Quantum Cascade Solutions
Avenue des Pâquiers 1
CH-2072 St-Blaise
T: +41 32 729 95 10
F: +41 32 729 95 19

Datasheet for #sbcw25023 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.

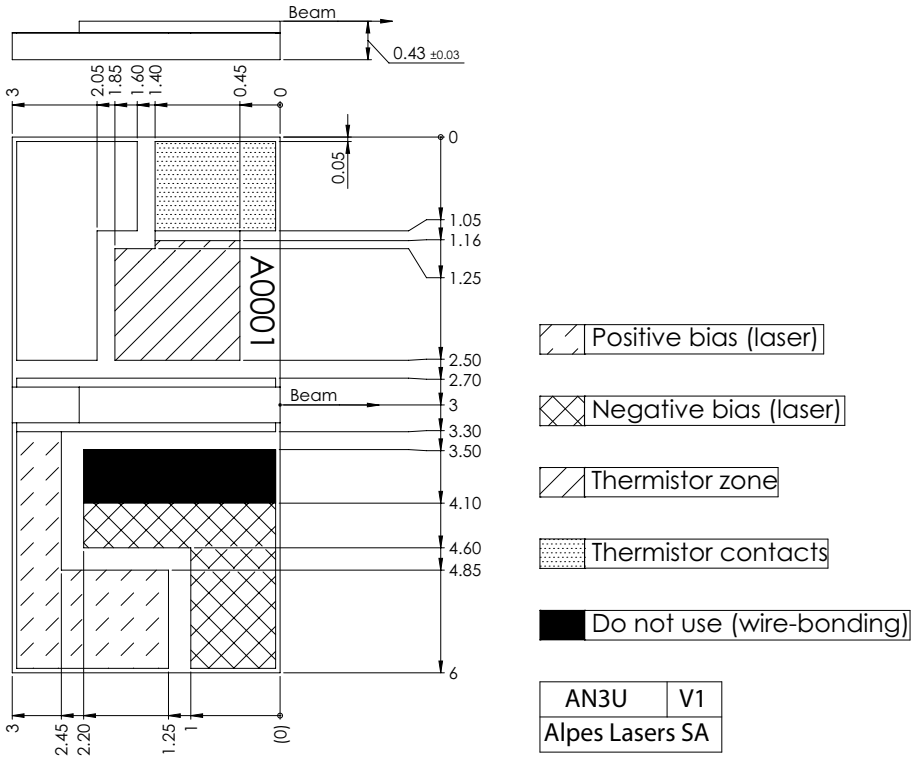

Figure 1: Mechanical and electrical interface for #sbcw25023 DN (please note that AlN submount numbering is A129D)

