

Si/GaAs PIN photodiode with preamp S8221/G8337 series

Receptacle type, 0.8 μm , 1.25, 2.1 Gbps



S8221/G8337 series are high-speed receivers specifically developed for 0.8 μm band optical fiber communications. These devices incorporate a high-speed, high-sensitivity Si or GaAs PIN photodiode integrated with a high-speed preamp and integrated in a receptacle module. Packages are available with various connectors and mounting styles.

Features

- Wide dynamic range
S8221 series (1.25 Gbps): -21 to +3 dBm
G8337 series (2.1 Gbps) : -20 to +3 dBm
- Integrated with trans-impedance amplifier
- Supply voltage
S8221 series: 3.3 V or 5 V operation
G8337 series: 3.3 V or 5 V operation
- Differential output

Applications

- Optical fiber communications
- IEEE1394
- Fiber channel
- Gigabit Ethernet

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	S8221 series	G8337 series	Unit
Supply voltage	Vcc		-0.3, +5.5	V
Operating temperature	Topr		-20 to +70	°C
Storage temperature	Tstg		-40 to +85	°C

■ Specifications (Typ. Ta=25 °C, Vee=0 V, capacitive coupling, $\lambda=840$ nm, unless otherwise noted)

Parameter	Symbol	Value	S8221 series	G8337 series	Unit
			Vcc=3.3/5 V RL=50 Ω	Vcc=3.3/5 V RL=50 Ω	
Photo sensitivity	S	Pin= -17 dBm *1	1	0.45	V/mW
Supply current	Icc	Dark state, RL= ∞	35	35 (Vcc=5 V) 25 (Vcc=3.3 V)	mA
Output bias voltage	Vo	Dark state, RL= ∞	Vcc -1.7	Vcc - 0.2	V
Rise time	tr	Pin= -17 dBm, 20 to 80 %	300	200	ps
Data rate	B		1.25 G	2.1 G	bps

*1: Single ended (Vout +) measurement using a single mode optical fiber with a master plug.

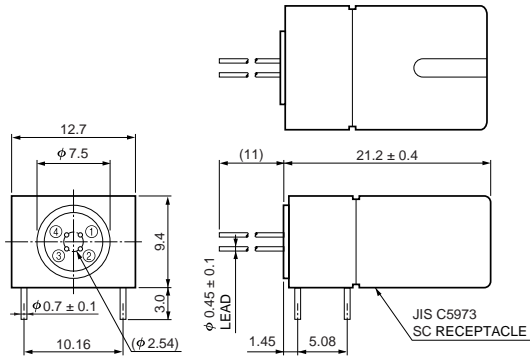
■ Package lineup

Parameter	S8221/G8337				
	-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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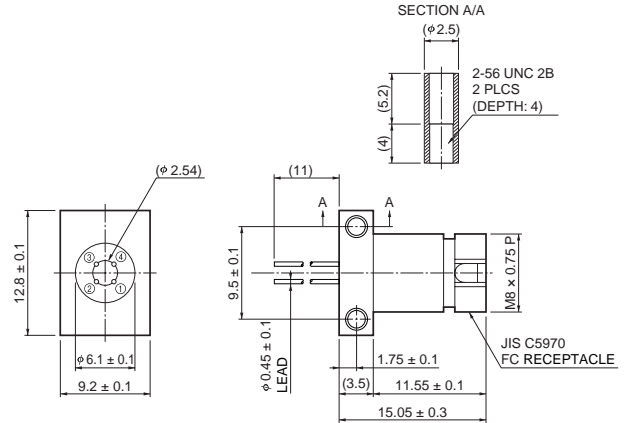
■ Dimensional outlines (unit: mm, tolerance unless otherwise noted: ± 0.2)

① S8221/G8337-21



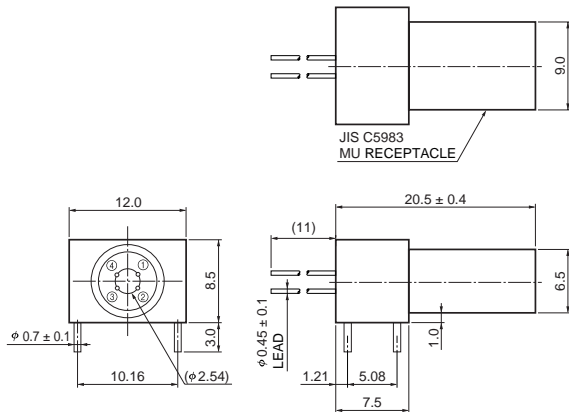
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② S8221/G8337-22



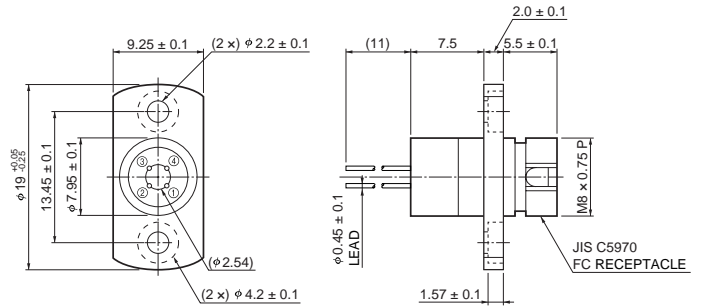
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③ S8221/G8337-23



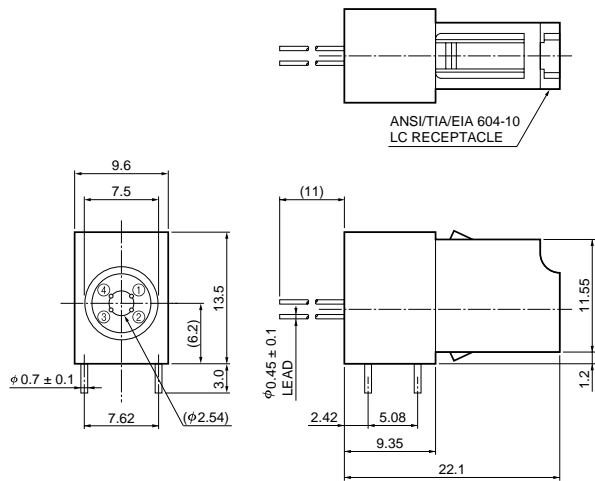
KIRDA0070EA

④ S8221/G8337-32



KIRDA0081EB

⑤ S8221/G8337-44



KIRDA0082EB

■ Pin connection

Pin No.	G8337 series	S8221 series
①	Vcc	Vcc
②	Vout -	Vout +
③	Vee	Vee
④	Vout +	Vout -

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