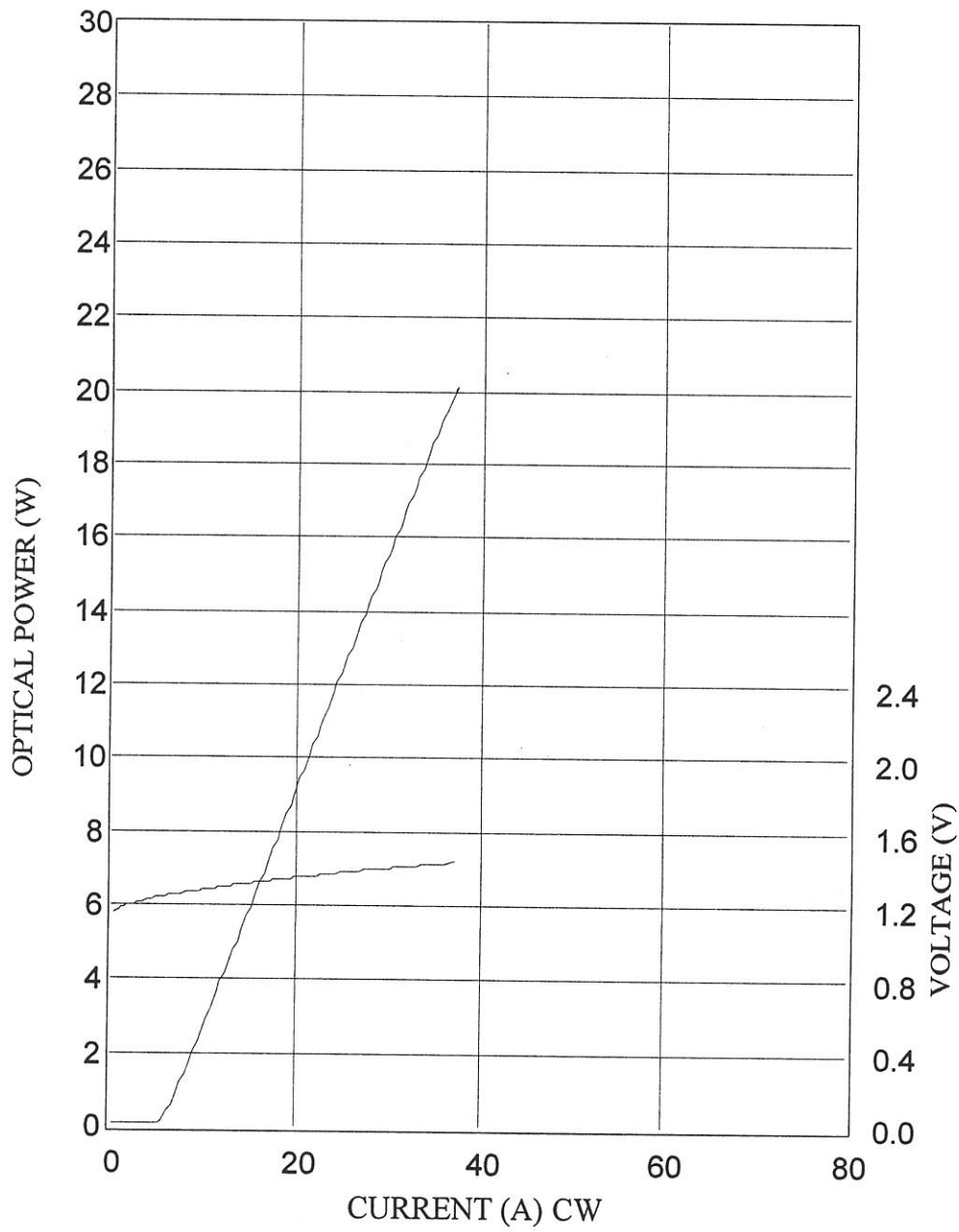


Device type : Serial number :

