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 #sb25902 DN

Recommendations:

Please read the User Manual and have a look at the FAQ at
`https://www.alpeslasers.ch/resources/#faq`

WARNING: Operating the laser with longer pulses, higher repetition rate, higher voltage or higher current than specified in this document may cause damage. It will result in loss of warranty, unless agreed upon with Alpes Lasers!

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.

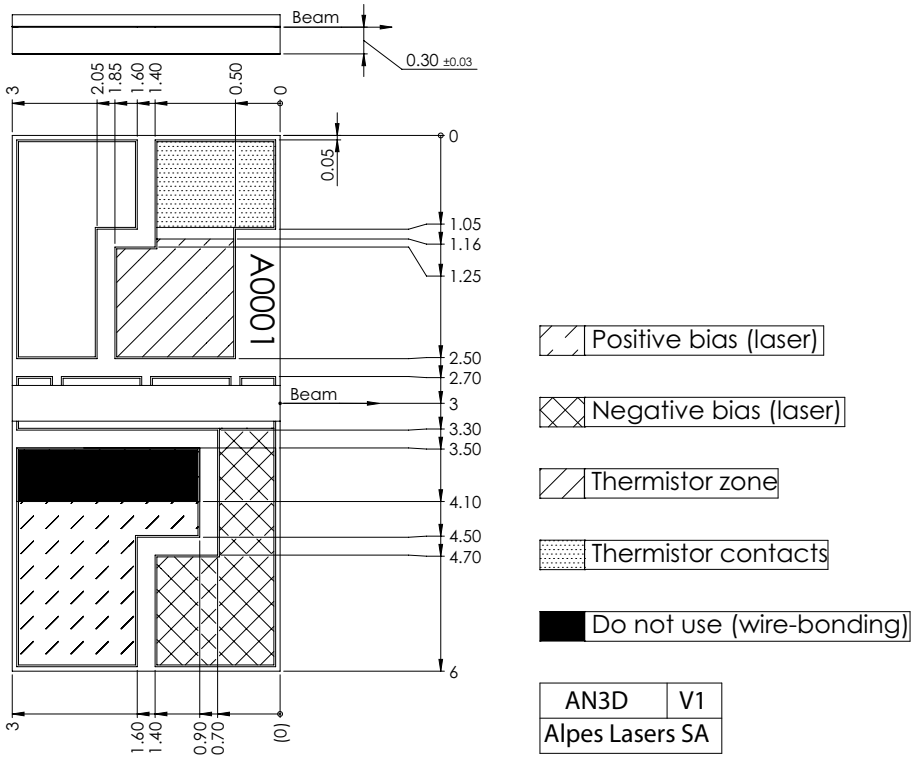

Figure 1: Mechanical and electrical interface for #sb25902 DN (please note that AlN submount numbering is P4164)

