

# Laser diode

## L8231/L7551 series

Receptacle type, 1.3  $\mu\text{m}$ , 1.25, 2.5 Gbps



L8231 and L7551 series are high-speed infrared emitters specifically developed for 1.3  $\mu\text{m}$  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	$\lambda_p$	1.31	1.31	$\mu\text{m}$
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  $\mu\text{m}$ ) with a master plug.

### ■ Package lineup

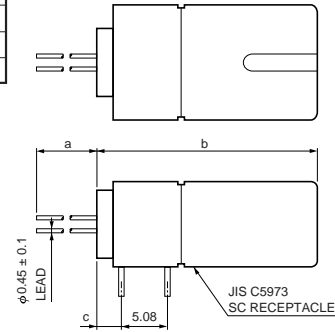
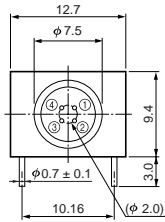
Parameter	L8231/L7551				
	-21	-22	-23	-32	-44
Mounting style	Board			Panel	Board & panel
Connector	SC	FC	MU	FC	LC
Dimensional outline	①	②	③	④	⑤

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■ Dimensional outlines (unit: mm, tolerance unless otherwise noted:  $\pm 0.2$ )

## ① L8231/L7551-21

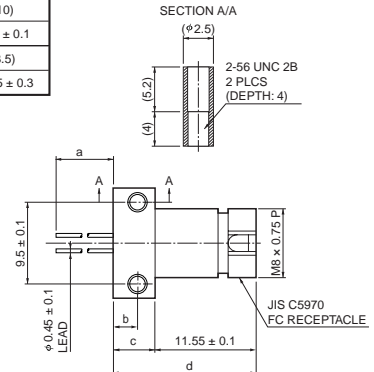
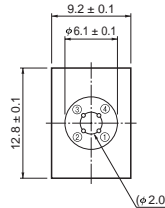
	L8231-21	L7551-21
a	(16)	(10)
b	$22.5 \pm 0.4$	$21.2 \pm 0.4$
c	2.75	1.45



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## ② L8231/L7551-22

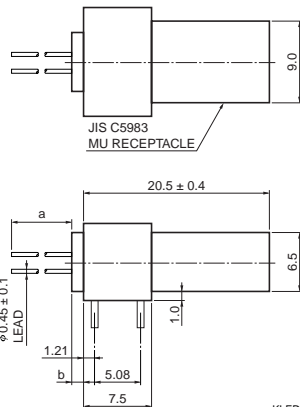
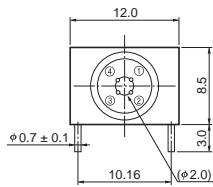
	L8231-22	L7551-22
a	(16)	(10)
b	$2.8 \pm 0.1$	$1.75 \pm 0.1$
c	(4.8)	(3.5)
d	$16.35 \pm 0.3$	$15.05 \pm 0.3$



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## ③ L8231/L7551-23

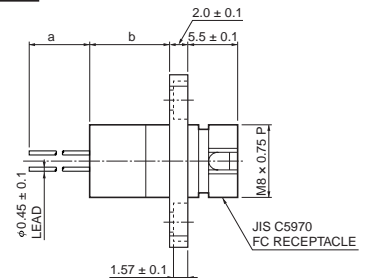
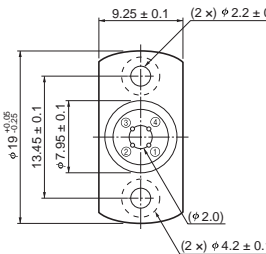
	L8231-23	L7551-23
a	(16)	(10)
b	1.3	0



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## ④ L8231/L7551-32

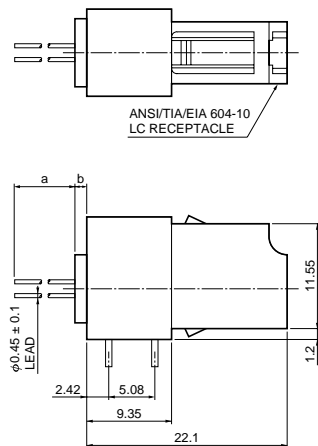
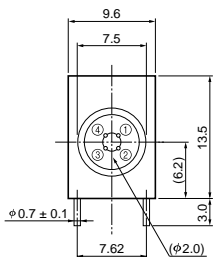
	L8231-32	L7551-32
a	(16)	(10)
b	8.8	7.5



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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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