

Datasheet for HHL-410

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 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 on the polarity of the laser. This laser has to be powered with negative bias on the pin 7 and positive bias on the pin 4.

WARNING: Avoid bending module by applying too much torque on mounting screws. Keep temperature change rates below 10 degrees per minute.

MODULE PIN-OUT	Pin n°
TEC (-)	1
Nonexistent	2
Not connected	3
Positive contact of the laser	4
Temperature sensor	5
Temperature sensor	6
Negative contact of the laser	7
Not connected	8
Not connected	9
TEC (+)	10

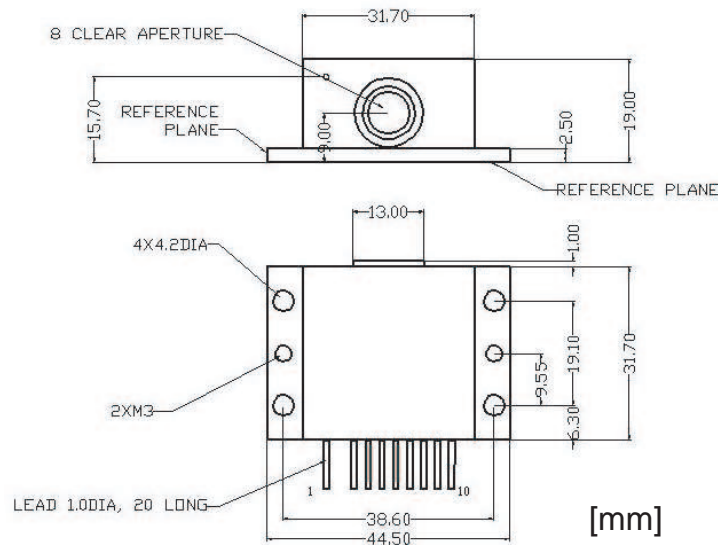


Figure 1: Support mounting for HHL-410 (specifications of the HHL module)

TEC technical data and performances

TEC	Value	Units
I_{\max}	2.5	[A]
U_{\max}	25	[V]
Q_{\max}	20	[W]
$Z_{\text{NTC}}(25^{\circ}\text{C})$	10	[k Ω]

WINDOW	Value	Units
ZnSe window		

LENS	Value	Units
Numerical aperture	0.85	-
Clear aperture	4.0	[mm]
Outer diameter	5.50	[mm]
Divergence	<6	[mRad]
Pointing	<6	[mRad]

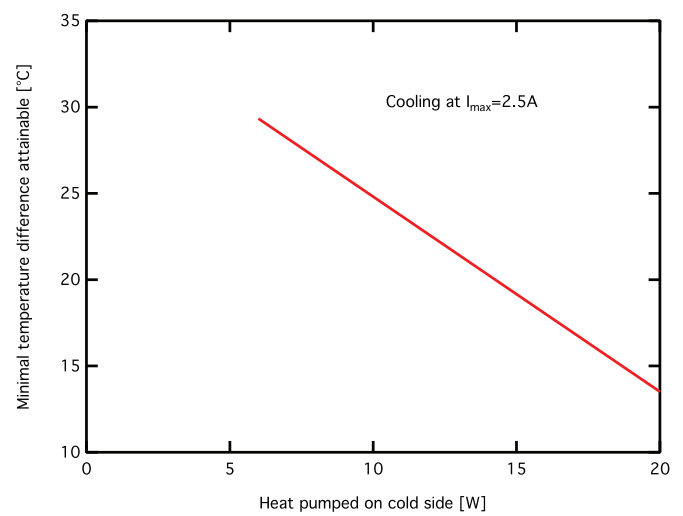
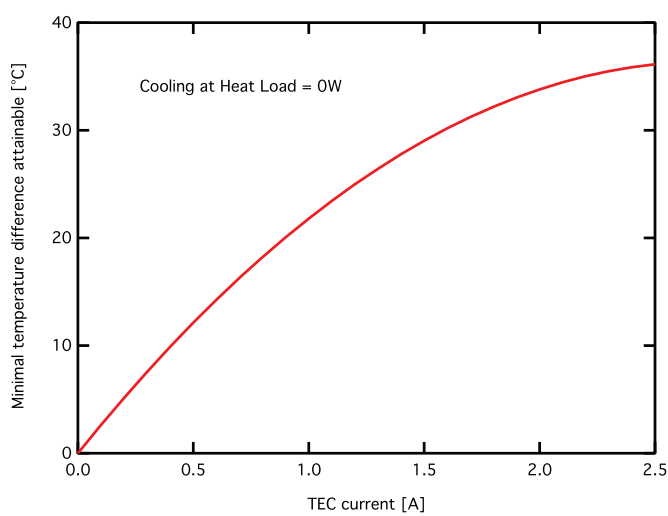


Figure 2: TEC performances for HHL-410 (HP-cooler)