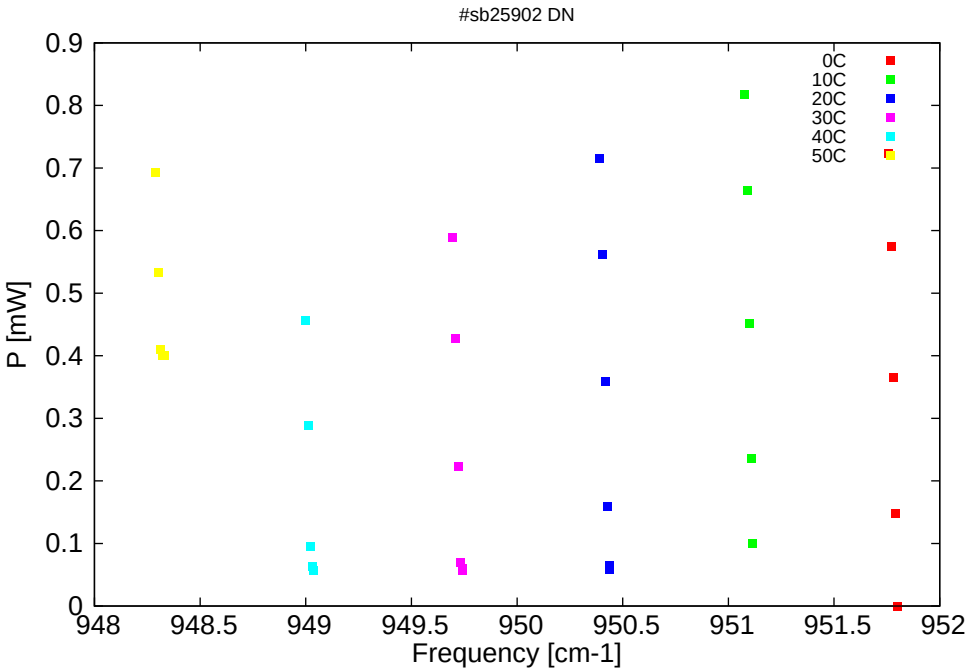

Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

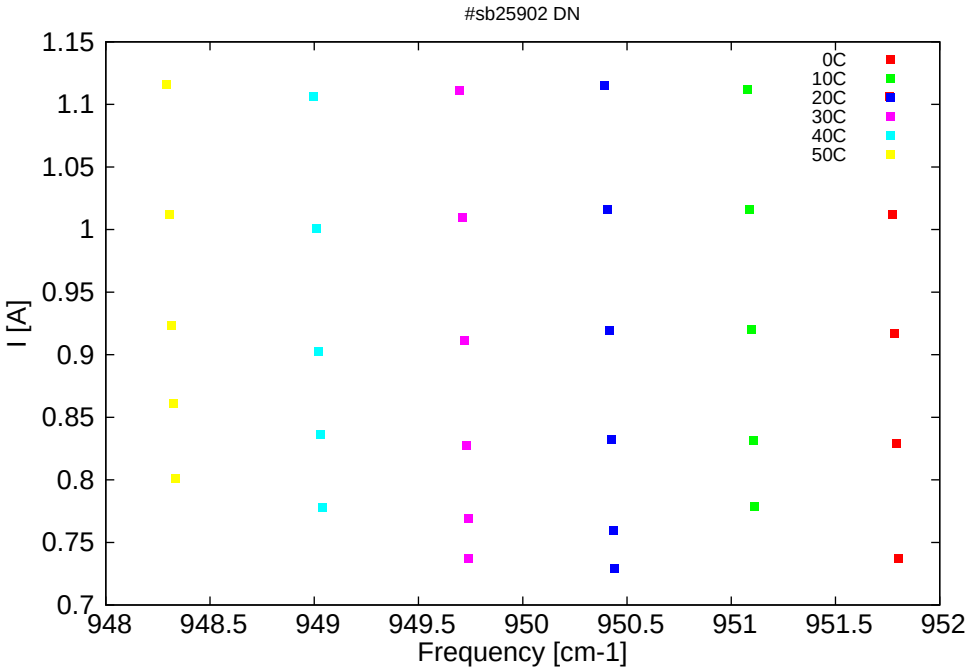

Figure 3: Peak current as a function of singlemode emission frequencies and temperatures

λ[nm]	ν[cm^{-1}]	P[mW]	Temp[°C]	U$_{pulse}$[V]	I$_{pulse}$[A]
10506.4	951.8	0	0	9.15	0.738
10506.5	951.8	0.1	0	9.48	0.829
10506.6	951.8	0.4	0	9.84	0.917
10506.7	951.8	0.6	0	10.29	1.012
10506.9	951.8	0.7	0	10.83	1.107
10514	951.1	0.1	10	9.28	0.779
10514	951.1	0.2	10	9.48	0.832
10514.1	951.1	0.5	10	9.84	0.92
10514.3	951.1	0.7	10	10.29	1.016
10514.4	951.1	0.8	10	10.83	1.112
10521.5	950.4	0.1	20	8.99	0.729
10521.5	950.4	0.1	20	9.15	0.759
10521.6	950.4	0.2	20	9.48	0.832
10521.7	950.4	0.4	20	9.84	0.92
10521.8	950.4	0.6	20	10.29	1.016
10522	950.4	0.7	20	10.83	1.115
10529.2	949.7	0.1	30	8.99	0.737
10529.2	949.7	0.1	30	9.15	0.769
10529.3	949.7	0.1	30	9.48	0.828
10529.4	949.7	0.2	30	9.84	0.911
10529.5	949.7	0.4	30	10.29	1.01
10529.7	949.7	0.6	30	10.83	1.111
10537	949	0.1	40	9.15	0.778
10537.1	949	0.1	40	9.48	0.836
10537.2	949	0.1	40	9.84	0.903
10537.3	949	0.3	40	10.29	1.001
10537.4	949	0.5	40	10.83	1.106
10544.8	948.3	0.4	50	9.15	0.801
10544.9	948.3	0.4	50	9.48	0.861
10545	948.3	0.4	50	9.84	0.923
10545.1	948.3	0.5	50	10.29	1.012
10545.3	948.3	0.7	50	10.83	1.116

