

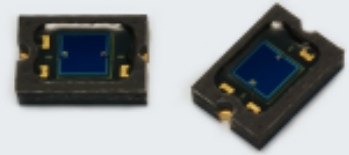
**NEW**

PHOTODIODE

# Si photodiode

## S9674

Suitable for lead-free solder reflow, operating/storage temperature: -40 to +125 °C



S9674 is a highly reliable photodiode designed for in-vehicle applications and is compatible with lead-free solder reflow processes. The newly developed small, thin leadless package allows reducing the mount area on a printed circuit board.

### Features

- Suitable for lead-free solder reflow (Reflow peak temperature: 260 °C, JEDEC LEVEL 5a)
- Surface mount type, small and thin leadless package
- High reliability for automotive applications  
Operating/storage temperature: -40 to +125 °C
- Active area: 2 × 2 mm
- High sensitivity: 0.7 A/W ( $\lambda=960$  nm)

### Applications

- Automotive devices  
(For rain sensor and sun sensor, etc.)

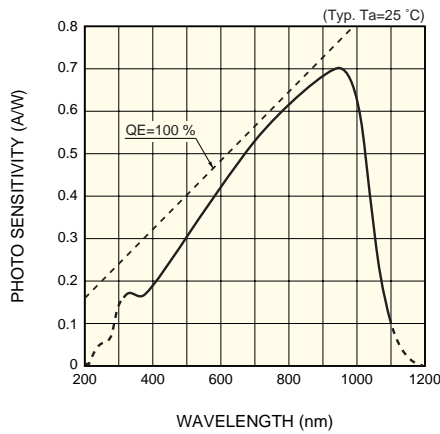
### ■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	$V_R$ Max.	10	V
Operating temperature	$T_{opr}$	-40 to +125	°C
Storage temperature	$T_{stg}$	-40 to +125	°C

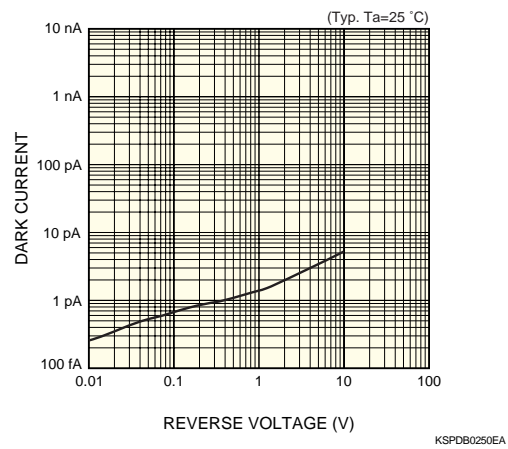
### ■ Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$		-	320 to 1100	-	nm
Peak sensitivity wavelength	$\lambda_p$		-	960	-	nm
Photo sensitivity	S	$\lambda=\lambda_p$	0.6	0.7	-	A/W
Short circuit current	$I_{sc}$	100 lx, 2856 K	-	4.8	-	$\mu$ A
Temperature coefficient of $I_{sc}$	-		-	+0.1	-	%/°C
Half-value angle	-		-	$\pm 60$	-	degree
Dark current	$I_D$	$V_R=5$ V	-	0.005	1	nA
Temperature coefficient of $I_D$	$T_{CID}$		-	1.12	-	times/°C
Rise time	$t_r$	$V_R=0$ V, $R_L=1$ k $\Omega$ 10 to 90 %	-	2	-	$\mu$ s
Terminal capacitance	$C_t$	$V_R=0$ V, $f=10$ kHz	-	450	-	pF

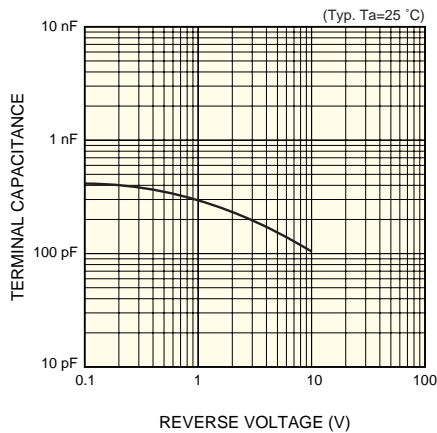
■ Spectral response



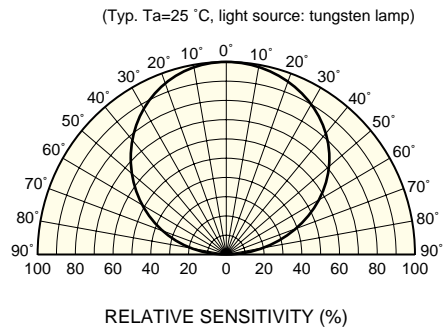
■ Dark current vs. reverse voltage



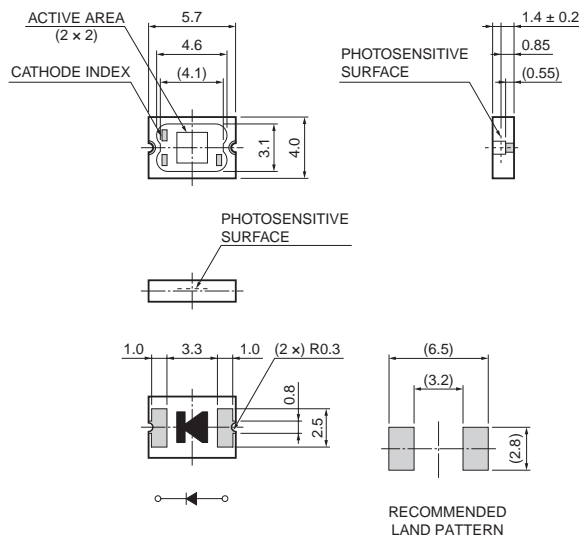
■ Terminal capacitance vs. reverse voltage



■ Directivity



■ Dimensional outline (unit: mm)



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