

**Datasheet for #sbcw22442 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 #sbcw22442 DN (please note that AlN submount numbering is A0MU2)

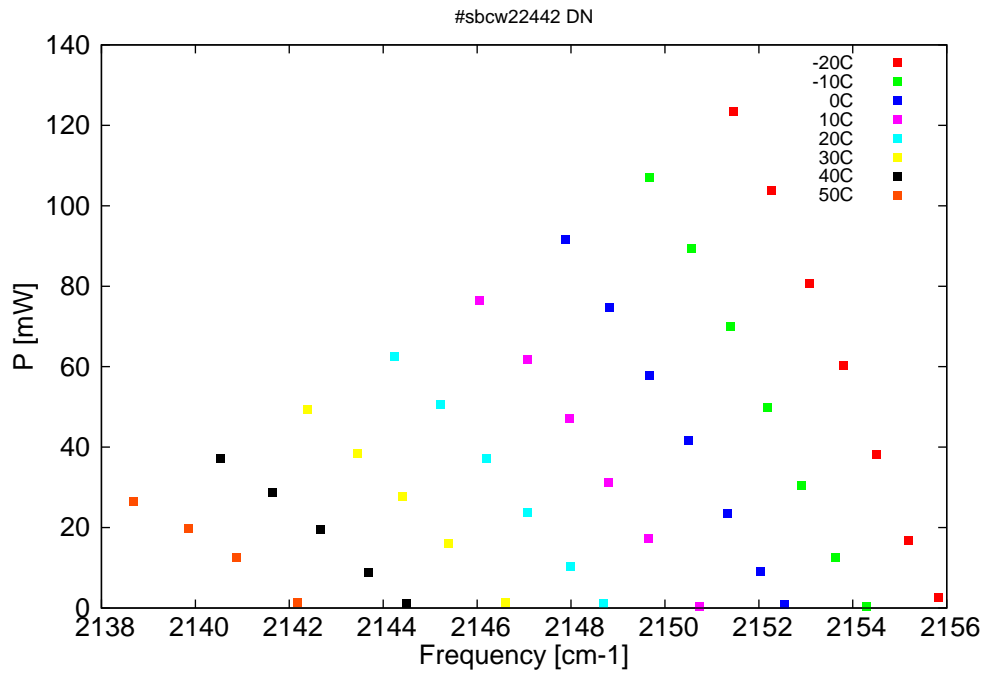


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

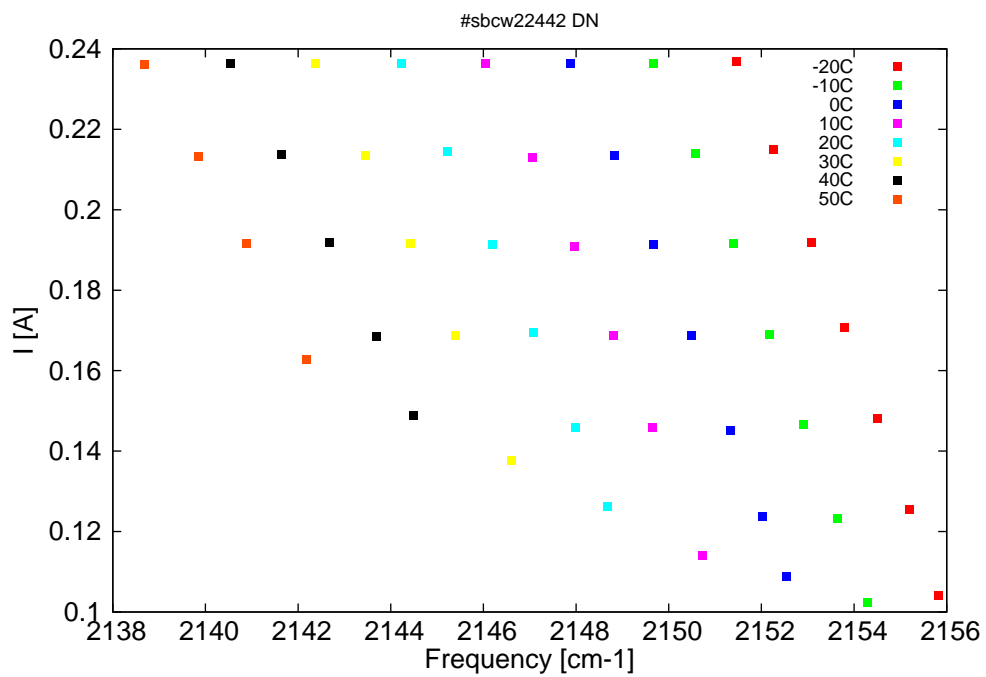


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4638.6	2155.8	2.7	-20	10.98	0.104
4640	2155.2	16.7	-20	11.14	0.126
4641.5	2154.5	38.2	-20	11.32	0.148
4643	2153.8	60.2	-20	11.52	0.171
4644.5	2153.1	80.8	-20	11.71	0.192
4646.3	2152.3	103.8	-20	11.94	0.215
4648	2151.5	123.4	-20	12.17	0.237
4641.9	2154.3	0.5	-10	10.91	0.102
4643.3	2153.6	12.5	-10	11.06	0.123
4644.9	2152.9	30.5	-10	11.25	0.147
4646.4	2152.2	49.8	-10	11.45	0.169
4648.1	2151.4	69.9	-10	11.66	0.192
4649.9	2150.6	89.4	-10	11.88	0.214
4651.9	2149.7	107.1	-10	12.12	0.236
4645.7	2152.5	0.8	0	10.91	0.109
4646.8	2152	9.1	0	11.02	0.124
4648.3	2151.3	23.5	0	11.19	0.145
4650.1	2150.5	41.7	0	11.4	0.169
4651.9	2149.7	57.7	0	11.61	0.191
4653.7	2148.8	74.6	0	11.84	0.213
4655.8	2147.9	91.5	0	12.09	0.236
4649.6	2150.7	0.4	10	10.91	0.114
4651.9	2149.6	17.2	10	11.15	0.146
4653.7	2148.8	31.2	10	11.35	0.169
4655.6	2148	47	10	11.56	0.191
4657.5	2147.1	61.7	10	11.79	0.213
4659.7	2146	76.5	10	12.05	0.236
