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 #sbcw24831 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.

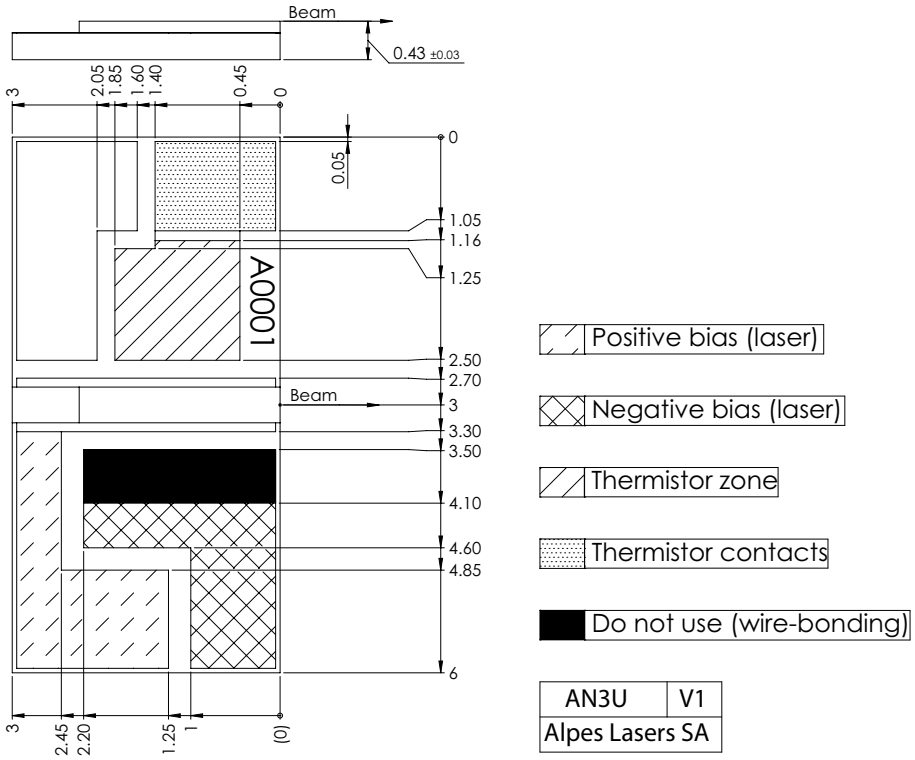

Figure 1: Mechanical and electrical interface for #sbcw24831 DN (please note that AlN submount numbering is A11V5)