Date :

Case temperature	<input type="text" value="25.0"/> °C	Threshold current	<input type="text" value="6.1"/> A
Current at 20.0 W	<input type="text" value="37.0"/> A	Slope efficiency	<input type="text" value="0.65"/> W/A
Voltage at 20.0 W	<input type="text" value="1.91"/> V	Total efficiency at 20.0 W	<input type="text" value="28.2"/> %
Wavelength at 20.0 W	<input type="text" value="807.1"/> nm	Resistance	<input type="text" value="0.0077"/> Ω
Spectral width (FWHM) at 20.0 W	<input type="text" value="2.2"/> nm		



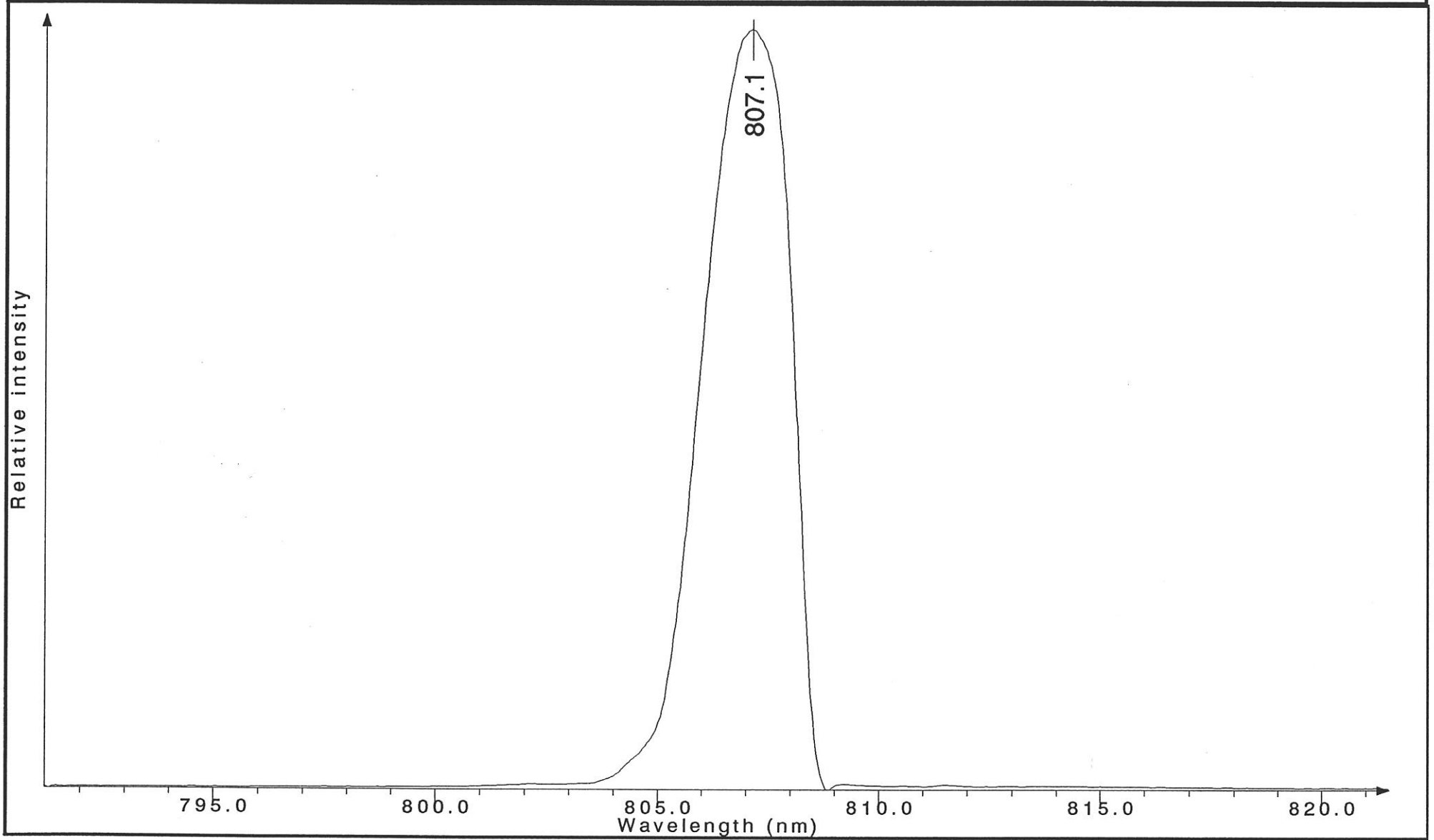
Device type: TH-C1720-F6

N 10045

Date: 09/02/2001

Conditions: P = 20W Spectral Width(FWHM): 2.2 nm

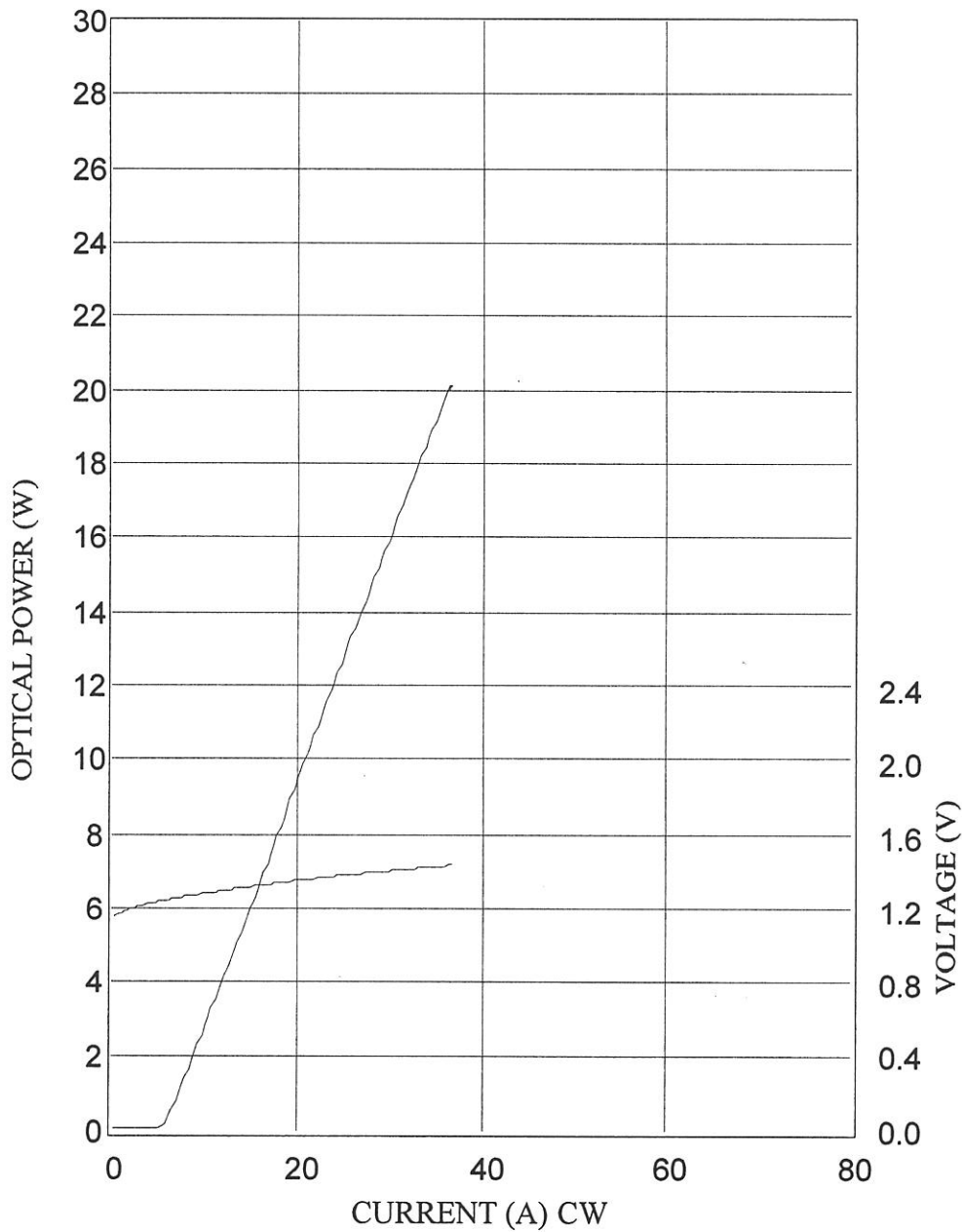
Temp=25C (Internal sensor)



