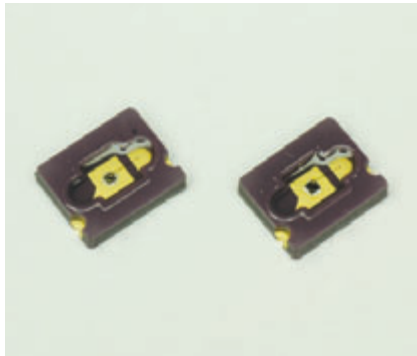


# InGaAs PIN photodiodes



G11193 series

**Small package, surface mount type**

## Features

- Small SMD (surface mount device) package
- Low noise, low dark current
- Low price

## Applications

- Optical power meter
- Measurement/analytical instruments

## General ratings

Parameter	G11193-02R	G11193-03R	Unit
Package	SMD		-
Active area	φ0.2	φ0.3	mm
Window	Resin		-

## Absolute maximum ratings

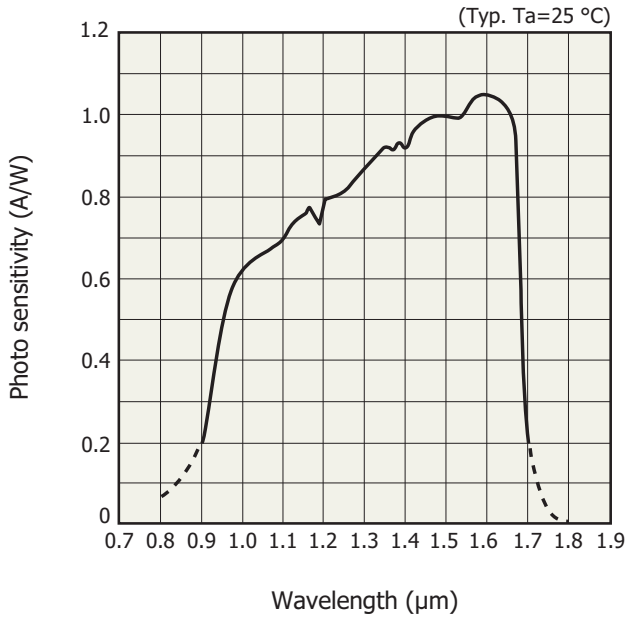
Parameter	Symbol	G11193-02R	G11193-03R	Unit
Reverse voltage	$V_R$ Max.	10		V
Operating temperature	$T_{opr}$	-25 to +85*		°C
Storage temperature	$T_{stg}$	-40 to +100*		°C

\* No condensation

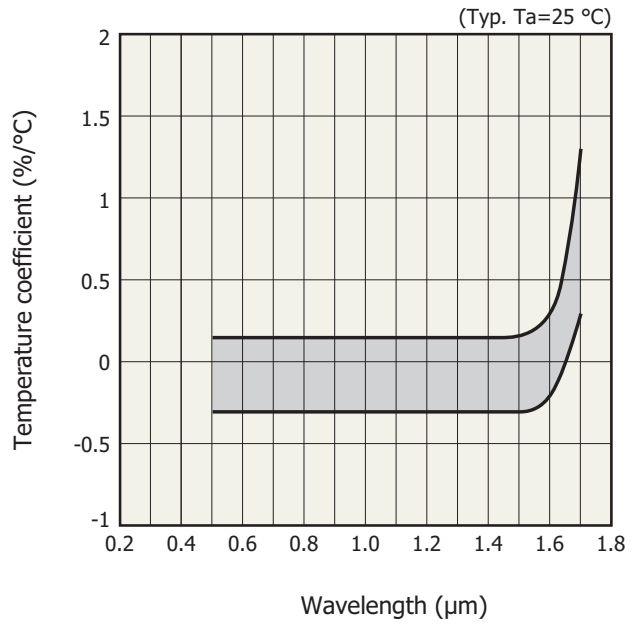
## Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	G11193-02R			G11193-03R			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Spectral response range	$\lambda$	Higher than 10% of peak	-	0.9 to 1.7	-	-	0.9 to 1.7	-	μm
Peak sensitivity wavelength	$\lambda_p$		-	1.55	-	-	1.55	-	μm
Photo sensitivity	S	$\lambda=1.3 \mu\text{m}$ $\lambda=1.55 \mu\text{m}$	0.75 0.77	0.85 1.0	-	0.75 0.77	0.85 1.0	-	A/W
Dark current	$I_D$	$V_R=5 \text{ V}$	-	40	800	-	100	1200	pA
Cut-off frequency	$f_c$	$V_R=5 \text{ V}, R_L=50 \Omega$	-	1	-	-	0.5	-	GHz
Terminal capacitance	$C_t$	$V_R=5 \text{ V}, f=1 \text{ MHz}$	-	3	-	-	5	-	pF
Shunt resistance	Rsh	$V_R=10 \text{ mV}$	-	1000	-	-	700	-	MΩ
Detectivity	$D^*$	$\lambda=\lambda_p$	-	$5 \times 10^{12}$	-	-	$5 \times 10^{12}$	-	$\text{cm} \cdot \text{Hz}^{1/2} / \text{W}$