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

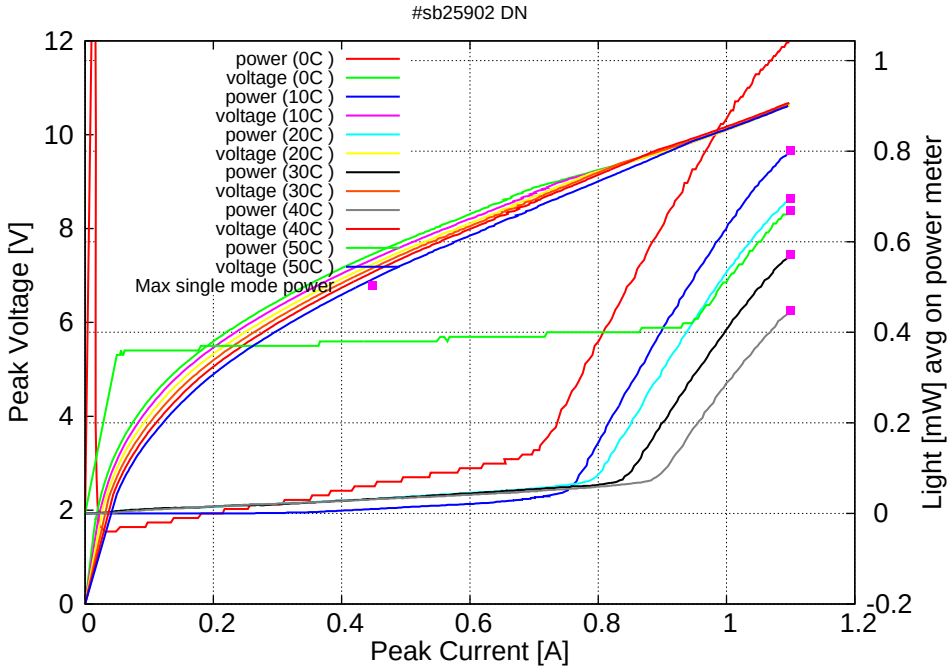

Figure 4: Peak voltage and average power vs peak current at 2% duty-cycle (500ns pulses on the laser) (the solid squares indicate the maximum singlemode emitted power)

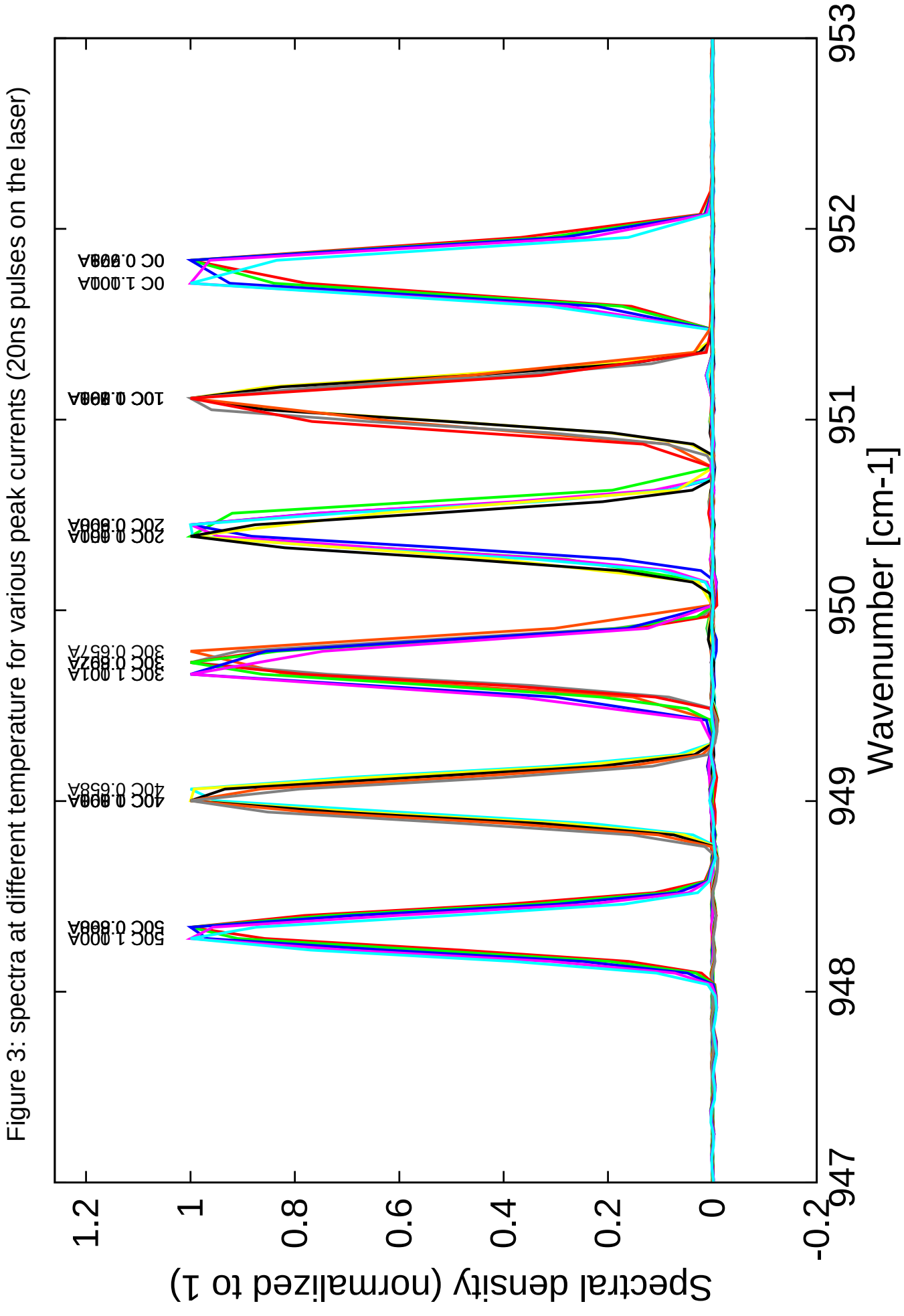

Figure 3: spectra at different temperature for various peak currents (20ns pulses on the laser)