Device type : Serial number :

Date :

Case temperature	<input type="text" value="25.0"/> °C	Threshold current	<input type="text" value="6.1"/> A
Current at 20.0 W	<input type="text" value="36.4"/> A	Slope efficiency	<input type="text" value="0.68"/> W/A
Voltage at 20.0 W	<input type="text" value="1.91"/> V	Total efficiency at 20.0 W	<input type="text" value="28.8"/> %
Wavelength at 20.0 W	<input type="text" value="807.1"/> nm	Resistance	<input type="text" value="0.0079"/> Ω
Spectral width (FWHM) at 20.0 W	<input type="text" value="2.1"/> nm		



Checked by :

Operator :

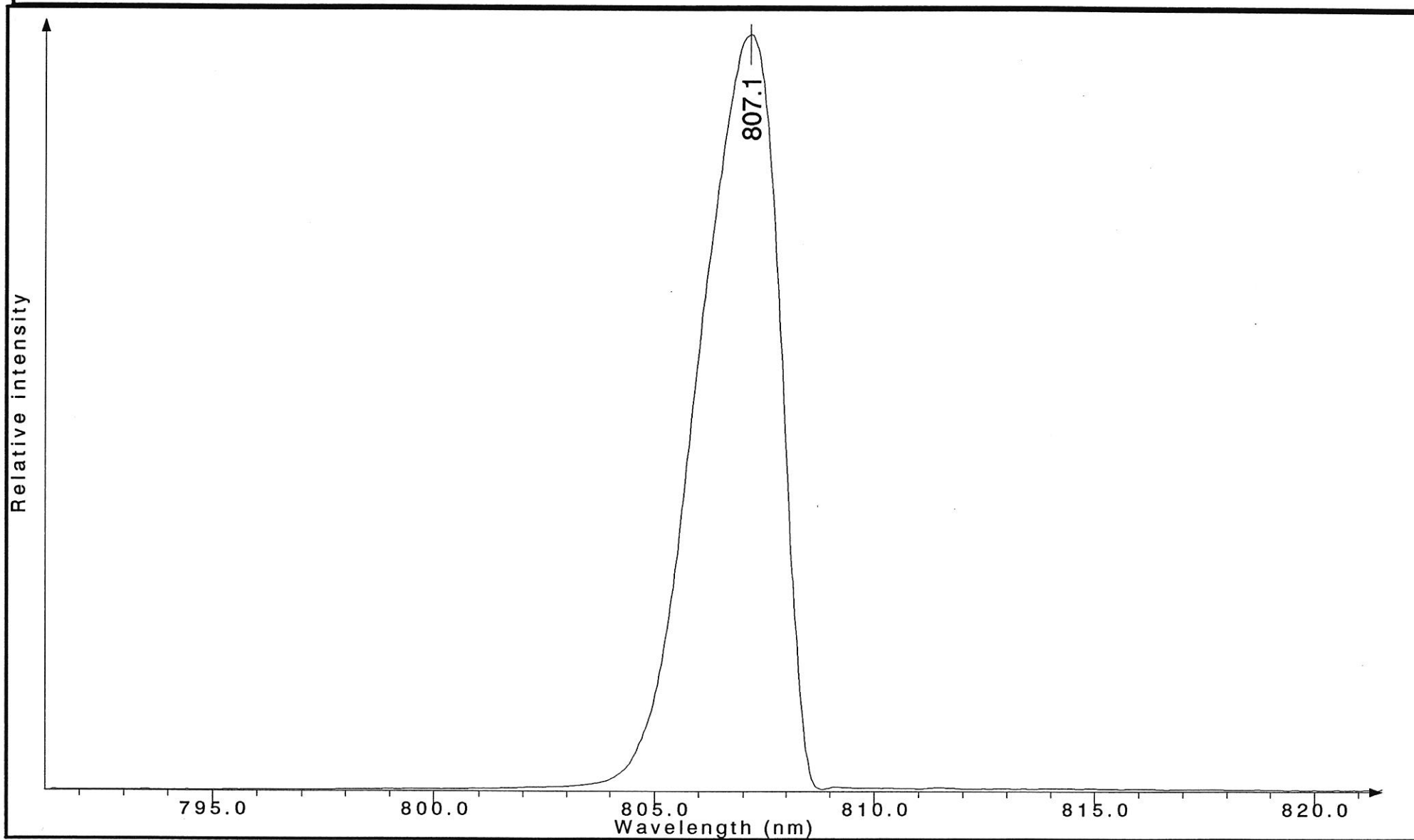
Device type: TH-C1720-F6

N 10046

Date: 09/02/2001

Conditions: P = 20W Spectral Width(FWHM): 2.1 nm

Temp = 25C (Internal sensor)



DIRECTION FOR USE
TH-C1720-F6

The schematic of the THOMSON-CSF LASER DIODES TH-C1720-F6 high power fiber-coupled laser array is done on the Data Sheet. Please refer to this schematic for connecting.

COOLING:

- The TH-C1720-F6 is passively cooled. Work temperature is **25°C internal thermal sensor**.
- The thermal sensor (25°C/10kΩ, see diagram enclosed) is inside, located near the laser diode bar.
- Thermal contact :

The TH-C1720-F6 needs to be fixed on the cooling system using the six 3.5 mm holes of his package. The cooling system must be efficient on the total surface of this package.

We recommend to use only indium sheet (no thermal grease).

Ensure to have a good thermal contact between the TH-C1720-F6 case and the cooling system. (typical: no more than 10°C between the internal thermal sensor indication and the case temperature).

CW- CURRENT POWER SUPPLY:

- THOMSON-CSF LASER DIODES recommends a 50A-5V CW current power supply.
