

Technical Data Sheet

5.8x6.8mm Silicon PIN Photodiode: SGPD510C9

■ **Features**

- Fast response time
- High photo sensitivity
- Small junction capacitance
- Pb free
- The product itself will remain within RoHS compliant version.



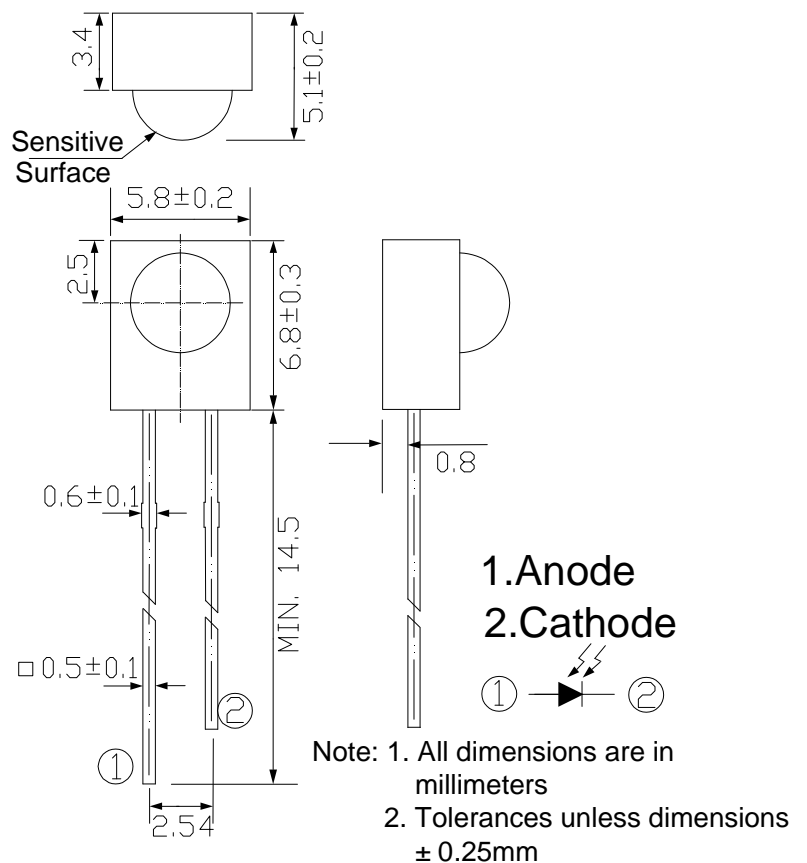
■ **Descriptions**

SGPD510C9 is a high speed and high sensitive PIN photodiode in a side view plastic package. Due to its water clear epoxy the device is sensitive to visible and infrared radiation.

■ **Applications**

- High speed photo detector
- VCRs , Video camera
- Camera
- Optoelectronic switch
- Smoke Detector

■ **Package Dimensions**



■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Units
Reverse Voltage	V _R	30	V
Power Dissipation	P _d	150	mW
Lead Soldering Temperature	T _{sol}	260	°C
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C

■ Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Rang of Spectral Bandwidth	$\lambda_{0.5}$	----	430	----	1100	nm
Wavelength of Peak Sensitivity	λ_p	----	----	940	----	nm
Open-Circuit Voltage	V _{oc}	Ee=5m W/cm ² $\lambda_p=940\text{nm}$	----	0.32	----	V
Short- Circuit Current	I _{sc}	Ee=5m W/cm ² $\lambda_p=940\text{nm}$	----	120	----	μA
Reverse Light Current	I _L	Ee=5m W/cm ² $\lambda_p=940\text{nm}$ V _R =5V	100	120	----	μA
Dark Current	I _d	Ee=0m W/cm ² V _R =10V	----	----	10	nA
Reverse Breakdown	BV _R	Ee=0m W/cm ² I _R =100 μA	30	----	----	V
Total Capacitance	C _t	Ee=0m W/cm ² V _R =3V f=1MHZ	----	22	----	pF
Rise/Fall Time	t _r /t _f	V _R =10V R _L =1K Ω		45/45		nS

