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 #sbcw25500 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.

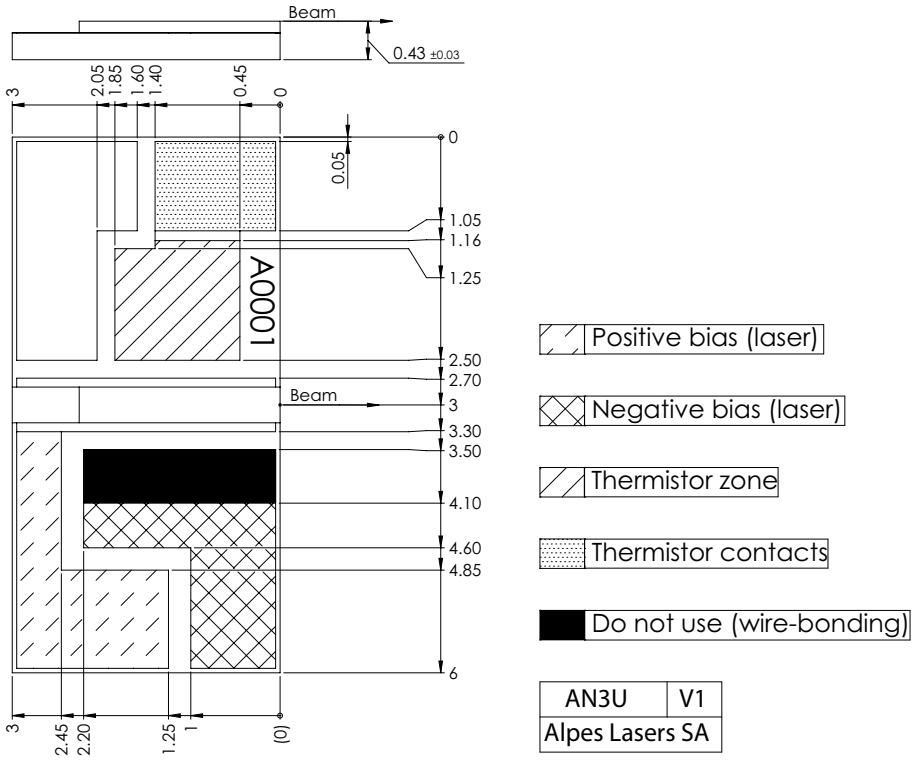

Figure 1: Mechanical and electrical interface for #sbcw25500 DN (please note that AlN submount numbering is A12KL)

