LC93 980 nm Pump Laser Module Unstabilized 100-220 mW

Features

Wavelength 975-985 nm

Output power up to 220 mW

Single mode fiber pigtail

Internal thermoelectric heatpump and monitor photodiode.

Hermetically sealed 14-pin butterfly package.

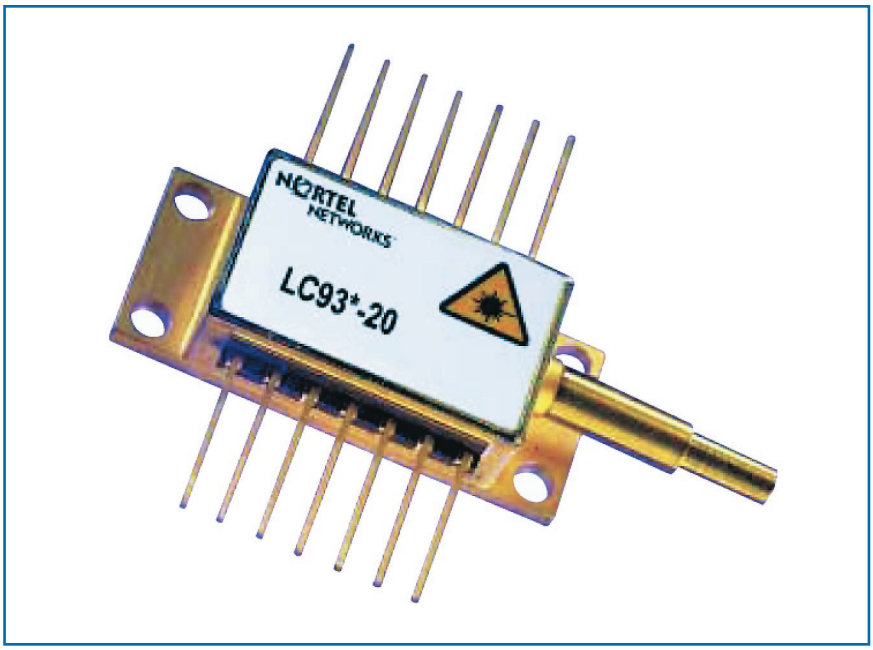
Telcordia GR-468-CORE compliant.

Applications

Low noise, high power EDFA

Description

These lasers are designed as pump sources for Erbium-Doped Fiber Amplifier (EDFA) applications. Proprietary processes and techniques of coupling the fiber to the laser allow high output powers which are very stable with both time and temperature. Devices are available with kink free output powers from 100 mW to 220 mW.



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Characteristics

Conditions unless otherwise stated:

Case temperature	-20 to + 75°C
Submount temperature	25°C
Monitor diode bias	-5 V
CW operation	

Kink free fiber-coupled output power:

LC93C-20	100 mW	LC93D-20	110 mW
LC93E-20	120 mW	LC93F-20	130 mW
LC93G-20	140 mW	LC93H-20	150 mW
LC93J-20	160 mW	LC93K-20	170 mW
LC93L-20	180 mW	LC93M-20	190 mW
LC93N-20	200 mW	LC93P-20	210 mW
LC93R-20	220 mW		

Parameter		Min	Typ	Max	Unit
Threshold current (1f)			25	35	mA
Operating drive current (1f)	C, D, E F, G H, J, K L, M, N P, R			250 300 350 400 450	mA
Forward voltage			1.8	2.5	V
Peak wavelength(λp)		975		985	nm
Power in wavelength band 975-985 nm		85	95		%
Monitor detector responsivity		1	8	25	µA/mW
Monitor dark current				50	nA
Thermistor resistance (at 25°C)		9.5	10	10.5	kΩ
Intended laser submount operating temperature		20	25	30	°C
Laser temperature, R = 10 kΩ		23.5		26.5	°C
Heatpump current (ΔT = 50°C)				1.3	A
Heatpump voltage (ΔT = 50°C)				2.8	V

Absolute Ratings

Parameter	Min	Max	Unit
Operating temperature	-20	75	°C
Storage temperature	-40	75	°C
Laser forward current		700	mA
Laser reverse voltage		2	V
Heatpump current		1.5	A
Lead soldering temperature (10s max)		260	°C
Fiber bend radius	30		mm

Outline Drawing

Dimensions are in mm.

