

1.29 ÷ 1.33
μm

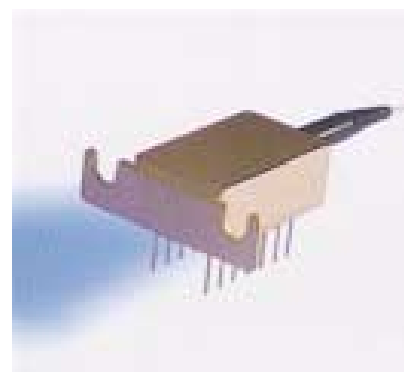
CW output power
> 1.0 mW

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
Laser diode						
Output power from fiber end	P_{OP}	I_{OP}	0.8	1.0		mW
Wavelength	λ_{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	τ_R/τ_F	P_{OP}		0.3	0.7	ns
Monitor photodiode						
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
Thermistor						
Resistance	R_T	$T=T_{OP}$		10		kΩ
Thermocooler						
Forward current	I_C	P_{OP}			0.35	A
Forward voltage	U_C	P_{OP}			6.5	V
Optical fiber						
Fiber core/cladding diameter	D_C/D_{CL}			9/125		μm
Fiber length	L			400..1500		mm
Optical connector type				«FC»		

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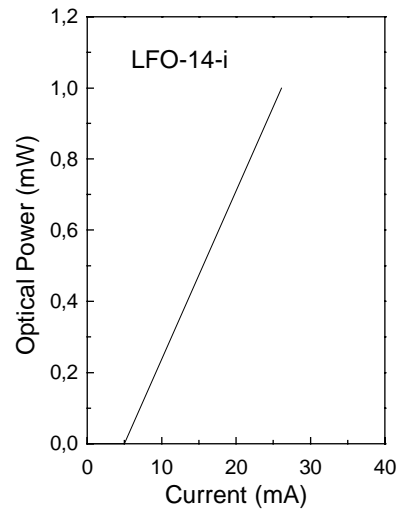
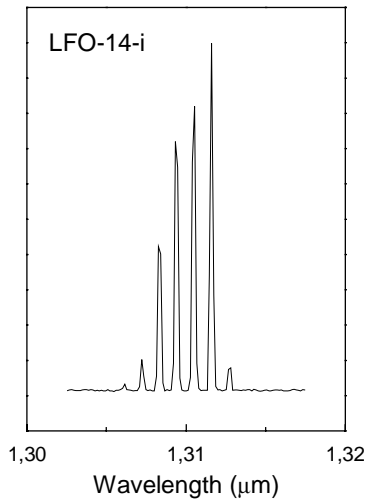
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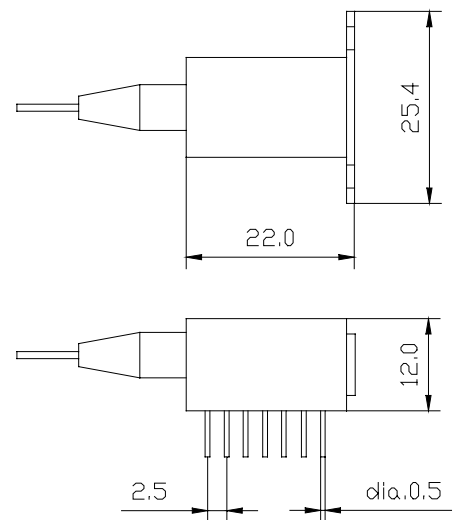
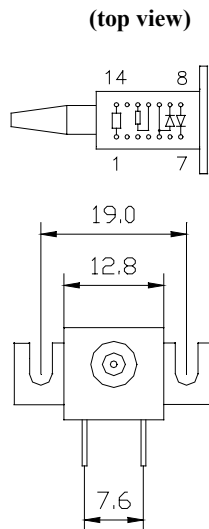
LFO-14-i

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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