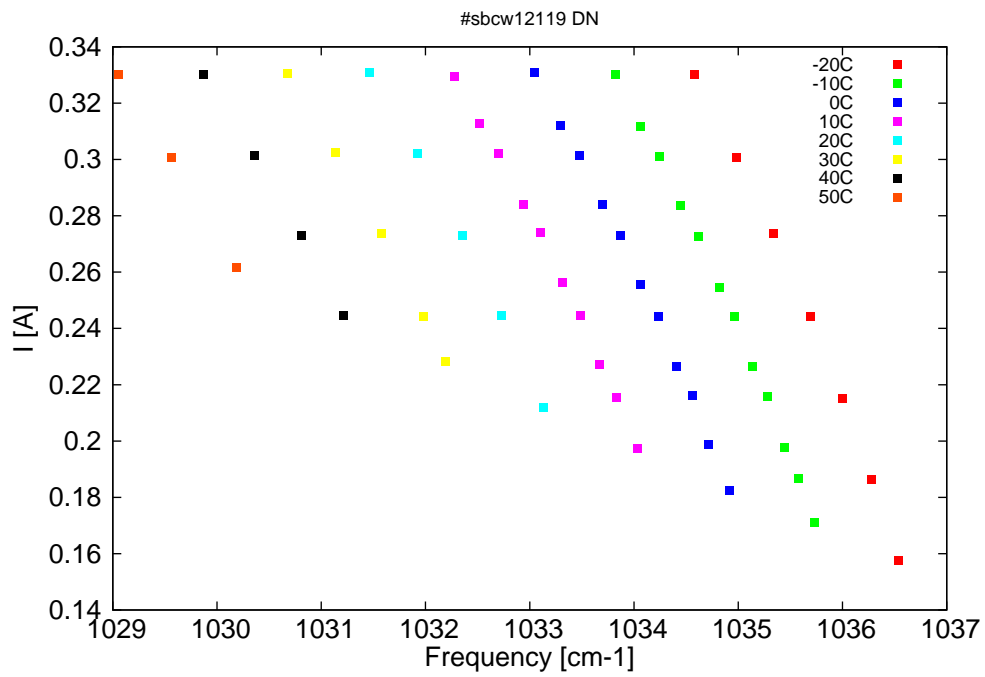


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9647.5	1036.5	0.5	-20	8.9	0.16
9649.9	1036.3	18.7	-20	9.2	0.19
9652.5	1036	36.8	-20	9.5	0.22
9655.4	1035.7	53.8	-20	9.8	0.24
9658.7	1035.3	69	-20	10.1	0.27
9662	1035	81.5	-20	10.4	0.3
9665.8	1034.6	92	-20	10.8	0.33
9655	1035.7	1.5	-10	8.9	0.17
9656.4	1035.6	11.3	-10	9.1	0.19
9657.7	1035.4	18	-10	9.2	0.2
9659.2	1035.3	28.5	-10	9.4	0.22
9660.5	1035.1	34.6	-10	9.6	0.23
9662.2	1035	44.6	-10	9.7	0.24
9663.5	1034.8	50.2	-10	9.9	0.25
9665.4	1034.6	59.3	-10	10	0.27
9667	1034.5	64.2	-10	10.2	0.28
9668.9	1034.2	71.4	-10	10.4	0.3
9670.6	1034.1	75.4	-10	10.5	0.31
9672.8	1033.8	82	-10	10.7	0.33
9662.6	1034.9	1.1	0	9	0.18
9664.5	1034.7	9.9	0	9.2	0.2
9666	1034.6	19.9	0	9.4	0.22
9667.3	1034.4	25.6	0	9.5	0.23
9669	1034.2	35.1	0	9.7	0.24
9670.6	1034.1	40.6	0	9.8	0.26
9672.4	1033.9	48.9	0	10	0.27
9674	1033.7	54.1	0	10.1	0.28
9676	1033.5	61.6	0	10.3	0.3
9677.8	1033.3	65.7	0	10.4	0.31
9680.1	1033	72.5	0	10.6	0.33
9670.8	1034	1.4	10	9.1	0.2
9672.8	1033.8	10.9	10	9.3	0.22
9674.3	1033.7	17.1	10	9.4	0.23
9676	1033.5	26.2	10	9.6	0.24
9677.6	1033.3	31.7	10	9.8	0.26
9679.5	1033.1	40.3	10	9.9	0.27
9681.1	1032.9	44.6	10	10.1	0.28
9683.3	1032.7	52.4	10	10.3	0.3
9685.1	1032.5	56.2	10	10.4	0.31
9687.4	1032.3	62.5	10	10.6	0.33
9679.3	1033.1	1.6	20	9.2	0.21
9683	1032.7	16.9	20	9.6	0.24
9686.6	1032.3	30.4	20	9.9	0.27
9690.6	1031.9	43	20	10.2	0.3
9695	1031.5	52.8	20	10.5	0.33
9688.2	1032.2	1.3	30	9.3	0.23
9690.1	1032	8.5	30	9.5	0.24
9693.9	1031.6	21.6	30	9.8	0.27
9698	1031.1	33.6	30	10.2	0.3