- Electric cables needs to have the right diameter regarding to the driving current.
- A “ standby ” button witch provide a short-circuit between (+) and (-) output is recommended.

OPTICAL FIBER:

- The optical fiber is the most fragile part of the component.
- Never try pulling the fiber out of the package.
- Don't curve it excessively: minimum 167mm bend radius for long term use at ambient, and 100mm for short term use.

SMA 905 CONNECTOR:

- Take care: don't skim or touch lightly the end optical polished and coated face with hands or any metallic tool.
- Inspect the end face with binocular and lightly clean it if necessary using only optical cleaning tools and products.
- Never increase fiber-coupled laser diodes power with a dirty connector end face. Please contact THOMSON-CSF LASER DIODES if the connector is polluted or scratched.
- Replace plastic cap after use.
- Contact THOMSON-CSF LASER DIODES for any information, or for connecting fiber to fiber.

OPERATION:

- Always use anti-static bracelet.
- Withdraw plastic cap from the fiber end connector.
- Check current power supply: Decrease programmed current to zero before connecting the fiber coupled laser diode.
- Withdraw the short-circuit between cathode and anode.
- Connect power supply cables (+) et (-) respectively on anode and cathode (M3 screw).
- Start running the cooling system.
- Increase current at approximately 0.7A, the power supply must indicate more than 1 Volt (check connection in case not)
- Continue increasing current to nominal current (not more 1A/sec.).
- Check temperature stability (25°C).
- Never run over absolute maximum ratings indicated on DATA-SHEET.