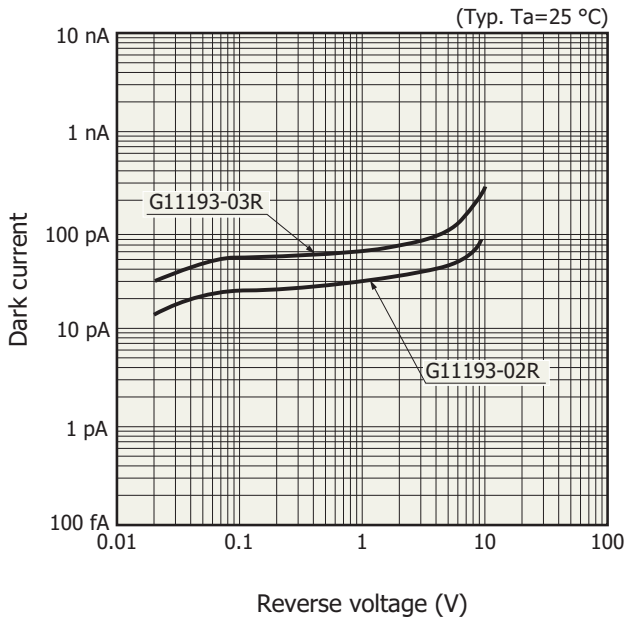
**Spectral response**



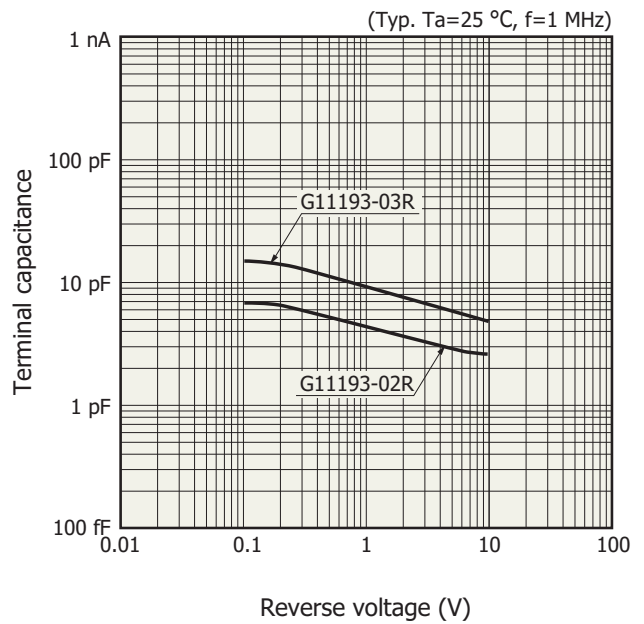
**Photo sensitivity temperature characteristic**

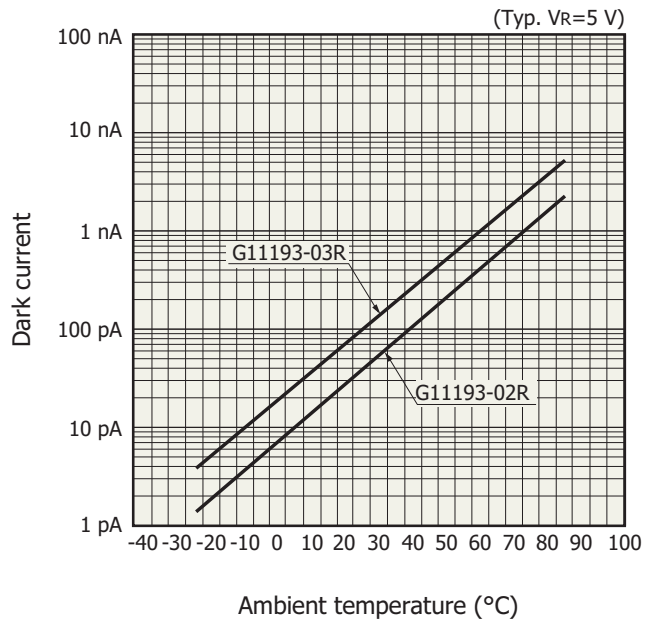


**Dark current vs. reverse voltage**

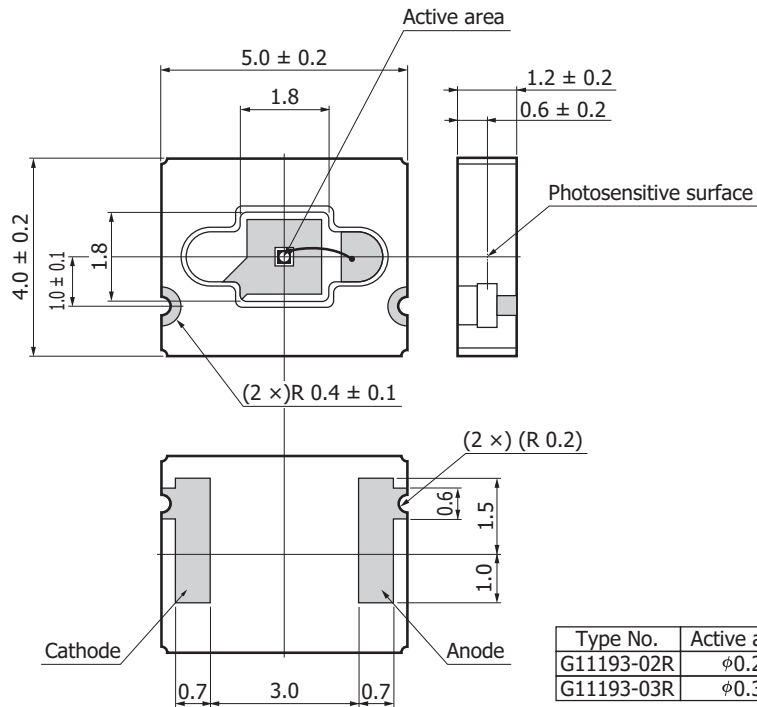


**Terminal capacitance vs. reverse voltage**



**Dark current vs. ambient temperature**

### Dimensional outline (unit: mm)



KIRDA0210EA

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions.

Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein.

Type numbers of products listed in the specification sheets or supplied as samples may have a suffix "(X)" which means tentative specifications or a suffix "(Z)" which means developmental specifications. ©2010 Hamamatsu Photonics K.K.

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