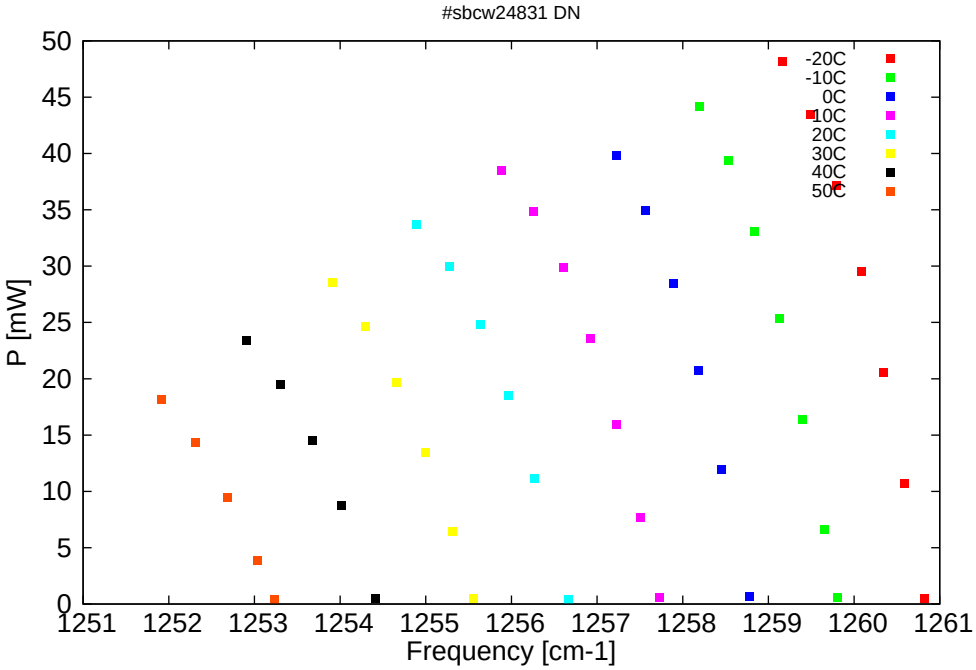

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

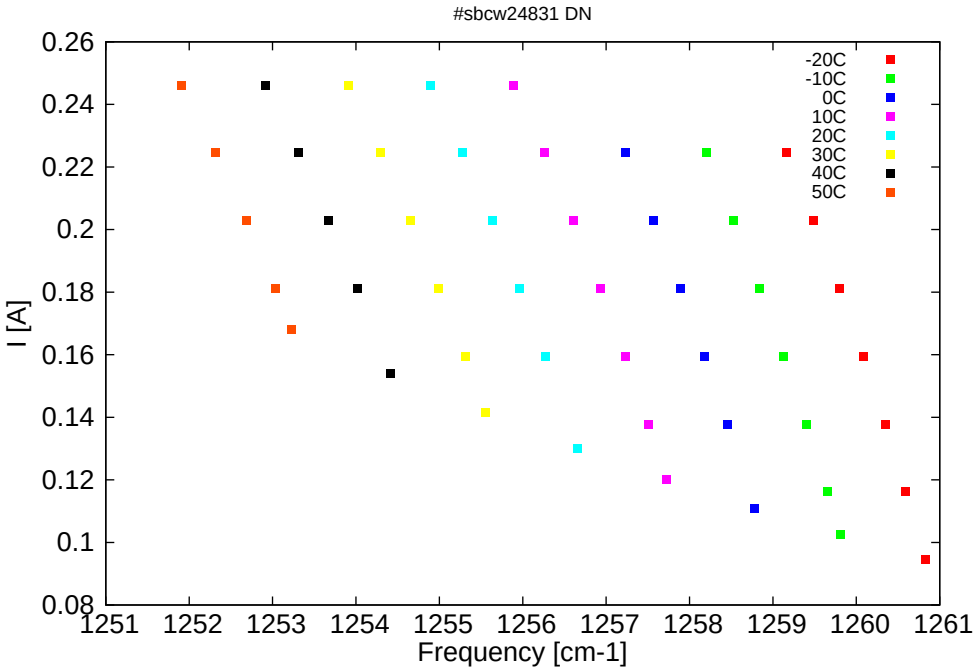

Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]
7931.3	1260.8	0.5	-20	8.04	0.095
7932.8	1260.6	10.7	-20	8.32	0.116
7934.3	1260.3	20.6	-20	8.57	0.138
7936	1260.1	29.5	-20	8.82	0.16
7937.8	1259.8	37.2	-20	9.06	0.181
7939.7	1259.5	43.5	-20	9.29	0.203
7941.8	1259.2	48.2	-20	9.53	0.225
7937.7	1259.8	0.6	-10	7.98	0.102
7938.7	1259.7	6.6	-10	8.15	0.116
7940.3	1259.4	16.4	-10	8.4	0.138
7942	1259.1	25.3	-10	8.65	0.16
7943.8	1258.8	33.1	-10	8.88	0.181
7945.8	1258.5	39.4	-10	9.11	0.203
7947.9	1258.2	44.2	-10	9.35	0.225
7944.2	1258.8	0.6	0	7.94	0.111
7946.2	1258.5	12	0	8.26	0.138
7948	1258.2	20.8	0	8.49	0.16
7949.8	1257.9	28.5	0	8.73	0.181
7951.9	1257.6	34.9	0	8.96	0.203
7954	1257.2	39.9	0	9.18	0.225
7950.8	1257.7	0.6	10	7.92	0.12
7952.2	1257.5	7.7	10	8.13	0.138
7954	1257.2	16	10	8.36	0.16
7955.9	1256.9	23.5	10	8.59	0.181
7957.9	1256.6	29.9	10	8.82	0.203
7960.1	1256.3	34.9	10	9.04	0.225
7962.5	1255.9	38.5	10	9.27	0.246