4654	2148.7	1.2	20	10.96	0.126
4655.5	2148	10.4	20	11.11	0.146
4657.5	2147.1	23.7	20	11.32	0.169
4659.4	2146.2	37	20	11.53	0.191
4661.5	2145.2	50.6	20	11.76	0.214
4663.7	2144.2	62.4	20	12	0.236
4658.5	2146.6	1.3	30	11.02	0.138
4661.2	2145.4	16.1	30	11.27	0.169
4663.3	2144.4	27.7	30	11.49	0.192
4665.4	2143.5	38.5	30	11.71	0.213
4667.7	2142.4	49.3	30	11.96	0.236
4663.1	2144.5	1.3	40	11.08	0.149
4664.9	2143.7	8.9	40	11.23	0.168
4667.1	2142.7	19.6	40	11.45	0.192
4669.3	2141.7	28.7	40	11.67	0.214
4671.7	2140.5	37.2	40	11.91	0.236
4668.1	2142.2	1.5	50	11.16	0.163
4671	2140.9	12.5	50	11.41	0.192
4673.2	2139.8	19.7	50	11.62	0.213
4675.8	2138.7	26.5	50	11.86	0.236

*continued on next page*

$\lambda[\text{nm}]$     $\nu[\text{cm}^{-1}]$     $P[\text{mW}]$     $\text{Temp}[\text{°C}]$     $U_{LASER}[\text{V}]$     $I[\text{A}]$   
 Table 1: Singlemode optical output power as function of operating parameters.

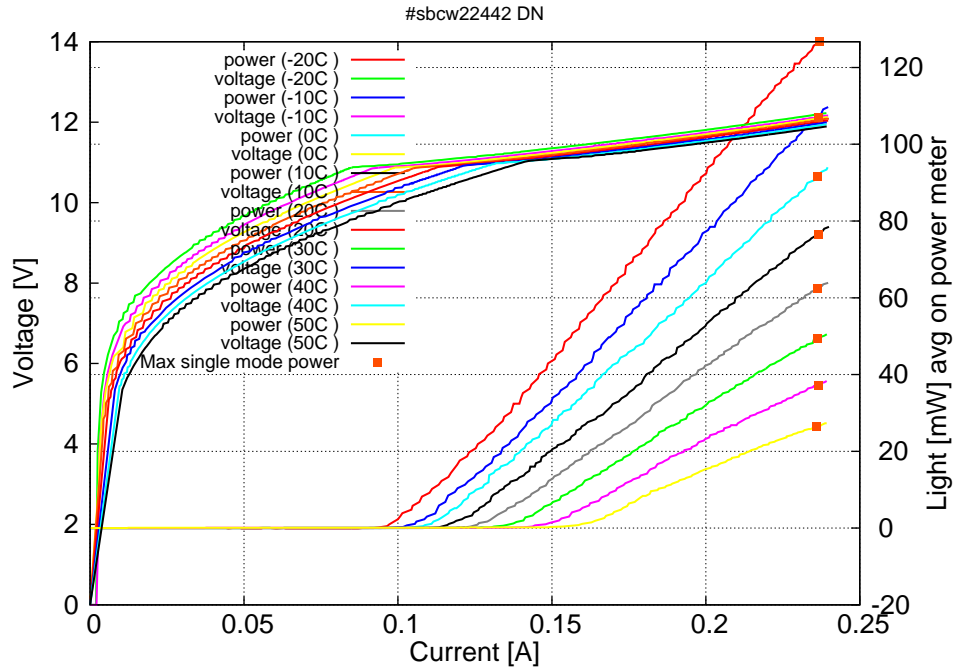


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

Note: at -20C:  $I_{th}=0.09\text{A}$  /  $V_{th}=10.9\text{V}$  (2-wires measurements). Maximum operation current: 0.24A for all temperatures.

Figure 3: spectra at different temperatures for various DC currents