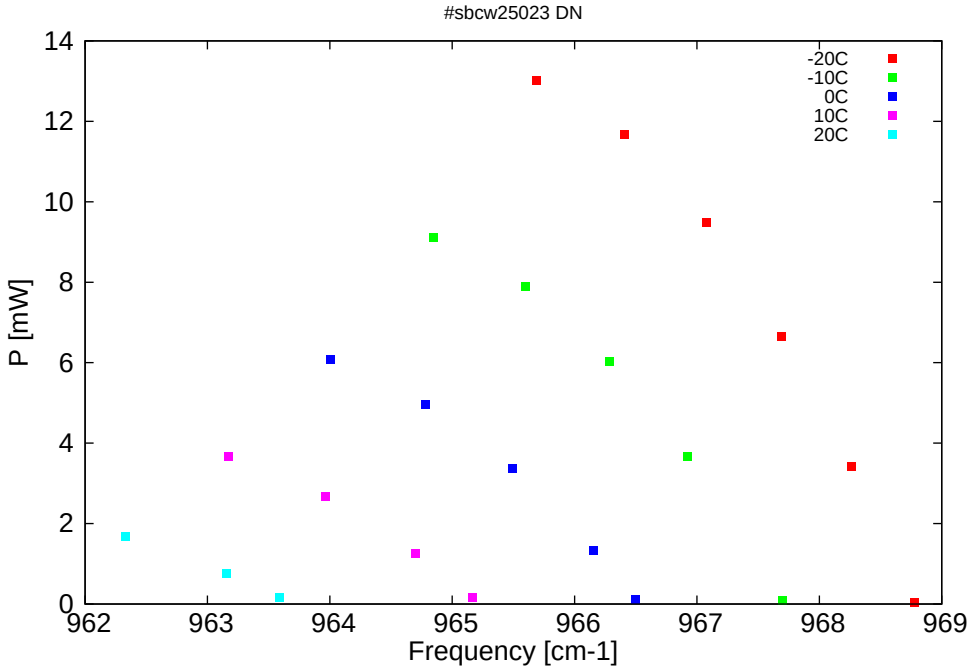

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

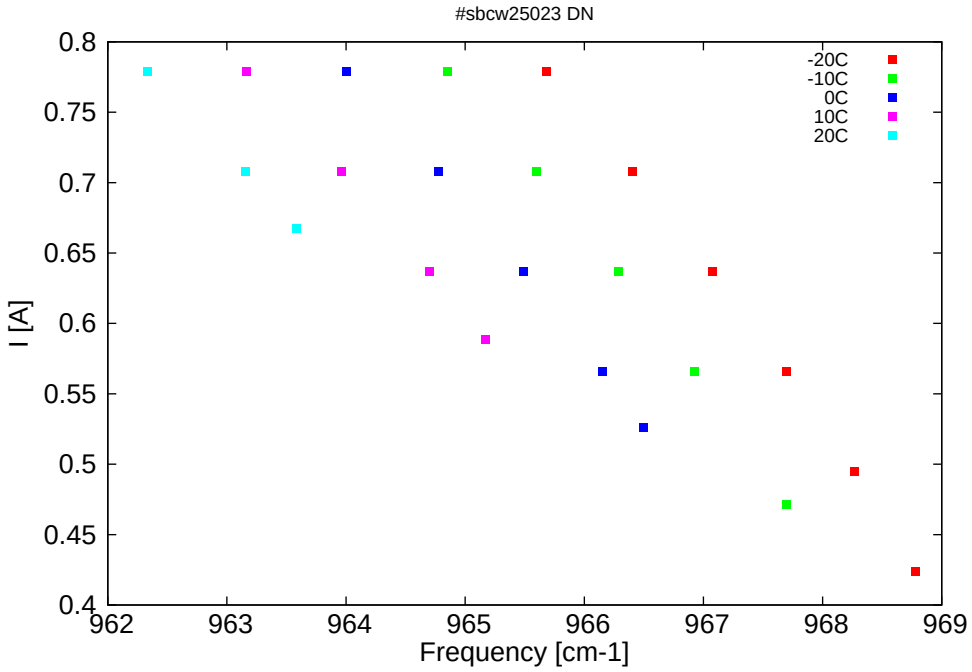

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
10322.3	968.8	0	-20	8.91	0.424
10327.7	968.3	3.4	-20	9.27	0.495
10333.8	967.7	6.7	-20	9.62	0.566
10340.4	967.1	9.5	-20	9.96	0.637
10347.6	966.4	11.7	-20	10.3	0.708
10355.3	965.7	13	-20	10.65	0.779
10333.8	967.7	0.1	-10	9.06	0.472
10342.1	966.9	3.7	-10	9.55	0.566
10348.9	966.3	6	-10	9.92	0.637
10356.3	965.6	7.9	-10	10.28	0.708
10364.3	964.8	9.1	-10	10.61	0.779
10346.6	966.5	0.1	0	9.23	0.526
10350.3	966.2	1.3	0	9.43	0.566
10357.4	965.5	3.4	0	9.78	0.637
10365.1	964.8	5	0	10.13	0.708
10373.4	964	6.1	0	10.48	0.779
10360.9	965.2	0.2	10	9.47	0.589
10365.9	964.7	1.2	10	9.71	0.637
10373.8	964	2.7	10	10.07	0.708
10382.4	963.2	3.7	10	10.42	0.779
10377.9	963.6	0.2	20	9.77	0.667
10382.5	963.2	0.8	20	9.98	0.708
10391.4	962.3	1.7	20	10.34	0.779