7957.6	1256.7	0.4	20	7.91	0.13
7960.1	1256.3	11.2	20	8.24	0.16
7962	1256	18.6	20	8.47	0.181
7964.1	1255.6	24.8	20	8.69	0.203
7966.4	1255.3	30	20	8.91	0.225
7968.8	1254.9	33.7	20	9.14	0.246
7964.6	1255.6	0.5	30	7.93	0.141
7966.2	1255.3	6.5	30	8.13	0.16
7968.2	1255	13.5	30	8.36	0.181
7970.3	1254.7	19.6	30	8.58	0.203
7972.6	1254.3	24.7	30	8.8	0.225
7975.1	1253.9	28.5	30	9.02	0.246
7971.9	1254.4	0.5	40	7.96	0.154
7974.4	1254	8.7	40	8.25	0.181
7976.6	1253.7	14.5	40	8.47	0.203
7978.9	1253.3	19.5	40	8.69	0.225
7981.4	1252.9	23.4	40	8.9	0.246
7979.4	1253.2	0.4	50	8.01	0.168
7980.6	1253	3.9	50	8.15	0.181
7982.9	1252.7	9.4	50	8.36	0.203
7985.2	1252.3	14.3	50	8.58	0.225
7987.8	1251.9	18.2	50	8.8	0.246

continued on next page

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{LASER}$[V]	I[A]

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

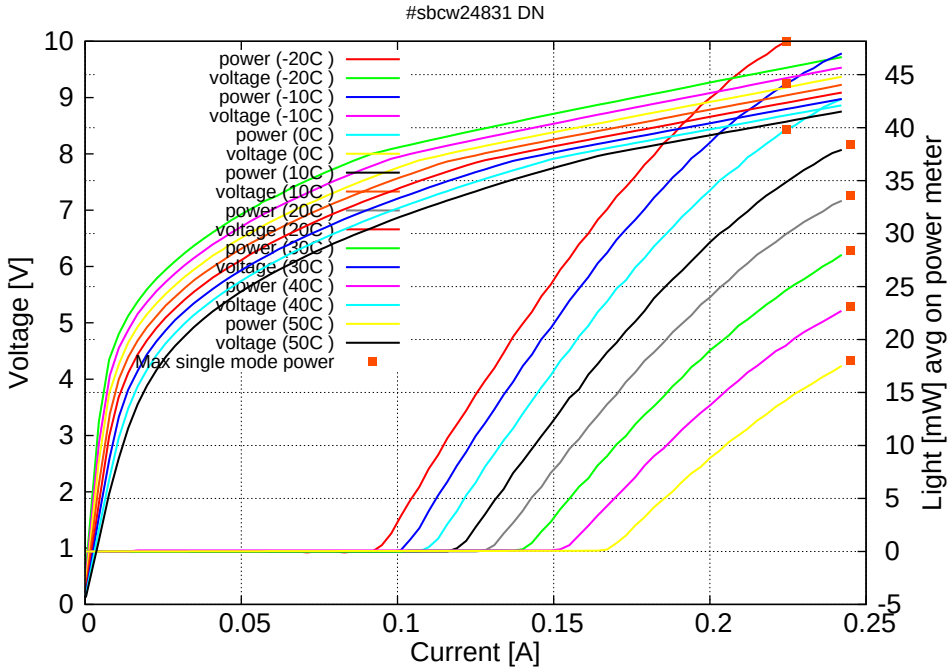

Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C: Ith=0.09A / Vth=8.0V (2-wires measurements). Maximum operation current: 0.225A between -20C and 0C, 0.245A between 10C and 50C.