■ **Typical Electro-Optical Characteristics Curves**

Fig.1 Power Dissipation vs. Ambient Temperature

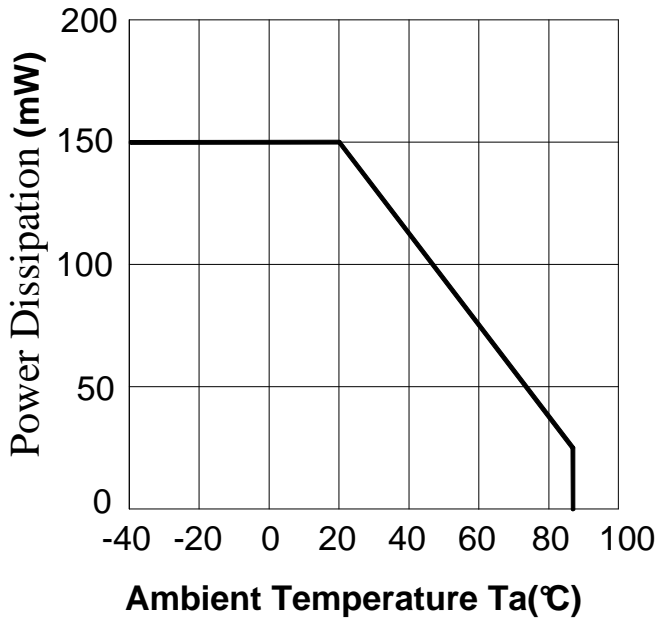


Fig.2 Spectral Sensitivity

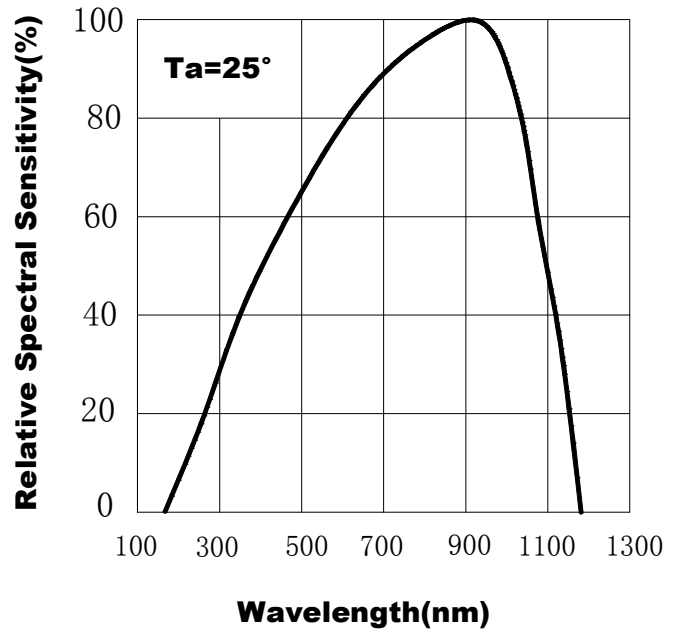


Fig.3 Dark Current vs. Ambient Temperature

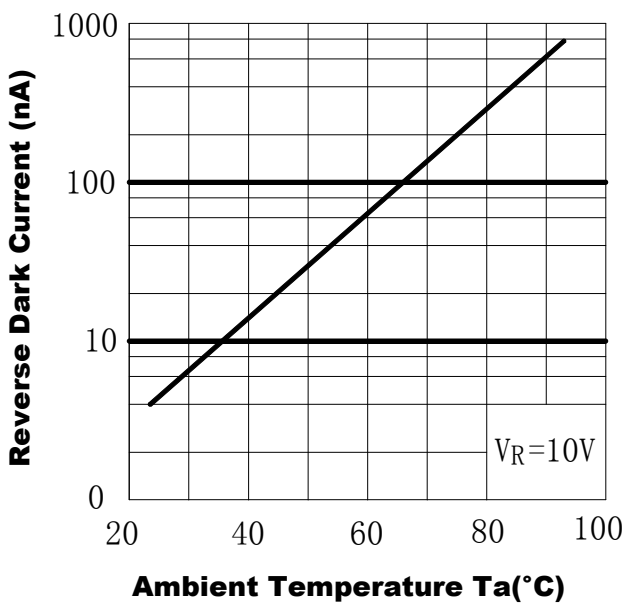


Fig.4 Reverse Light Current vs. Ee

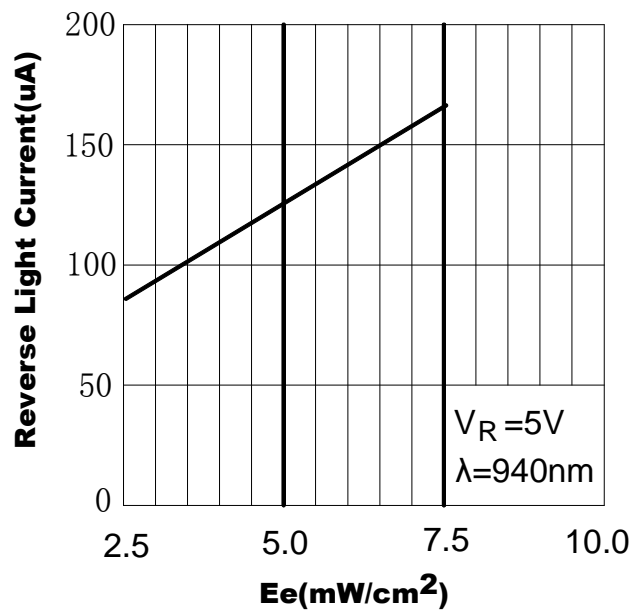


Fig.5 Terminal Capacitance vs.
Reverse Voltage

