

**1.53 ÷ 1.57**  
**µm**

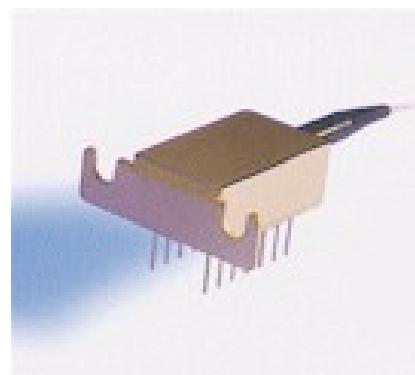
**CW output power**  
**> 0.8 mW**

**LFO-18-i**

### Description:

**LFO-18-i** – is a series of optical modules based on Mitsubishi 1550nm 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  $5 \times 10^5$  hours of lifetime.

**LFO-18-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)	1.2
Reverse voltage (V)	2.0

#### Monitor photodiode

Reverse voltage (V)	10
Forward current (mA)	2.0

#### 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 <sub>OP</sub>	I <sub>OP</sub>		0.8		mW
Wavelength	λ <sub>OP</sub>	P <sub>OP</sub>	1530	1550	1570	nm
Spectral width (FWHM)	Δλ	P <sub>OP</sub>		1.0	2.5	nm
Threshold current	I <sub>TH</sub>	CW	5.0	10	15	mA
Forward current	I <sub>F</sub>	P <sub>OP</sub>	25	35	45	mA
Forward voltage	U <sub>OP</sub>	P <sub>OP</sub>		1.1	1.5	V
Rise time/fall time	τ <sub>R</sub> /τ <sub>F</sub>	P <sub>OP</sub>		0.3	0.7	ns
<b>Monitor photodiode</b>						
Monitor current	I <sub>PD</sub>	U <sub>REV</sub> =5.0 V, P <sub>OP</sub>	100	500		µA
Dark current	I <sub>D</sub>	U <sub>REV</sub> =5.0 V		0.01	0.1	µA
Capacitance	C <sub>PD</sub>	U <sub>REV</sub> =5.0 V, f=1 MHz		10	20	pF
<b>Thermistor</b>						
Resistance	R <sub>T</sub>	T=T <sub>OP</sub>		10		kΩ
<b>Thermocooler</b>						
Forward current	I <sub>C</sub>	P <sub>OP</sub>			0.35	A
Forward voltage	U <sub>C</sub>	P <sub>OP</sub>			6.5	V
<b>Optical fiber</b>						
Fiber core/cladding diameter	D <sub>C</sub> /D <sub>CL</sub>			9/125		µm
Fiber length	L			400..1500		mm
Optical connector type				«FC»		

**ROITHNER LASERTECHNIK**

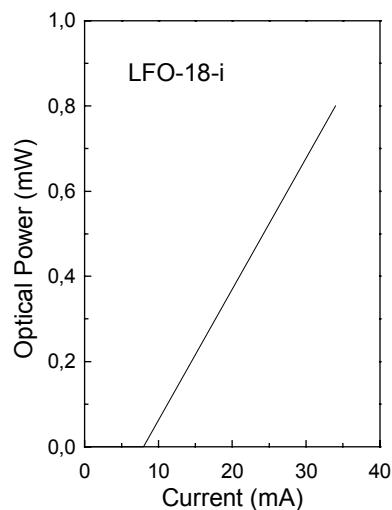
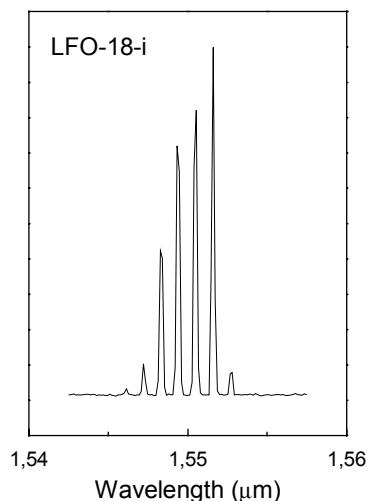
**A-1040 VIENNA, SCHOENBRUNNER STRASSE 7, AUSTRIA**

**TEL: +43 -1- 586 52 43-0 FAX: +43 -1- 586 52 43-44**

**e-mail: office@roithner-laser.com http://www.roithner-laser.com**

# LFO-18-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

