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 #sbcw24026 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.

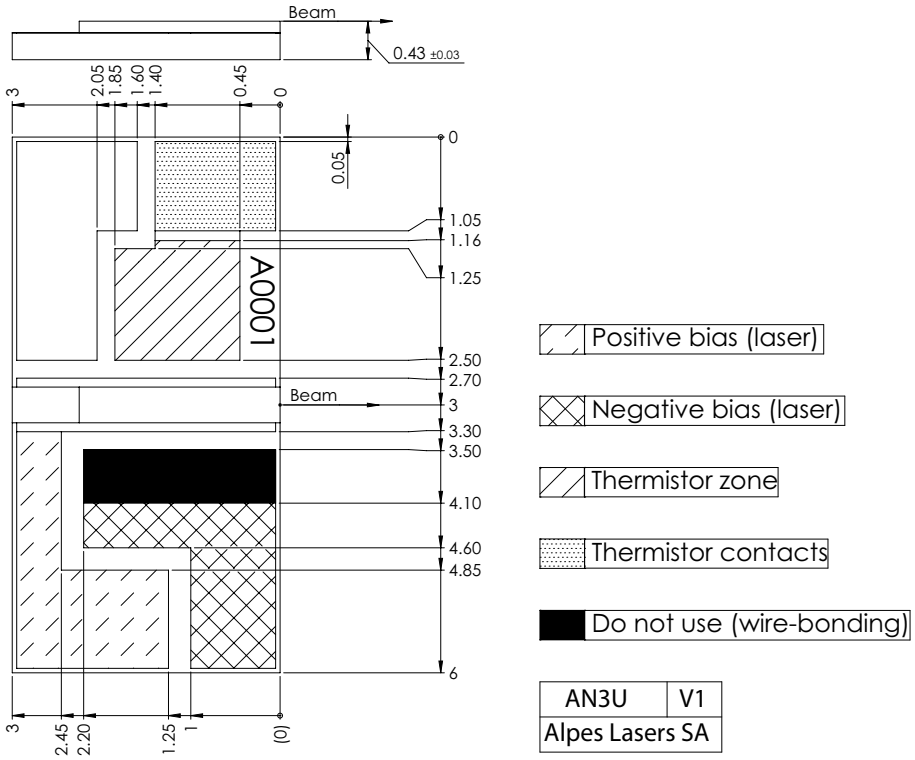

Figure 1: Mechanical and electrical interface for #sbcw24026 DN (please note that AlN submount numbering is A0Z3Y)