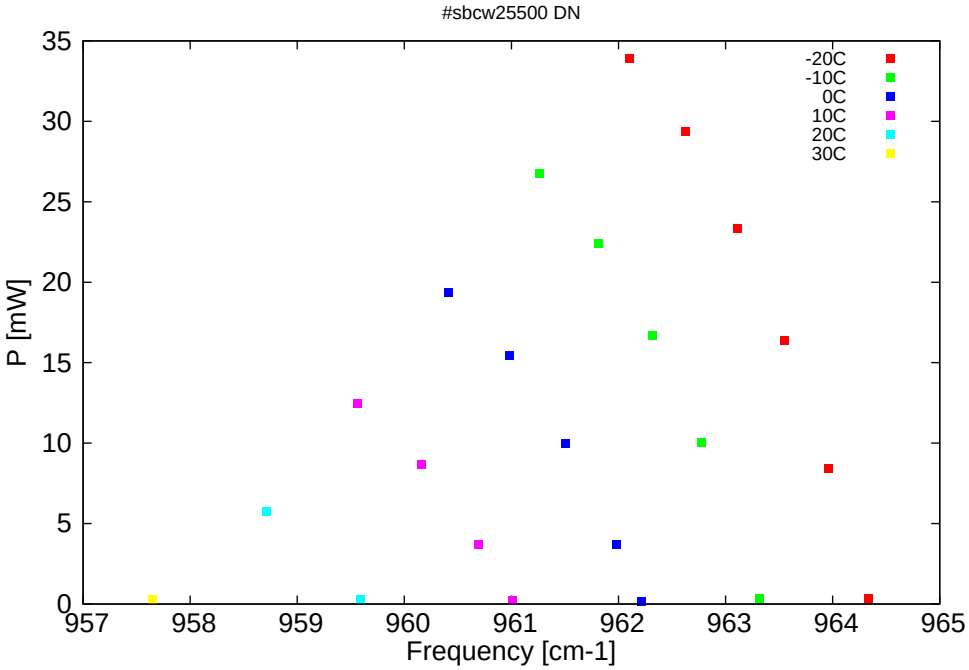

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

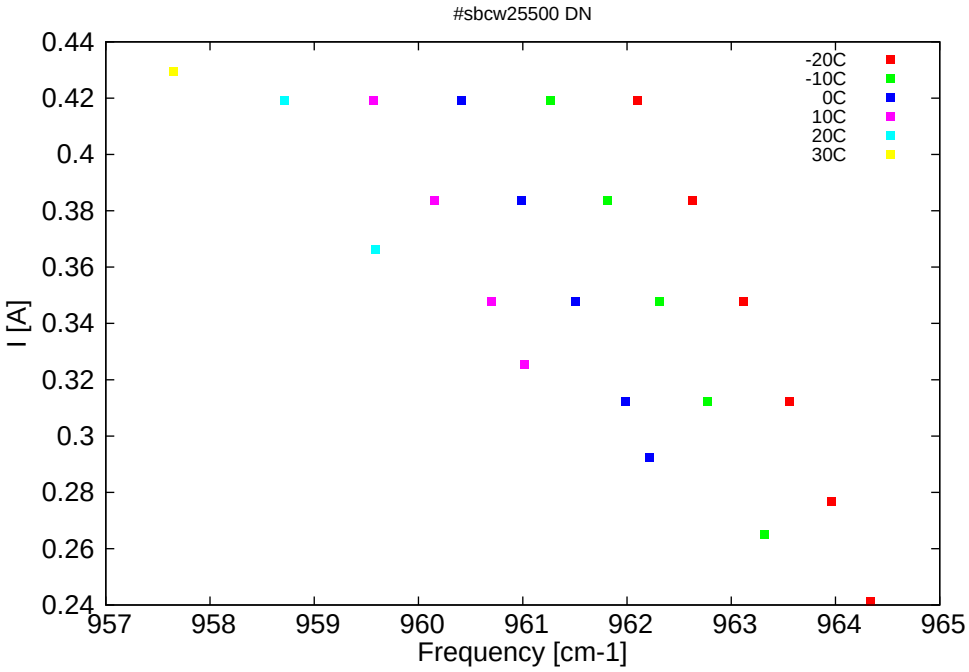

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
10369.9	964.3	0.3	-20	9.15	0.241
10373.9	964	8.5	-20	9.49	0.277
10378.2	963.6	16.4	-20	9.82	0.312
10383	963.1	23.4	-20	10.16	0.348
10388.2	962.6	29.4	-20	10.5	0.384
10393.9	962.1	33.9	-20	10.83	0.419
10380.8	963.3	0.4	-10	9.29	0.265
10386.6	962.8	10.1	-10	9.73	0.312
10391.6	962.3	16.7	-10	10.07	0.348
10397	961.8	22.4	-10	10.41	0.384
10403	961.3	26.8	-10	10.77	0.419
10392.7	962.2	0.1	0	9.47	0.292
10395.2	962	3.7	0	9.67	0.312
10400.3	961.5	10	0	10.01	0.348
10406	961	15.4	0	10.36	0.384
10412.2	960.4	19.4	0	10.72	0.419
10405.7	961	0.2	10	9.76	0.325
10409.1	960.7	3.7	10	9.99	0.348
10415	960.2	8.7	10	10.35	0.384
10421.4	959.6	12.4	10	10.7	0.419
10421.2	959.6	0.3	20	10.18	0.366
10430.6	958.7	5.7	20	10.67	0.419
10442.2	957.7	0.2	30	10.7	0.43