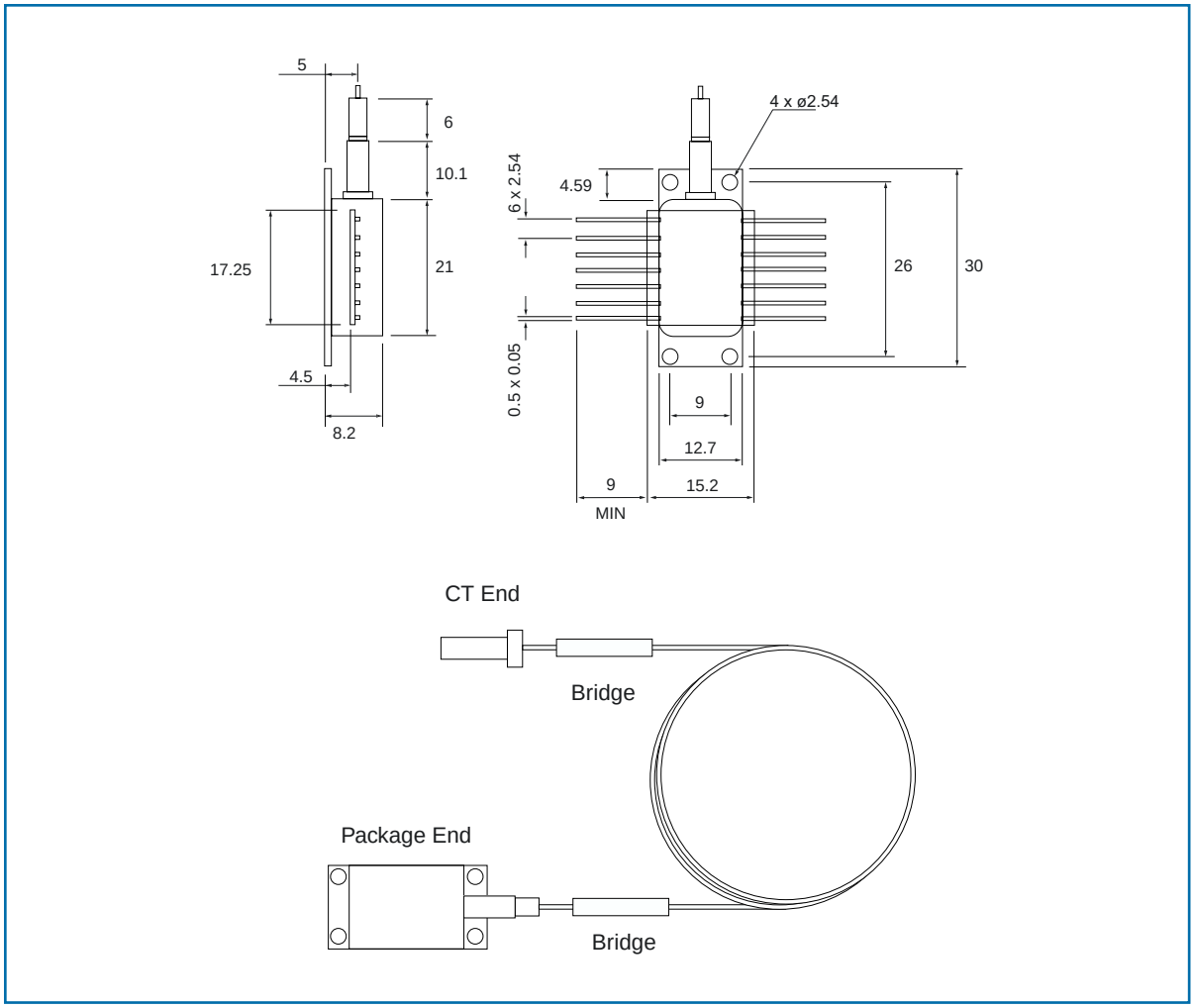

Figure 1: Package Outline Drawing and Dimensions

Fiber Specification

Puremode HI980 fiber or equivalent 250 µm primary coated with 900 µm removable protective sleeve, length 1m min.
Fiber termination: Angled ceramic ferrule (CT connector).

Connections

Pin #	Description	Pin #	Description
1	Peltier cooler (+)	8	Not connected
2	Thermistor	9	Not connected
3	Monitor anode (-)	10	Laser anode (+)
4	Monitor cathode (+)	11	Laser cathode (-)
5	Thermistor	12	Not connected
6	Not connected	13	Case ground
7	Not connected	14	Peltier cooler (-)

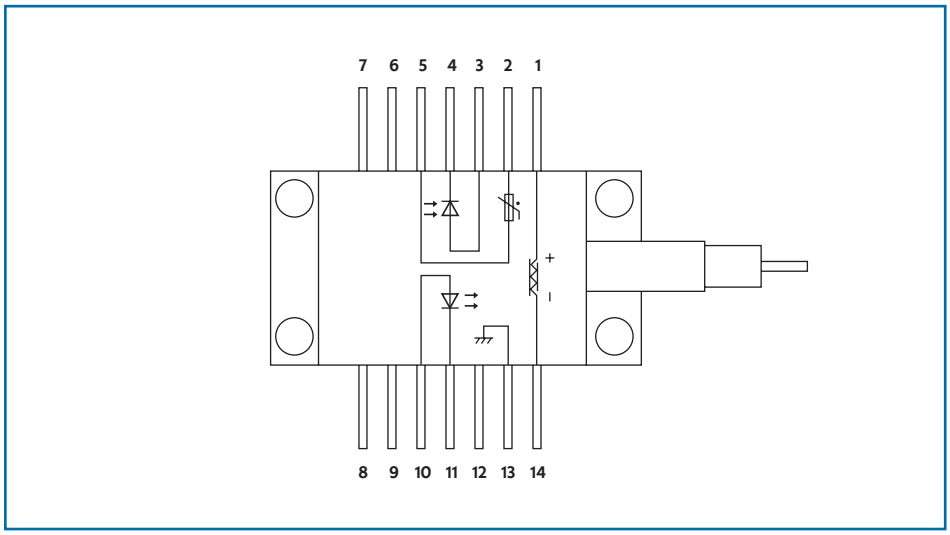

Figure 2: Connections

IEC60825-1: Edition 1.2

THIS PRODUCT COMPLIES WITH 21CFR 1040.10

Certificate No. FM 15040

Certificate No. EMS 35100

Ordering Information

Order Code No:

LC93C-20 for 100 mW device
LC93D-20 for 110 mW device
LC93E-20 for 120 mW device
LC93F-20 for 130 mW device
LC93G-20 for 140 mW device
LC93H-20 for 150 mW device
LC93J-20 for 160 mW device
LC93K-20 for 170 mW device
LC93L-20 for 180 mW device
LC93M-20 for 190 mW device
LC93N-20 for 200 mW device
LC93P-20 for 210 mW device
LC93R-20 for 220 mW device

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