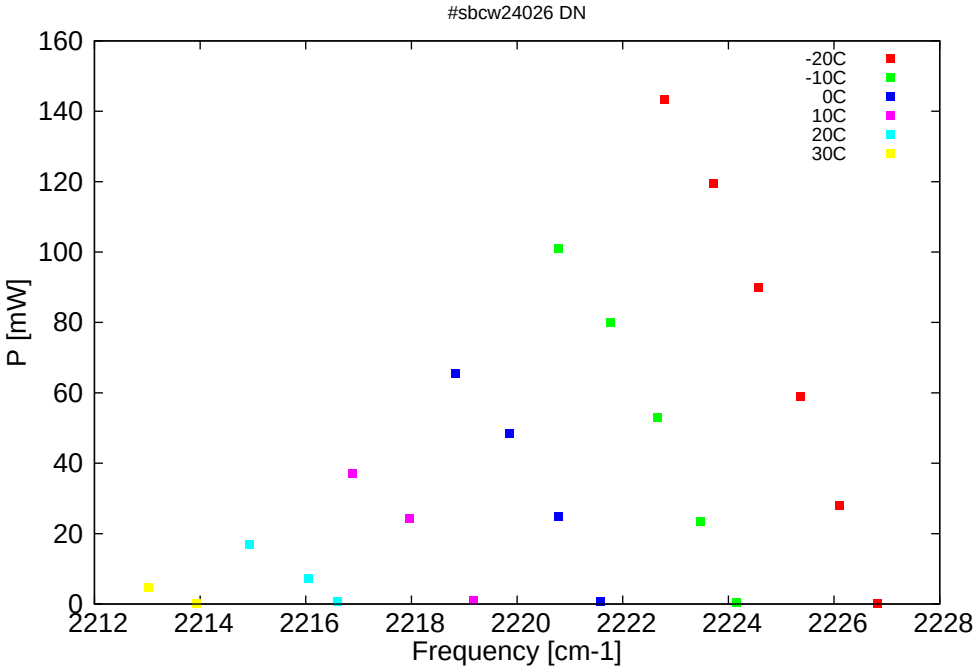

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

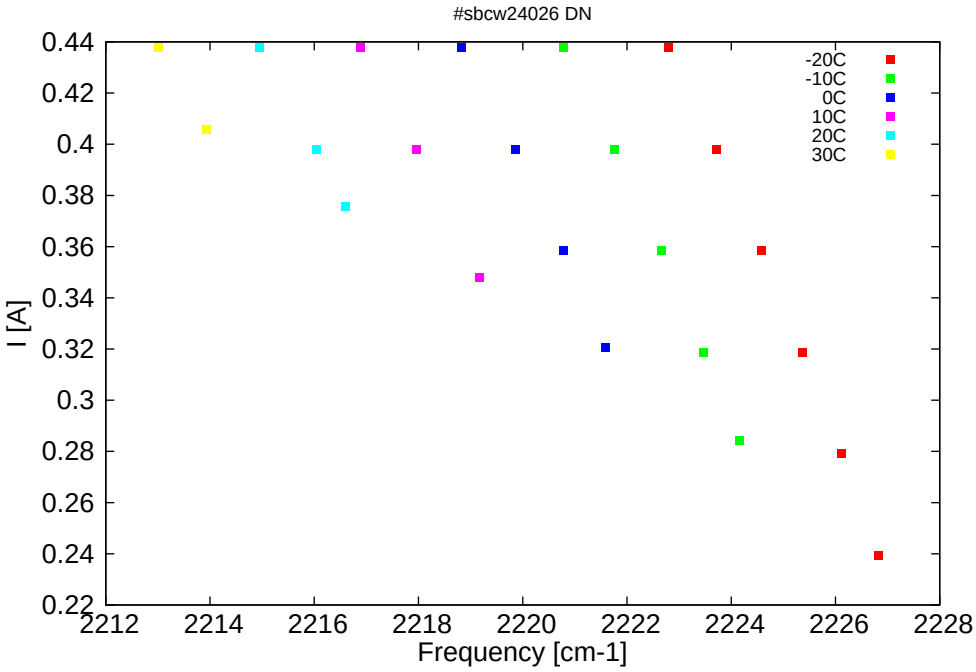

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
4490.7	2226.8	0.2	-20	8.46	0.239
4492.1	2226.1	28	-20	8.64	0.279
4493.6	2225.4	58.9	-20	8.82	0.319
4495.2	2224.6	89.8	-20	8.99	0.358
4497	2223.7	119.3	-20	9.16	0.398
4498.8	2222.8	143.3	-20	9.33	0.438
4496.1	2224.2	0.5	-10	8.62	0.284
4497.5	2223.5	23.6	-10	8.77	0.319
4499.1	2222.7	53.1	-10	8.94	0.358
4500.9	2221.8	79.9	-10	9.1	0.398
4502.9	2220.8	101	-10	9.27	0.438
4501.3	2221.6	0.7	0	8.74	0.321
4502.9	2220.8	24.8	0	8.89	0.358
4504.8	2219.9	48.6	0	9.05	0.398
4506.9	2218.8	65.4	0	9.22	0.438
4506.2	2219.2	0.9	10	8.8	0.348
4508.7	2218	24.2	10	9	0.398
4510.8	2216.9	37.2	10	9.17	0.438
4511.4	2216.6	0.6	20	8.87	0.376
4512.5	2216	7.2	20	8.96	0.398
4514.8	2214.9	17	20	9.13	0.438
4516.8	2213.9	0.2	30	8.96	0.406
4518.7	2213	4.6	30	9.09	0.438

