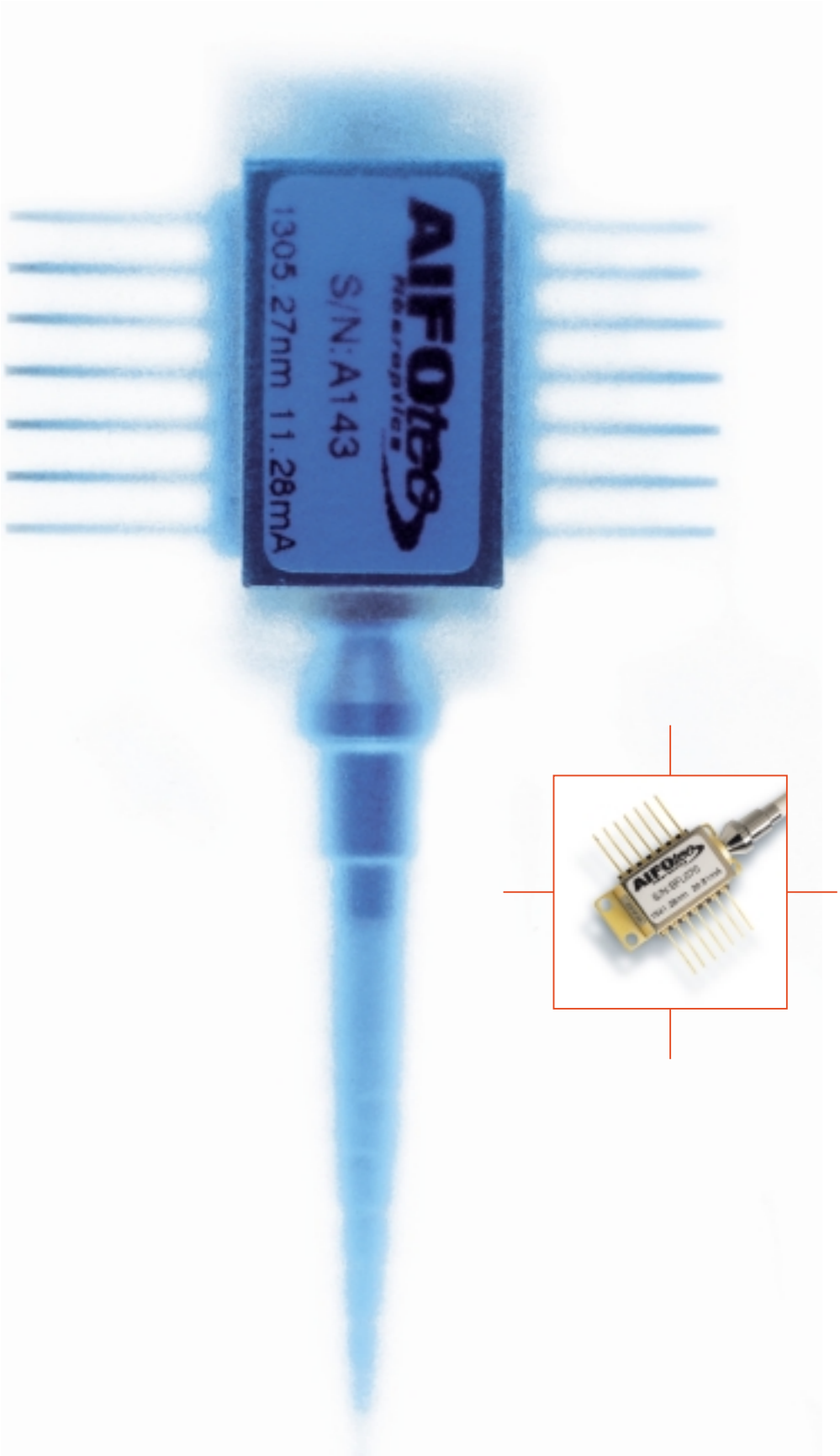
DFB LD Module for DWDM

The 2.5 GBit/s butterfly



Description

→ This DFB-laser module is intended especially for the use in DWDM systems, operated at a bitrate of 2.5 GBit/s. A thermoelectric cooler (TEC) and a precision thermistor are included in order to monitor and control the laser temperature and therefore, the emission wavelength. The rear facet monitor diode can be used to control the optical output power by means of an APC circuit. Also included in the package is an optical isolator.

Key-Features

→ Distributed feedback (DFB) Laser Diode (InGaAsP/InP)
→ Strained Layer MQW Structure
→ Emission wavelength selection according to ITU – grid
→ Built-in optical isolator
→ Built-in thermoelectric cooler
→ 14 Pin Butterfly package
→ Hermetically sealed Package

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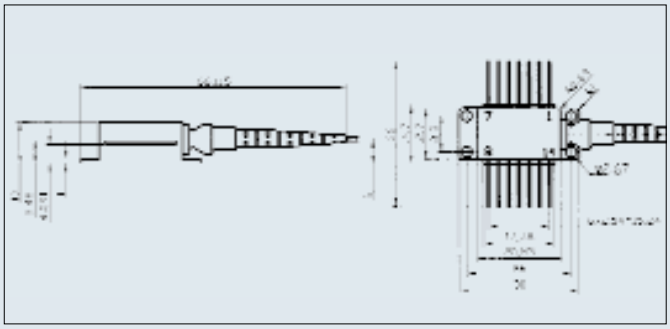
Technical Specifications



Electro-Optical Characteristics

@ 25°C Chip Temperature

Laser Diode	
Optical Output Power (max)	4 mW
Emission Wavelength	ITU C-Band
Threshold Current (max)	25 mA
Forward Voltage (max)	1.8 V
Side Mode Suppression Ratio (min)	33 dB
Slope Efficiency (min)	0.05 W/A
Optical Isolation (min)	25 dB
Dispersion Penalty @ 100 km SMF	2 dB
Input Impedance	25 Ω
Rise Time / Fall Time (10% / 90%)	150 ps
Thermistor (typical)	10 kΩ

Monitor Diode	
Dark Current (@ V_R =5V) (max)	100 nA
Photo Current @ 1mW	100...1100 µA

Connectors
Several connectors on request

Fibers	
Single Mode Fiber	Ø 9/125/900 µm
Length:	1 m

Maximum Ratings

Module	
Operating Temperature Range at Case	–10...+70 °C
Storage Temperature Range	–40...+85 °C
TEC Voltage	2 V
TEC Current	1 A

Laser Diode	
Direct Forward Current	120 mA
Reverse Voltage	2 V

Monitor Diode	
Reverse Voltage:	10 V

Pin Description	
1 Thermistor	8 Not Connected
2 Thermistor	9 Not Connected
3 LD Cathode	10 Not Connected
4 PD Anode	1 LD Anode (GND)
5 PD Cathode	12 LD RF (Modulation)
6 TE-Cooler +	13 LD Anode (GND)
7 TE-Cooler –	14 Not Connected

Ordering Information

BF - T □ □ - □ □ □ □ - □ □ - □ □ □ □

- T: TEC
- I: Isolator
- 0: no Isolator
- L: Low (< 2 mW)
- M: Med. (2-5 mW)
- H: High (> 5 mW)

- 0002: 2nd window (1280 - 1320 nm)
- 0003: 3rd window (1530 - 1575 nm)
- xxxx: special wavelength (e.g. 1544 = 1544 nm)
- I 0xx: ITU channel (e.g. 1047 = ITU ch 47 = 1539.77 nm)

- FC: FC/PC
- SC: SC/PC
- FA: FC/APC

- Customisation Code

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