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

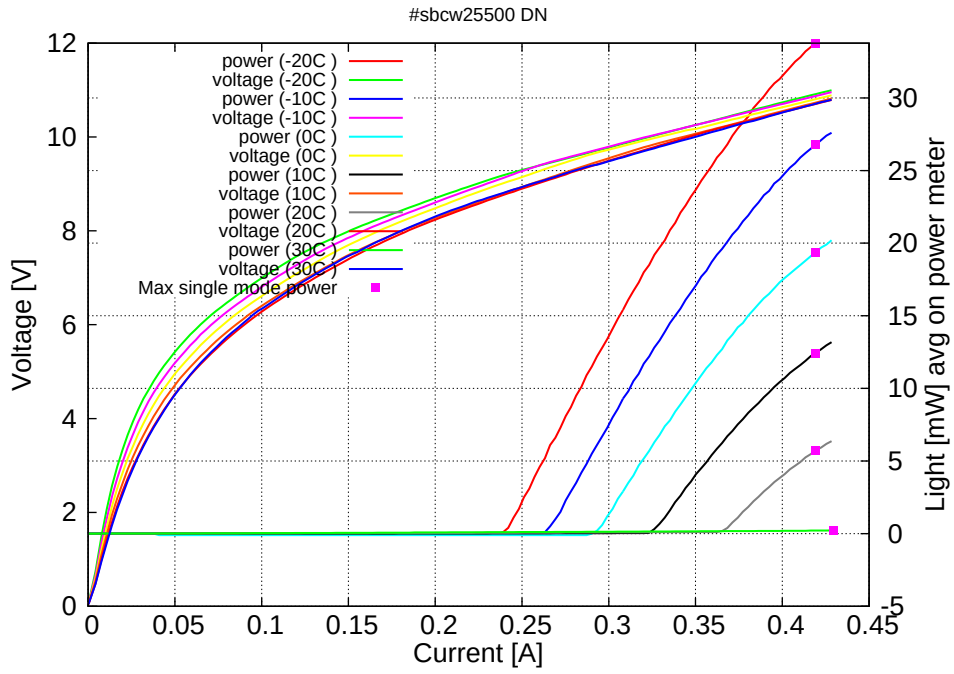

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.24A / Vth=9.1V (2-wires measurements). Maximum operation current: 0.430A for all temperatures.

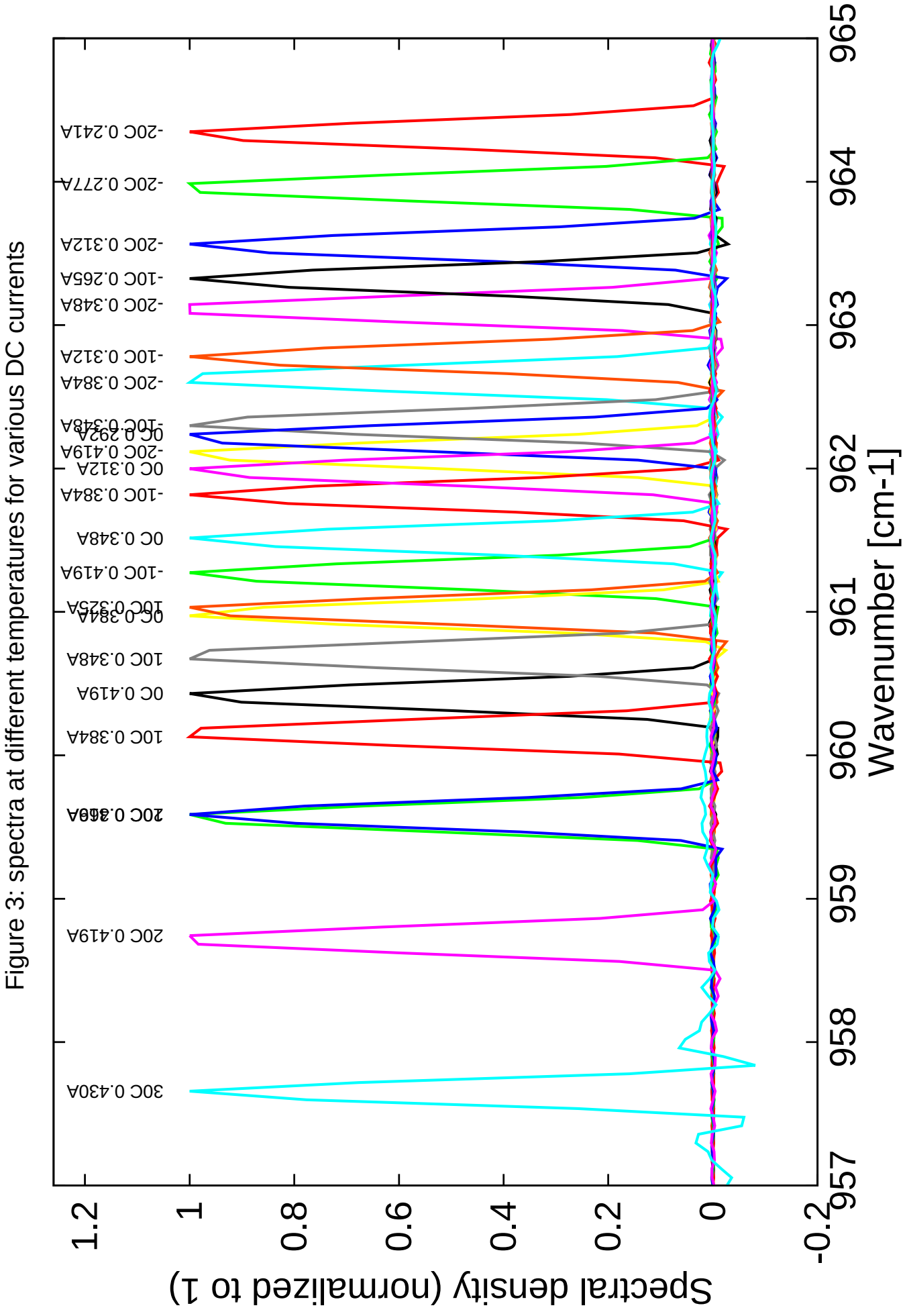

Figure 3: spectra at different temperatures for various DC currents

#sbcw25500 DN