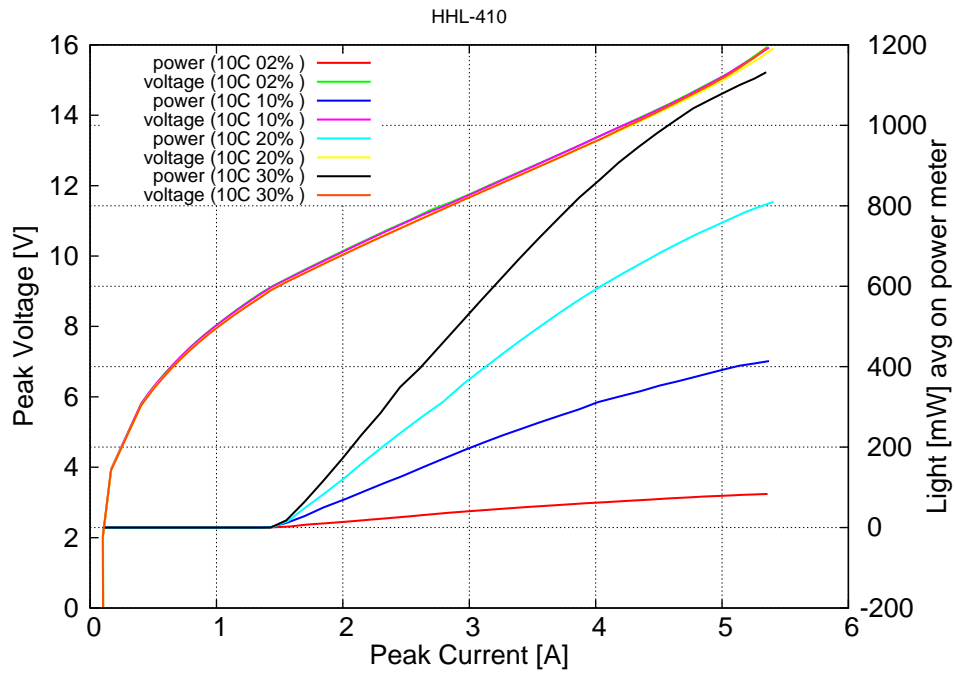


Figure 3: peak voltage and average power vs peak current at 10C for various duty-cycles (300ns pulses on the laser from 2 to 30%.)

Figure 3: spectra at 10C at 10% duty-cycle (300ns pulses on the laser)

