

980 nm Pump Laser Module Unstabilised 100-220 mW

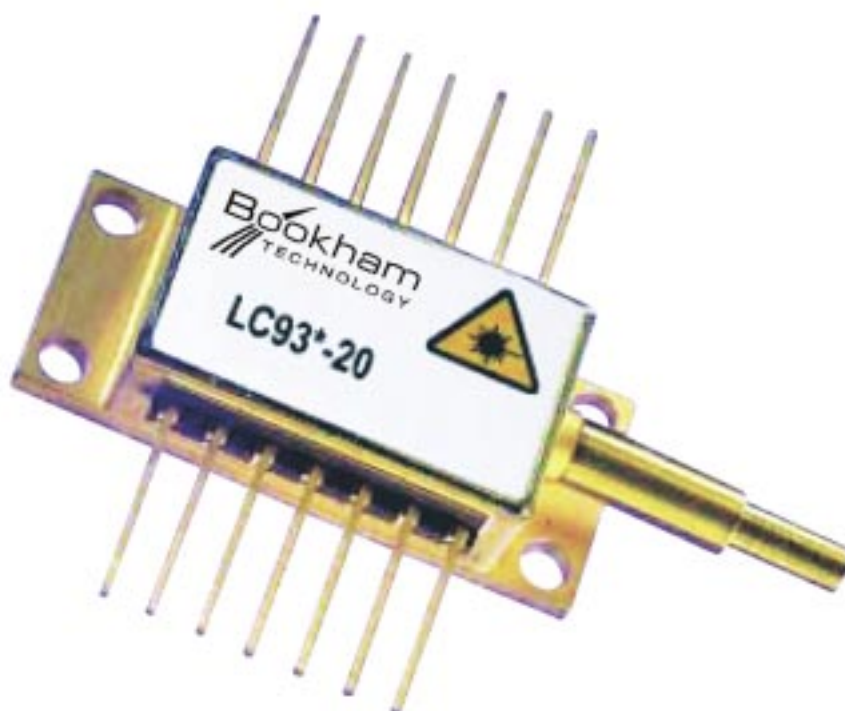
These lasers are designed as pump sources for Erbium-Doped Fibre Amplifier (EDFA) applications. Proprietary processes and techniques of coupling the fibre to the laser allow high output powers which are very stable with both time and temperature. Devices are available with kink free output powers from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

Features

- Wavelength 975-985 nm
- Output power up to 220 mW
- Single mode fibre pigtail
- Internal thermoelectric heatpump and monitor photodiode.
- Hermetically sealed 14-pin butterfly package.
- Telcordia GR-468-CORE compliant.
- Field proven high reliability.

Applications

- Low noise, high power EDFA



Characteristics

Conditions unless otherwise stated: Case temperature -20 to + 75°C
 Submount temperature 25°C
 Monitor diode bias -5 V
 CW operation

| | | | | |
|---------------------------------------|----------|--------|----------|--------|
| Kink free fibre-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 (I_{th}) | | 25 | 35 | mA |
| Operating drive current (I_f) 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(λ_p) | 975 | | 985 | nm |
| Power in wavelength band 975-985 nm | 85 | 95 | | % |
| Monitor detector responsivity | 1 | 8 | 25 | $\mu A/mW$ |
| Monitor dark current | | | 50 | nA |
| Thermistor resistance (at 25°C) | 9.5 | 10 | 10.5 | k Ω |
| Intended laser submount operating temperature | 20 | 25 | 30 | °C |
| Laser temperature, R = 10 k Ω | 23.5 | | 26.5 | °C |
| Heatpump current ($\Delta T = 50^\circ C$) | | | 1.3 | A |
| Heatpump voltage ($\Delta T = 50^\circ C$) | | | 2.8 | V |

Absolute Ratings

| Parameter | Min | Max | Unit |
|--------------------------------------|-----|-----|------|
| Operating temperature | -20 | 75 | °C |
| Storage temperature | -40 | 85 | °C |
| Laser forward current | | 700 | mA |
| Laser reverse voltage | | 2 | V |
| Heatpump current | | 1.5 | A |
| Lead soldering temperature (10s max) | | 260 | °C |
| Fibre bend radius | 30 | | mm |

Outline Drawing

Dimensions are in mm.

