

1.29 ÷ 1.33  
μm

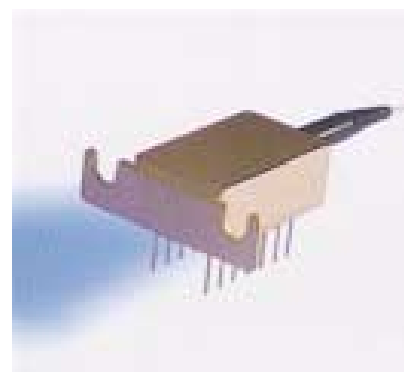
CW output power  
> 1.0 mW

**LFO-14-i**

### Description:

**LFO-14-i** – is a series of optical modules based on Mitsubishi 1310nm MQW InGaAsP/InP Fabry-Perot laser diode and coupled with singlemode optical fiber. Hermetically sealed modules are performed in standard «DIL-14» package with built-in InGaAs monitor photodiode, thermocooler and thermistor. The modules operate in wide temperature range, have stable output power and more than  $5 \cdot 10^5$  hours of lifetime.

**LFO-14-i** – are the best light sources for digital (up to 622Mb/s) fiber-optic communication lines, optical testers, systems of optical synchronization and other applications.



### Absolute maximum ratings:

#### Laser diode

Max. output power (mW)	1.5
Reverse voltage (V)	2.0

#### Monitor photodiode

Reverse voltage (V)	10
Forward current (mA)	1.5

#### Thermistor

Max. current (mA)	0.1
Voltage drop (V)	10

#### Thermocooler

Forward current (mA)	450
Forward voltage (V)	9.0

#### Environment

Operating temperature range (°C)	-40..+55
Storage temperature range (°C)	-40..+70

#### Assembly

Pin soldering temperature (°C)	200
Pin soldering time (sec)	3.0

### Optical and electrical characteristics (T=25°C):

Characteristics	Symbol	Test condition	Min	Typ.	Max	Units
<b>Laser diode</b>						
Output power from fiber end	$P_{OP}$	$I_{OP}$	0.8	1.0		mW
Wavelength	$\lambda_{OP}$	$P_{OP}$	1290	1310	1330	nm
Spectral width (FWHM)	$\Delta\lambda$	$P_{OP}$		1.0	2.0	nm
Threshold current	$I_{TH}$	CW		5.0	15	mA
Forward current	$I_F$	$P_{OP}$		30	40	mA
Forward voltage	$U_{OP}$	$P_{OP}$		1.1	1.5	V
Rise time/fall time	$\tau_R/\tau_F$	$P_{OP}$		0.3	0.7	ns
<b>Monitor photodiode</b>						
Monitor current	$I_{PD}$	$U_{REV}=5.0\text{ V}, P_{OP}$	100	500		μA
Dark current	$I_D$	$U_{REV}=5.0\text{ V}$		0.01	0.1	μA
Capacitance	$C_{PD}$	$U_{REV}=5.0\text{ V}, f=1\text{ MHz}$		10	20	pF
<b>Thermistor</b>						
Resistance	$R_T$	$T=T_{OP}$		10		kΩ
<b>Thermocooler</b>						
Forward current	$I_C$	$P_{OP}$			0.35	A
Forward voltage	$U_C$	$P_{OP}$			6.5	V
<b>Optical fiber</b>						
Fiber core/cladding diameter	$D_C/D_{CL}$			9/125		μm
Fiber length	L			400..1500		mm
Optical connector type				«FC»		

**ROITHNER LASERTECHNIK**

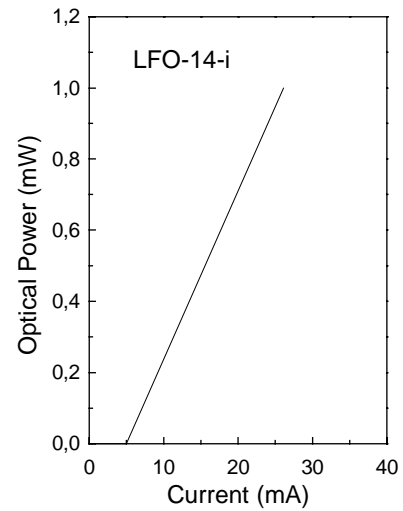
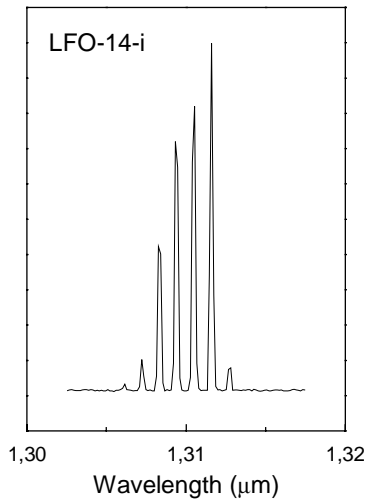
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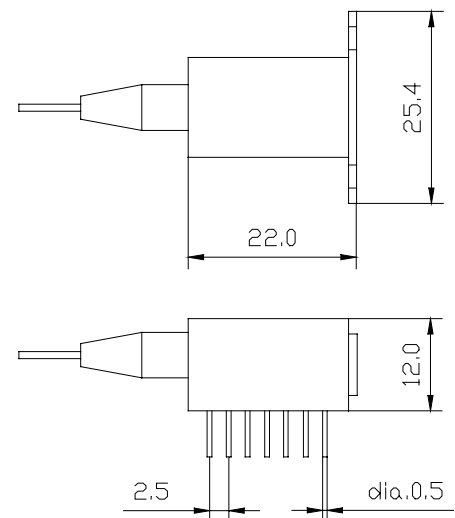
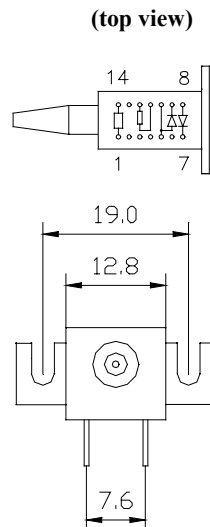
# LFO-14-i

## Typical optical and electrical characteristics (T=25°C):



## Package specifications (DIL-14pin fiber package):

Pin	Function
1	"+" thermocooler
2	—
3	—
4	—
5	LD anode (+)
6	—
7	PD cathode (+)
8	PD anode (-)
9	LD cathode (-)
10	LD anode (+)
11	thermistor
12	thermistor
13	—
14	"-" thermocooler



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