END OF OPERATION:

- Decrease current to zero.
- Switch “ standby ” button or replace short circuit between cathode and anode
- Stop cooling system and replace plastic cap on fiber end

TH-C1715-F4/TH-C1720-F6/TH-C1722-F9

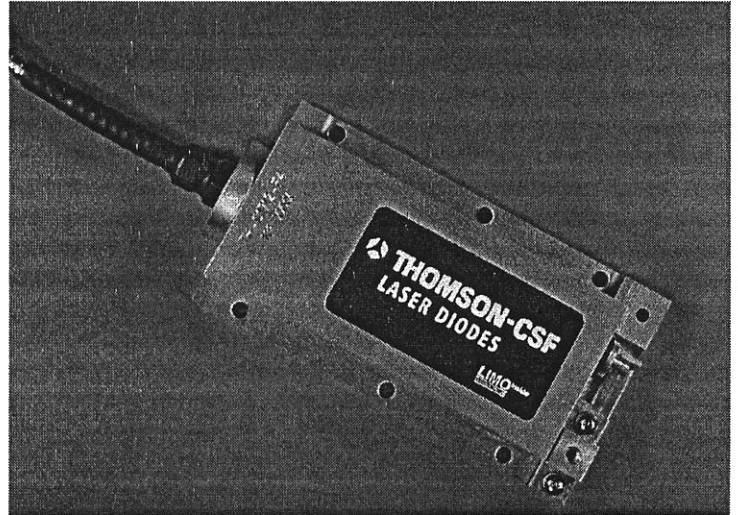
HIGH POWER FIBER COUPLED LASER DIODES

DESCRIPTION

The TH-C17xx-Fy series are high optical power fiber coupled laser diode sources. CW power delivery from 15W to 22W are ideal for applications which request high brightness sources like for efficient pumping solid state lasers, medicine, material processing, micromachining..

The optical power is delivered through a single multimode fiber terminated by a SMA connector. These products integrate ultimate LIMO microoptics. Small fiber diameter and low numerical aperture lead to high brightness and high optical power density.

The diode bar structure use quantum well technology which gives high efficiency and reliability.



MAIN FEATURES

- 15W CW, 20W CW and 22W CW optical output power
- Optical delivery through SMA 905 connector (male)
- Optical fiber 1.5m long, 0.22 N.A.
- Conductively cooled package
- Highly reproducible MOCVD process
- Efficient LIMO microoptics

SPECIFICATIONS

Case temperature: 25°C

PARAMETERS	TH-C1715-F4	TH-C1720-F6	TH-C1722-F9	UNITS
CW output power	15	20	22	Watt
Fiber core diameter	400	600	940	µm
Numerical Aperture	0.22	0.22	0.22	
Operating current (typical)	≤ 39	≤ 41	≤ 43	Amp.
Operating voltage	< 2	< 2	< 2	Volt
Total efficiency	25	28	30	%

Note:

- Variation of wavelength is approximately 0.26 to 0.3 nm/°C
- Standard wavelength is 808nm
- Tolerance on wavelength is +/- 4nm (+/- 3nm on request)
- Spectral width is ≤ 3nm
- Other wavelength selections are available, on request, in the range of 795nm to 980nm
- Other optical fiber is available, on request, with 0.16 N.A.

