

S10044 is a Si photodiode developed for accurately monitoring light output from a high-power semiconductor laser diode. Its active area has a specially processed surface structure that maintains good photocurrent linearity up to an incident light level 10 times higher than that handled with the conventional product (S5106). S10044 is in a surface mount package suitable for solder reflow process, allowing automated PCB production. A high-reliability metal package type (S10045) for ultraviolet semiconductor laser diodes is under development.

Features

Applications

Aging equipment for red/infrared semiconductor laser diodes

- High linearity: 10 times as compared with the conventional type (S5106)
- Large active area: 5 × 5 mm
- Surface mount ceramic chip carrier package

■ Absolute maximum ratings (Ta=25 °C)

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Parameter	Symbol	Value	Unit
Reverse voltage	VR Max.	20	V
Operating temperature	Topr	-40 to +100	°C
Storage temperature	Tstg	-40 to +125	°C

■ Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Тур.	Max.	Unit	
Spectral response range	λ		-	320 to 1100	-	nm	
Peak sensitivity wavelength	λρ		-	960	-	nm	
Photo sensitivity	S	λ=λp	-	0.06	-	A/W	
Dark current	lD	VR=10 V	-	0.4	5	nA	
Terminal capacitance	Ct	VR=10 V, f=1 MHz	-	40	-	pF	
Cut-off frequency	fc	VR=10 V, RL=50 Ω -3 dB	-	20	-	MHz	



HAMAMATSU

Si PIN Photodiode S10044

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KPINB0312EA





- The light input window of this product uses soft silicone resin. Avoid touching the window to keep it from grime and damage that can decrease sensitivity. External force applied to the resin surface may deform or cut off the wires, so do not touch the window to prevent such troubles.
- Use rosin flux when soldering, to prevent the terminal lead corrosion. Reflow oven temperature should be at 260 °C maximum for 5 seconds maximum time under the conditions that no moisture absorption occurs.
- Reflow soldering conditions differ depending on the type of PC board and reflow oven. Carefully check these conditions before use. Silicone resin swells when it absorbs organic solvent, so do not use any solvent other than alcohol.
- Avoid unpacking until you actually use this product to prevent the terminals from oxidation and dust deposits or the coated resin from absorbing moisture.
 - When the product is stored for 3 months while not unpacked or 24 hours have elapsed after unpacking, perform baking in nitrogen atmosphere at 150 °C for 3 to 5 hours or at 120 °C for 12 to 15 hours before use.

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