

Laser diode

L8231/L7551 series

Receptacle type, 1.3 μm , 1.25, 2.5 Gbps



L8231 and L7551 series are high-speed infrared emitters specifically developed for 1.3 μm band optical fiber communications. These devices incorporate a high-speed Fabry-Perot laser diode integrated in a receptacle module. Packages are available with various connectors and mounting styles.

Features

- High-speed Fabry-Perot laser diode
L8231 series: 1.25 Gbps
L7551 series: 2.5 Gbps
- Compatible with single/multi mode optical fibers

Applications

- Optical fiber communications
- Fiber channel
- Gigabit ethernet
- HDTV
- SDH

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	L8231 series	L7551 series	Unit
Forward current	IF	Ith + 14 (DC)	Ith + 16 (DC)	mA
		Ith + 28 (pulse) *1	Ith + 32 (pulse) *1	mA
Reverse voltage (laserdiode)	VR	2		V
Reverse voltage (photodiode)	VRm	20		V
Operating temperature	Topr	-20 to +70		°C
Storage temperature	Tstg	-40 to +70		°C

*1: Duty ratio 50 %

■ Electrical and optical characteristics (Typ. Ta=25 °C, IF=Ith +10 mA)

Parameter	Symbol	L8231 series	L7551 series	Unit
Peak wavelength	λ_p	1.31	1.31	μm
Forward voltage	VF	1.1	1.1	V
Threshold current	Ith	6	9	mA
Fiber end output *2	PF	0.2	0.2	mW
Rise time	tr	250	200	ps
Data rate	B	1.25	2.5	Gbps
Monitor current (photodiode)	Im	0.4	0.5	mA

*2: Measured using a single-mode optical fiber (mode field diameter 9.5 μm) with a master plug.

■ Package lineup

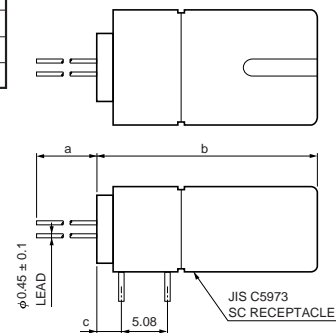
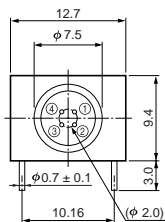
Parameter	L8231/L7551				
	-21	-22	-23	-32	-44
Mounting style	Board			Panel	Board & panel
Connector	SC	FC	MU	FC	LC
Dimensional outline	①	②	③	④	⑤

Laser diode L8231/L7551 series

■ Dimensional outlines (unit: mm, tolerance unless otherwise noted: ± 0.2)

① L8231/L7551-21

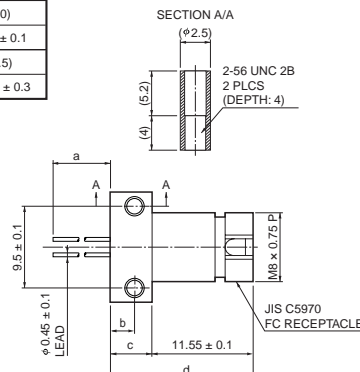
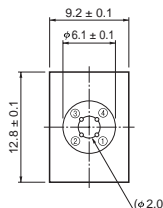
	L8231-21	L7551-21
a	(16)	(10)
b	22.5 ± 0.4	21.2 ± 0.4
c	2.75	1.45



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② L8231/L7551-22

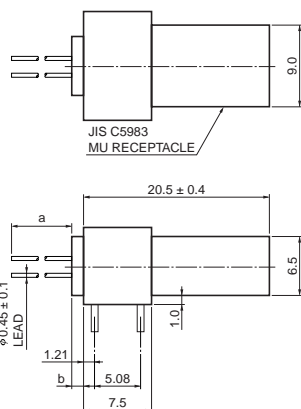
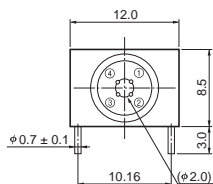
	L8231-22	L7551-22
a	(16)	(10)
b	2.8 ± 0.1	1.75 ± 0.1
c	(4.8)	(3.5)
d	16.35 ± 0.3	15.05 ± 0.3



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③ L8231/L7551-23

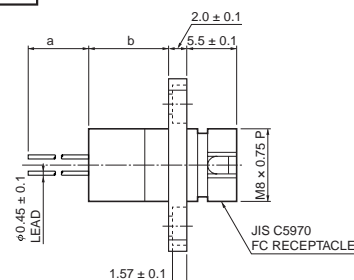
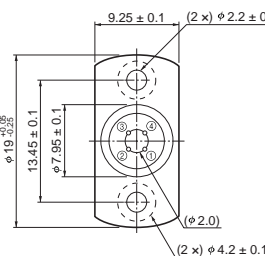
	L8231-23	L7551-23
a	(16)	(10)
b	1.3	0



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④ L8231/L7551-32

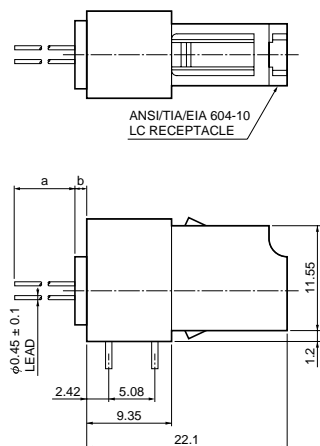
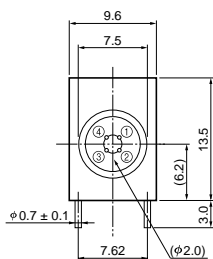
	L8231-32	L7551-32
a	(16)	(10)
b	8.8	7.5



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⑤ L8231/L7551-44

	L8231-44	L7551-44
a	(16)	(10)
b	1.3	0



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■ Pin connection

Pin No.	L8231 series	L7551 series
①	Anode (PD)	Cathode (PD)
②	Anode (LD)	Cathode (LD)
③	Cathode (LD)	Anode (LD)
④	Cathode (PD)	Anode (PD)

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HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741

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