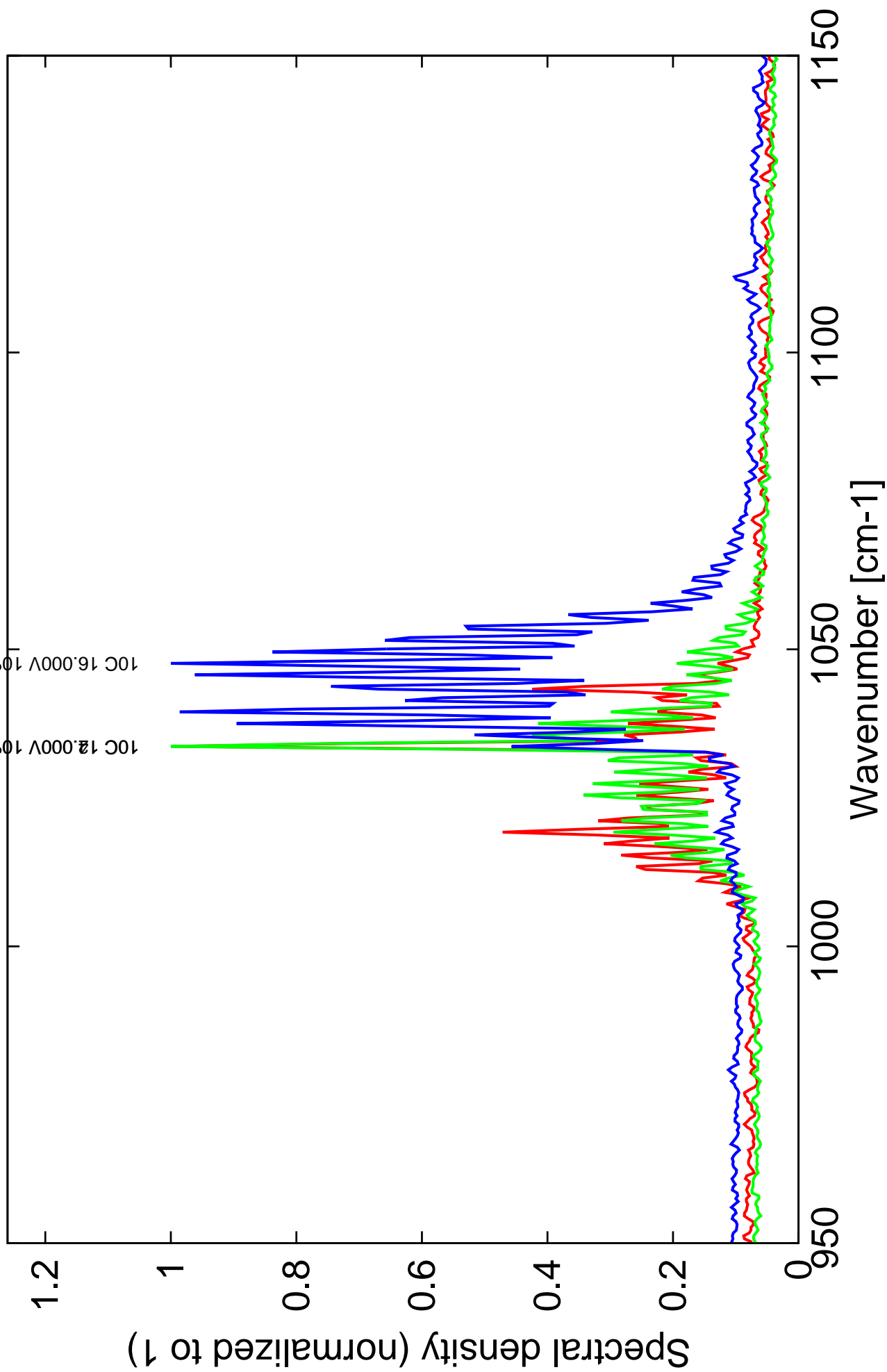


Figure 4: spectra at 10C at 20% duty-cycle (300ns pulses on the laser)

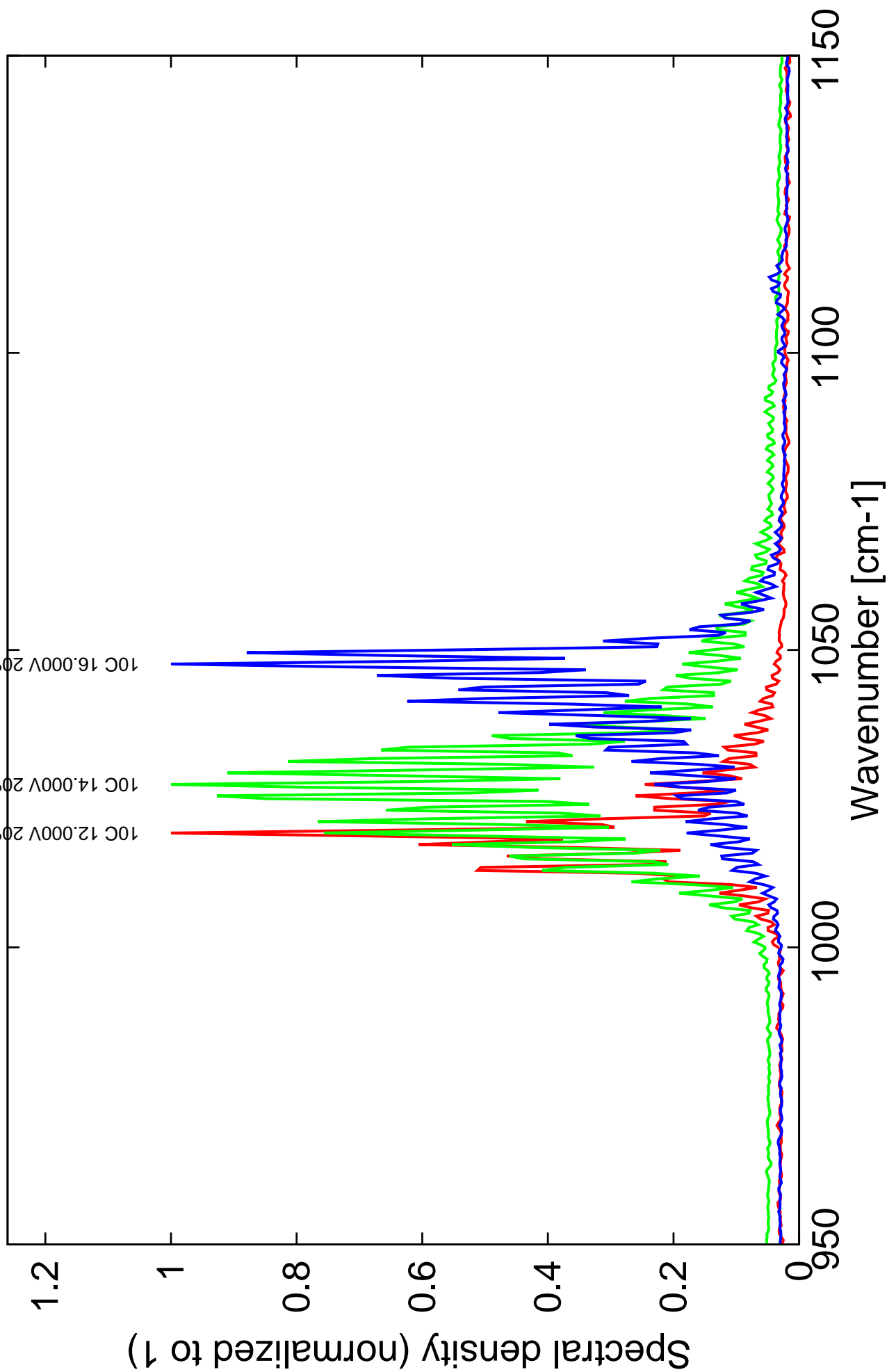


Figure 5: spectra at 10C at 30% duty-cycle (300ns pulses on the laser)