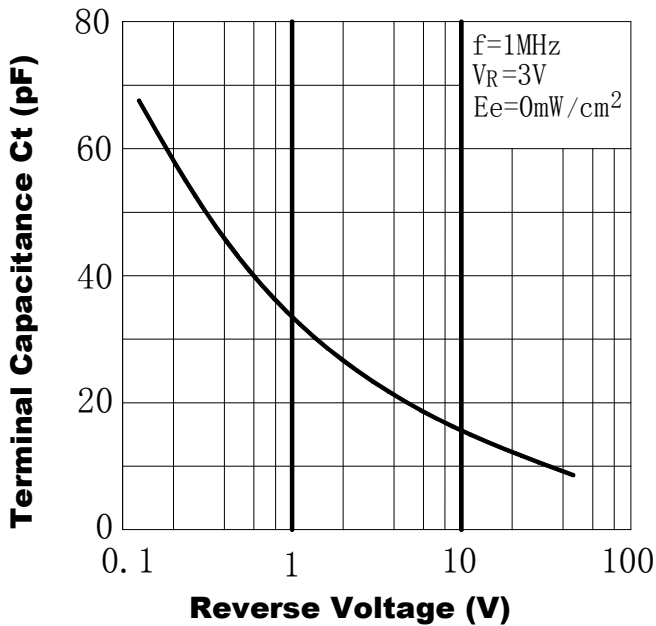
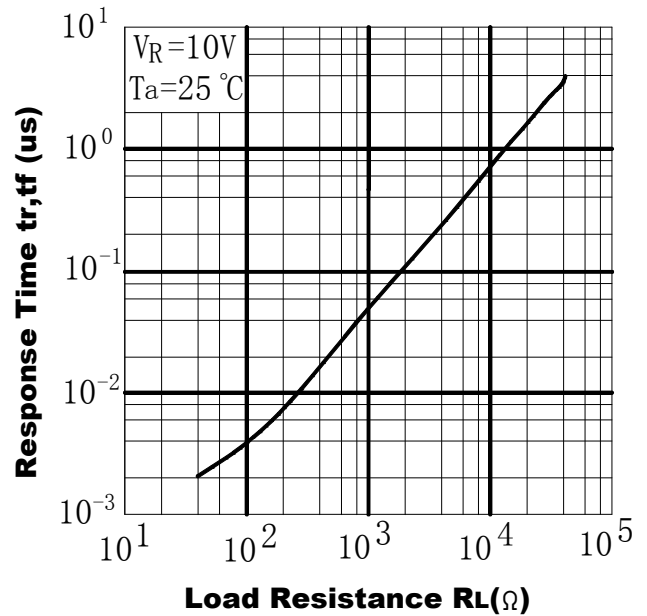


Fig.6 Response Time vs.
Load Resistance



■ Packing Quantity Specification

1. 1000PCS/1Bag

■ Notes

1. Above specification may be changed without notice. SHUGUAN will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. SHUGUAN assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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