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

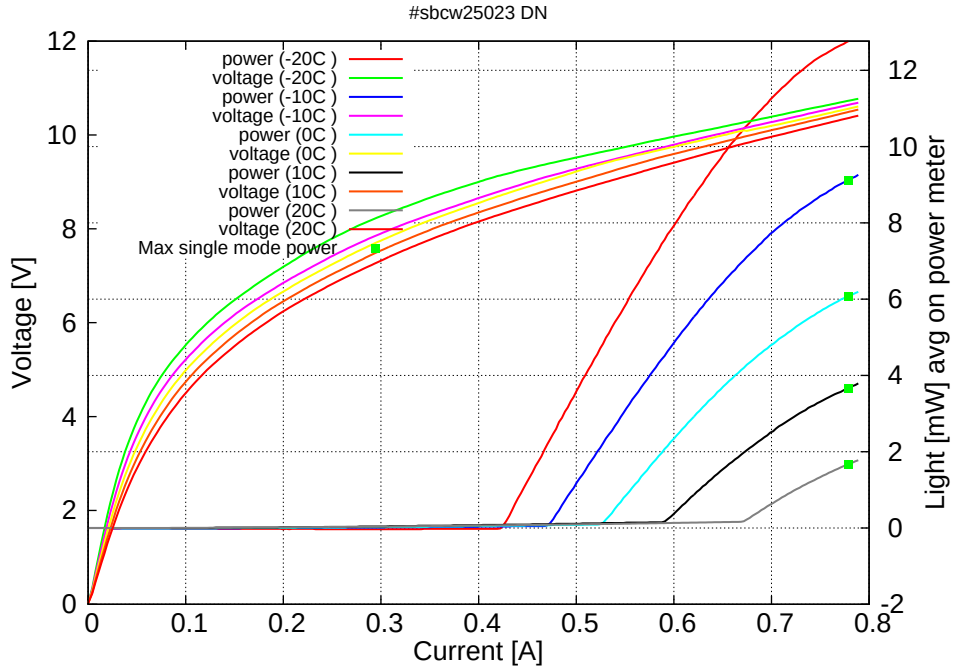

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.42A / Vth=8.9V (2-wires measurements). Maximum operation current: 0.790A for all temperatures.

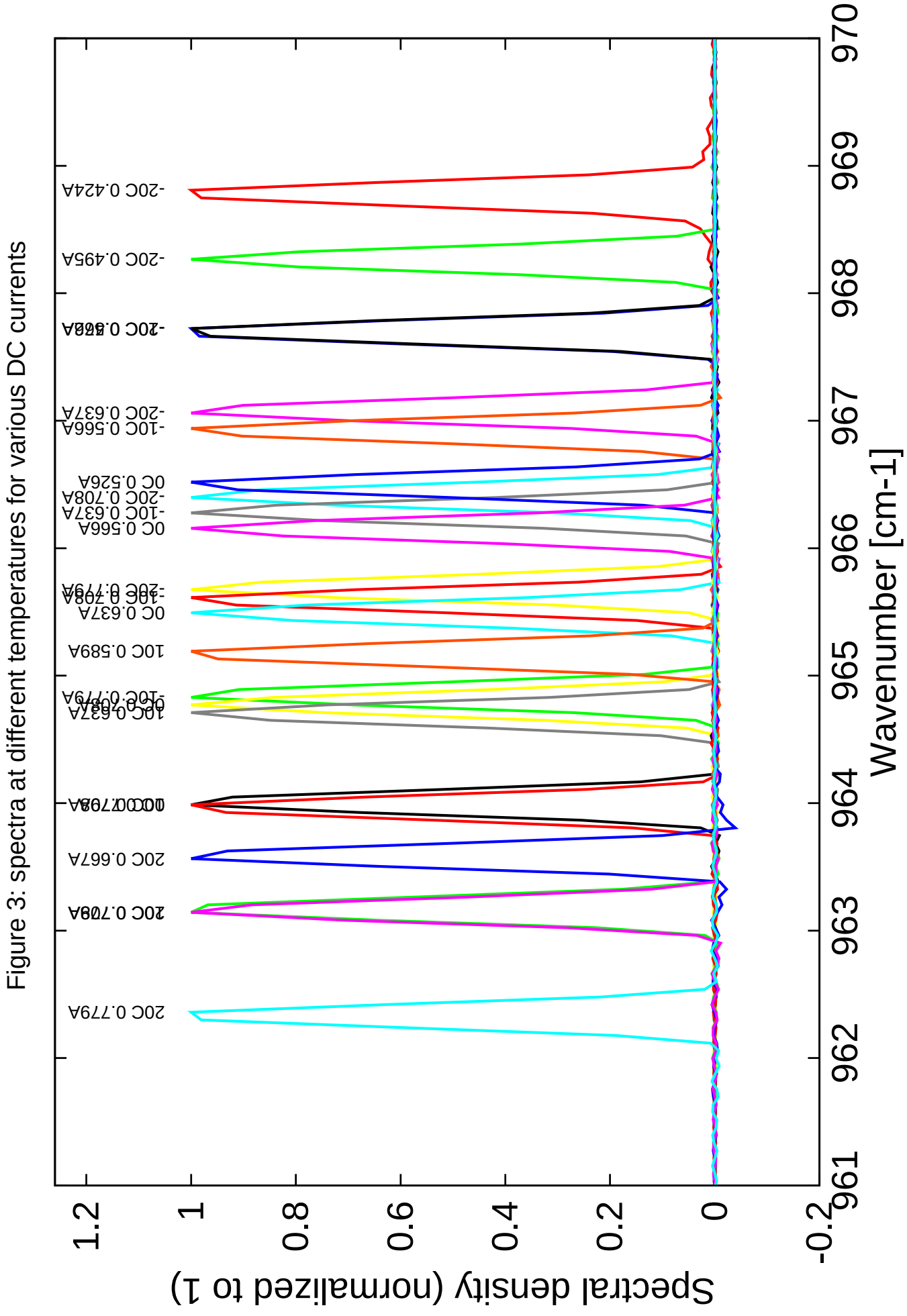

Figure 3: spectra at different temperatures for various DC currents