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

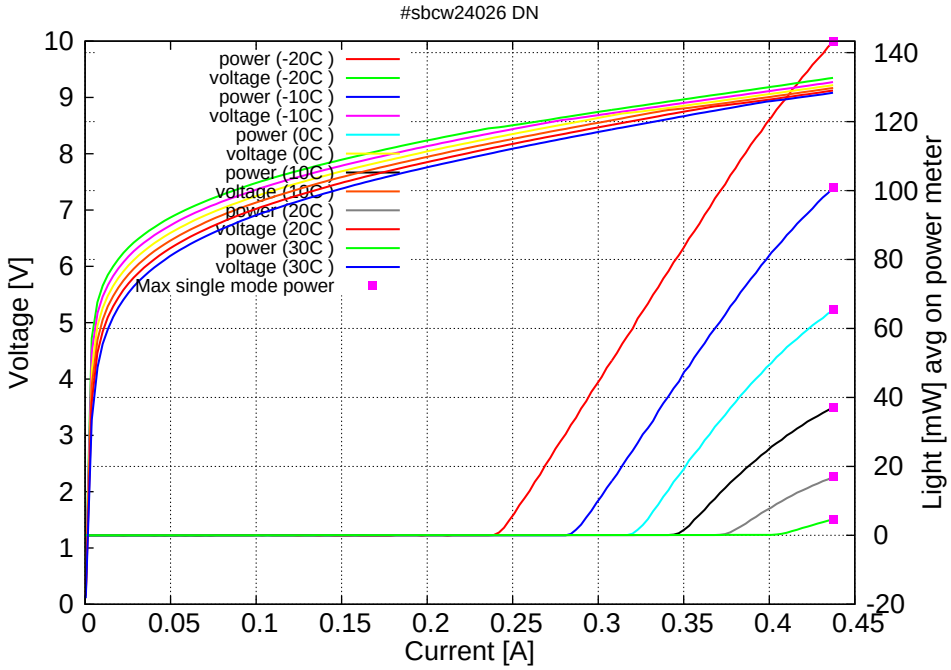

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.24A / Vth=8.5V (2-wires measurements). Maximum operation current: 0.44A for all temperatures.

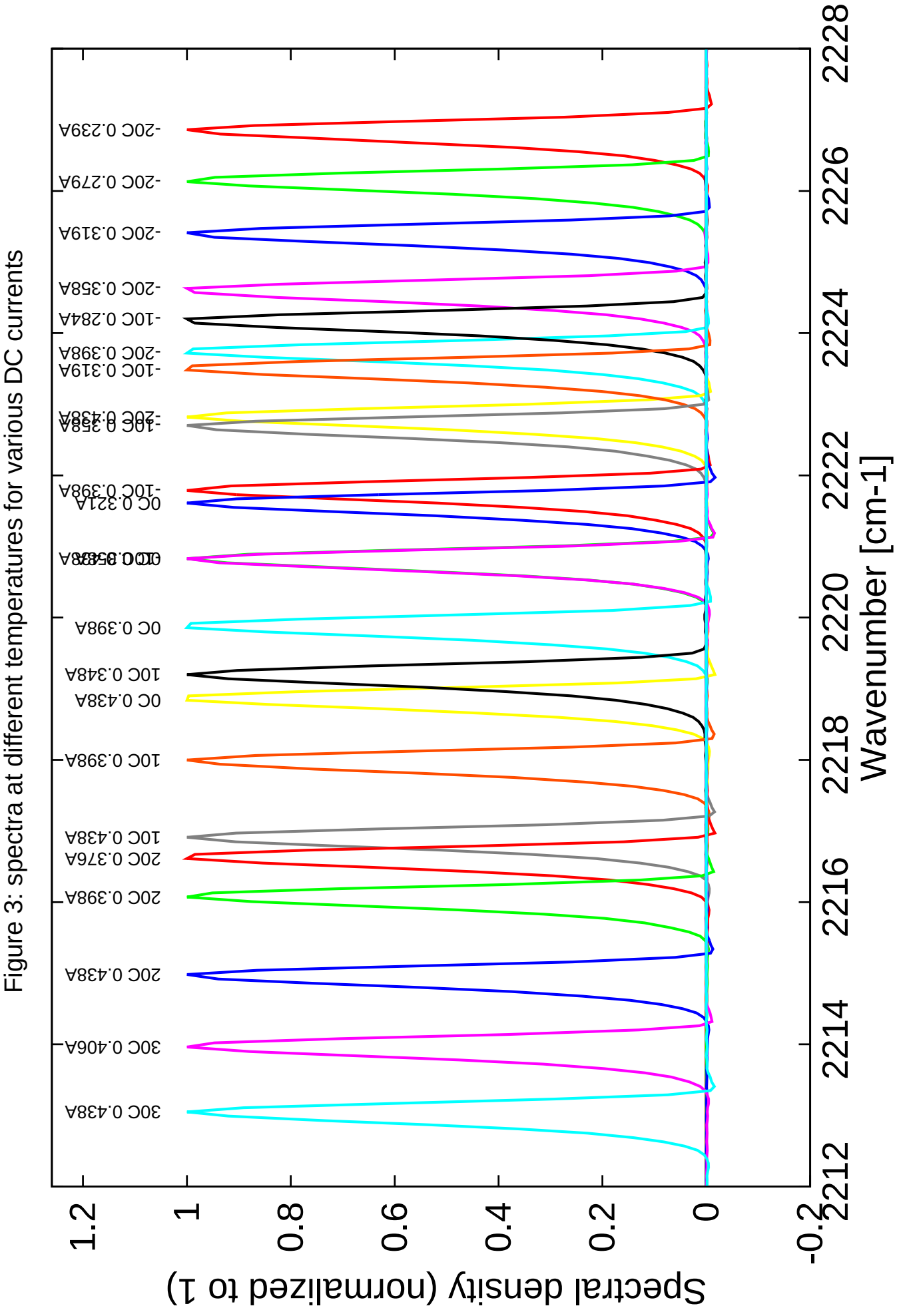

Figure 3: spectra at different temperatures for various DC currents