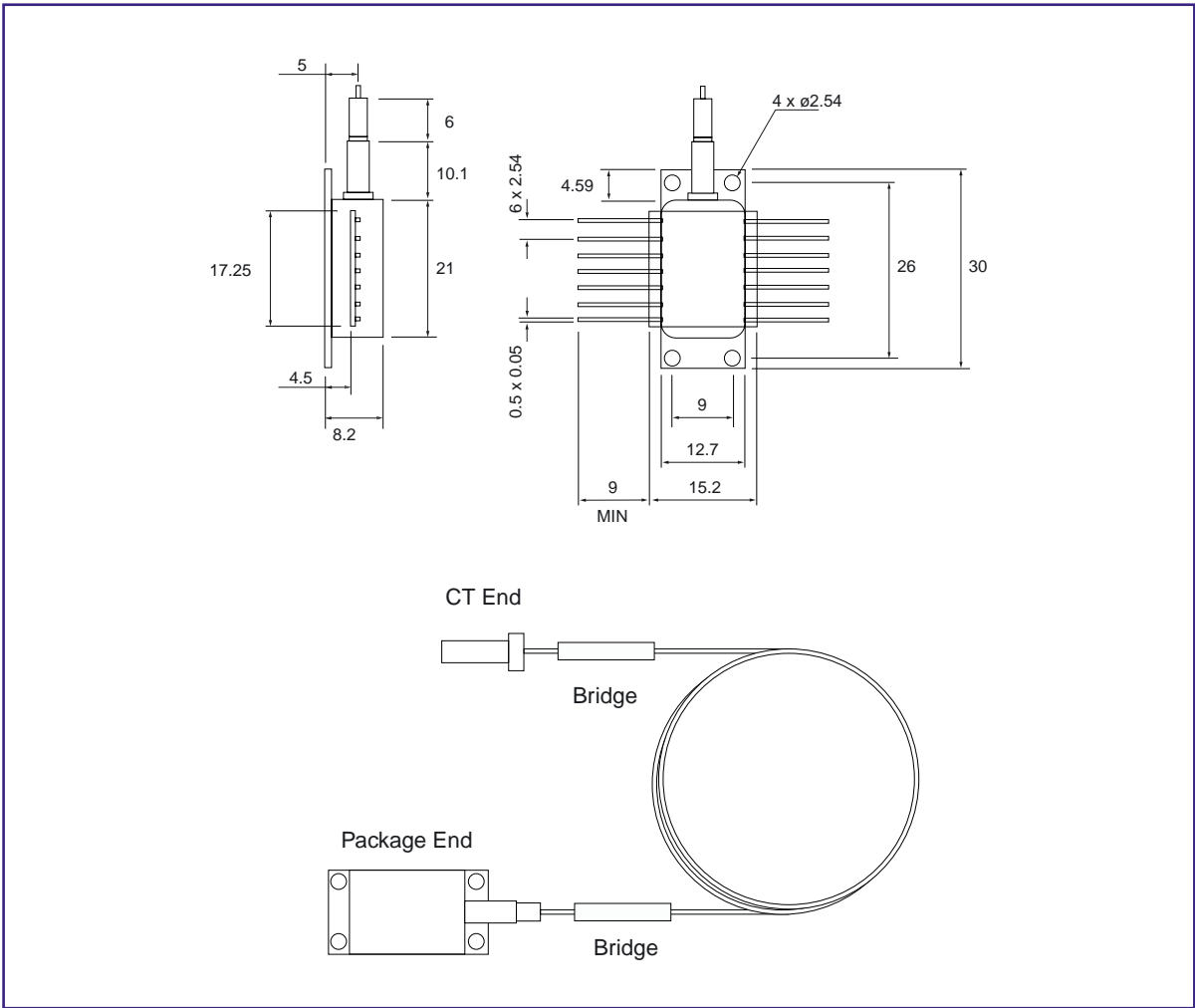


Figure 1: Package Outline Drawing and Dimensions

Fibre Specification

Puremode HI980 fibre or equivalent 250 µm primary coated with 900 µm removable protective sleeve, length 1m min.
Fibre 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 (-) |

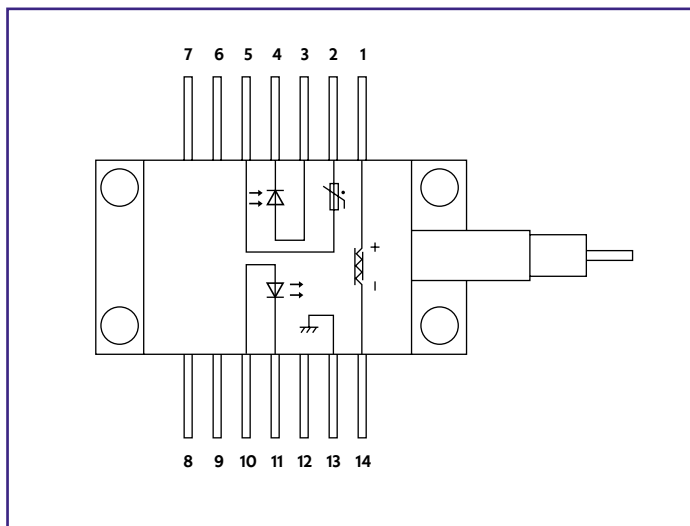


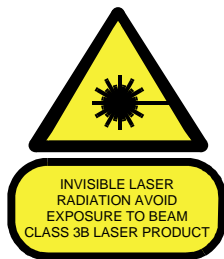
Figure 2: Connections

Ordering Information

Order Code No:

LC93C-20 for 100 mW device
 LC93E-20 for 120 mW device
 LC93G-20 for 140 mW device
 LC93J-20 for 160 mW device
 LC93L-20 for 180 mW device
 LC93N-20 for 200 mW device
 LC93R-20 for 220 mW device

LC93D-20 for 110 mW device
 LC93F-20 for 130 mW device
 LC93H-20 for 150 mW device
 LC93K-20 for 170 mW device
 LC93M-20 for 190 mW device
 LC93P-20 for 210 mW device



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THIS PRODUCT COMPLIES WITH 21CFR 1040.10



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