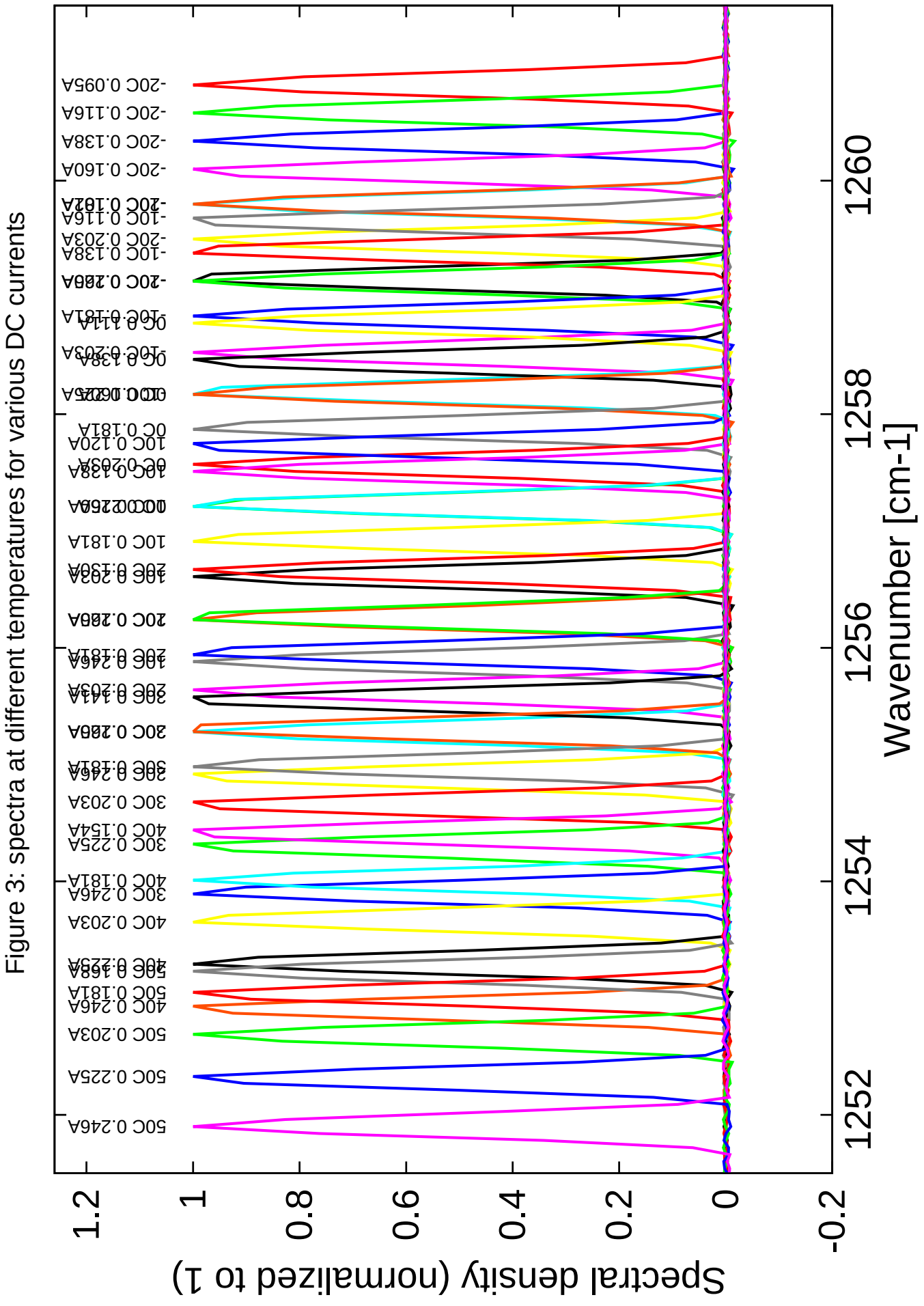

Figure 3: spectra at different temperatures for various DC currents