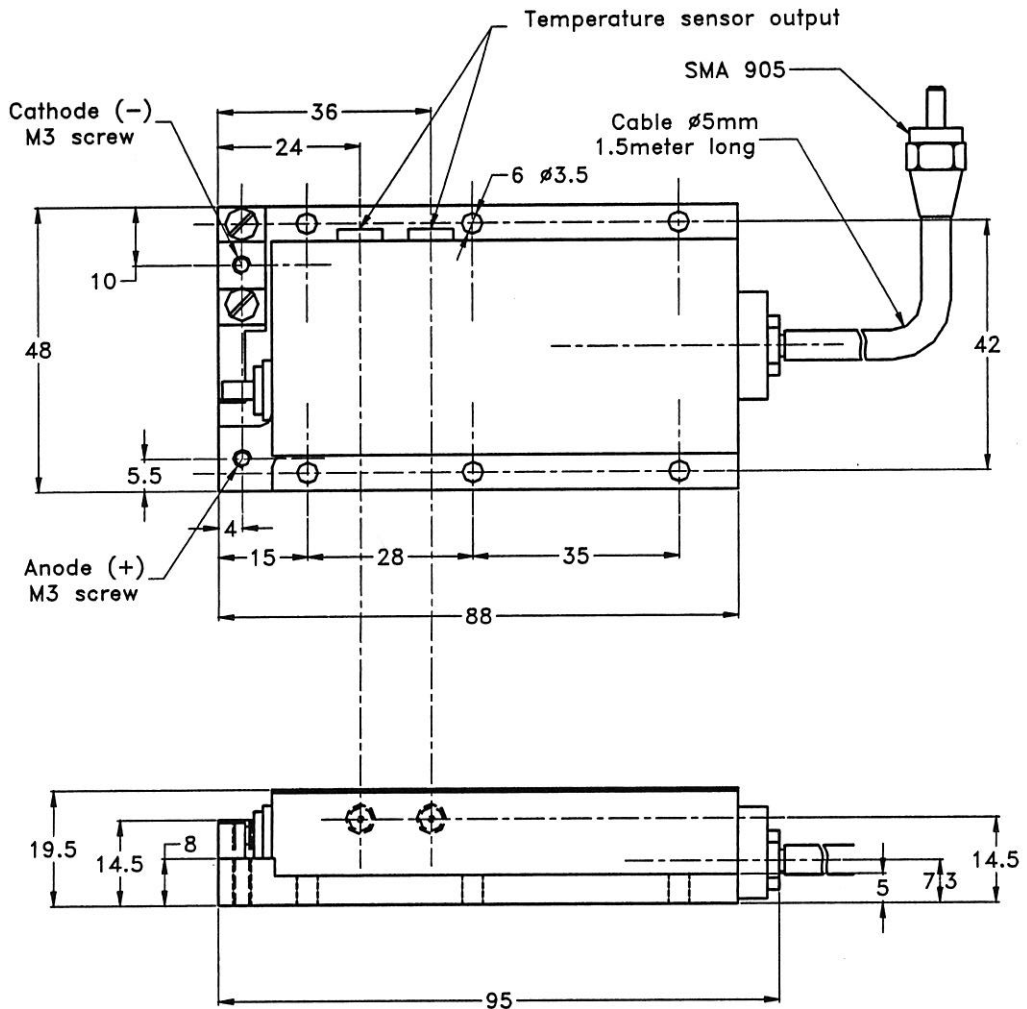
ABSOLUTE MAXIMUM RATINGS

PARAMETERS	TH-C1715-F4	TH-C1720-F6	TH-C1722-F9	UNITS
CW output power	16	21	23	Watt
Reverse voltage	3	3	3	Volt
Case Operating temperature	+5 to +35	+5 to +35	+5 to +35	°C
Storage temperature	-30 to +80	-30 to +80	-30 to +80	°C

Note : Operation at temperature below dew point requests to use dry N2 environment

PACKAGE SPECIFICATION :