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λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
9702.4	1030.7	43.2	30	10.5	0.33
9697.3	1031.2	1.3	40	9.5	0.24
9701.1	1030.8	13.2	40	9.8	0.27
9705.3	1030.4	24	40	10.1	0.3
9710	1029.9	33.7	40	10.4	0.33
9706.9	1030.2	0.9	50	9.6	0.26
9712.8	1029.6	15.4	50	10.1	0.3
9717.7	1029.1	24.9	50	10.4	0.33

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

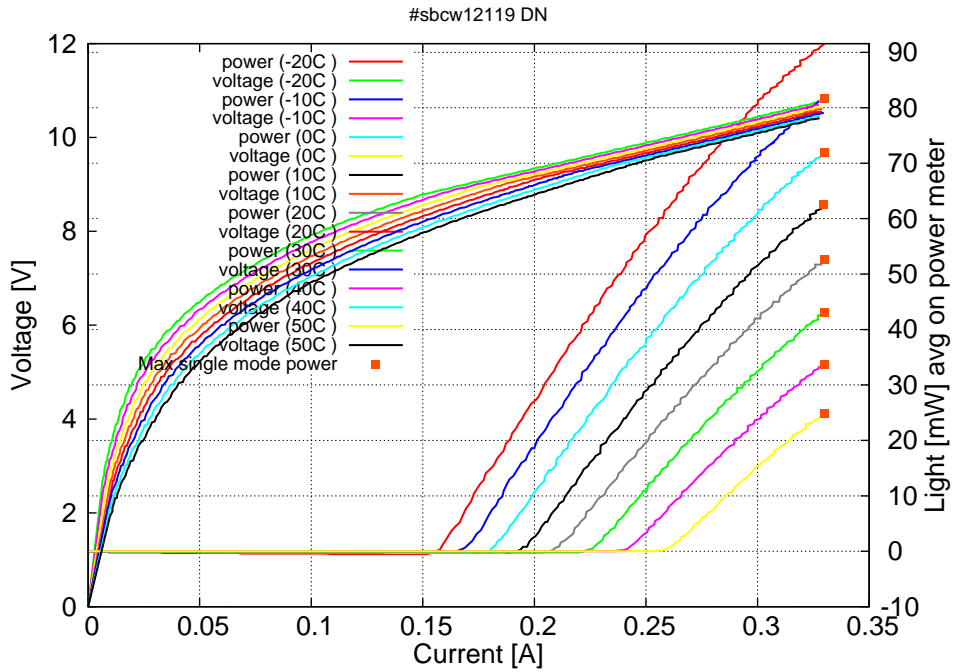


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: $I_{th}=0.15A$ / $V_{th}=8.8V$ (2-wires measurements). Maximum operation current: 0.33A for all temperatures.