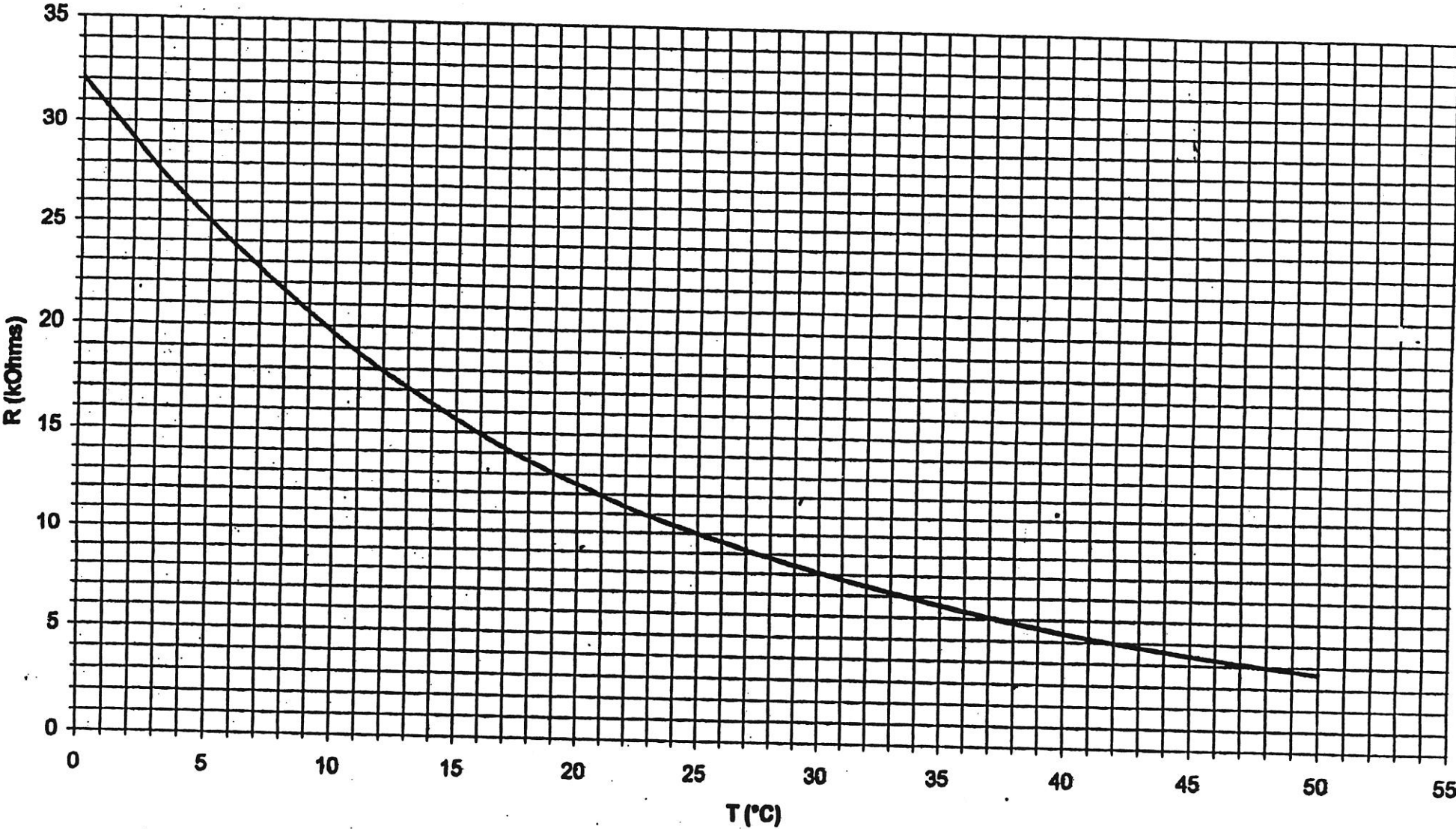
- dimensions are in mm
- standard tolerances are ± 0.2 mm




For further information please contact :
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 Tel (33) 1 69 33 06 61 Fax : (33) 1 69 33 06 62
 E-mail: infotld@tld.thomson-csf.com http://www.laser-diodes.thomson-csf.com

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THERMAL SENSOR



 **THOMSON-CSF**
LASER DIODES