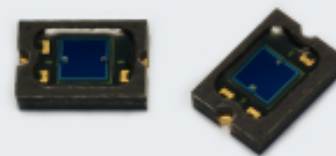


Si photodiode

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.)

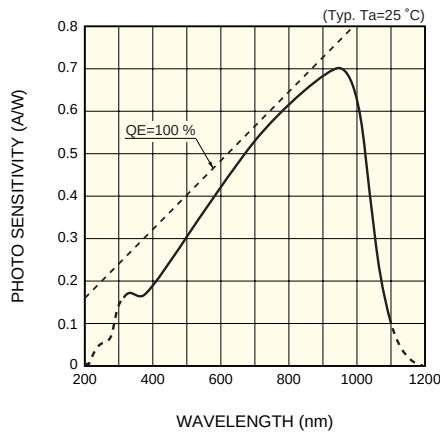
■ Absolute maximum ratings

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

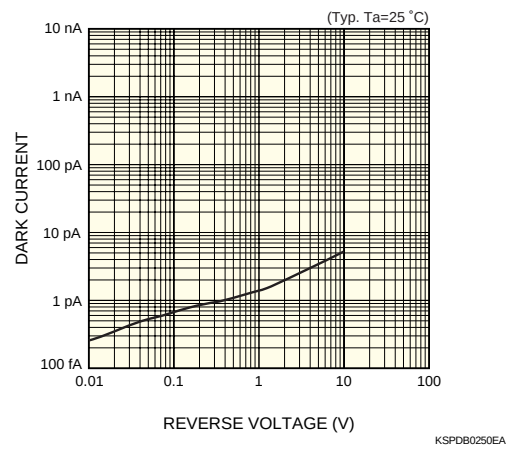
■ Electrical and optical characteristics ($T_a=25$ °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1100	-	nm
Peak sensitivity wavelength	λ_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	-	μ A
Temperature coefficient of I_{sc}	-		-	+0.1	-	%/°C
Half-value angle	-		-	± 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 Ω 10 to 90 %	-	2	-	μ s
Terminal capacitance	C_t	$V_R=0$ V, $f=10$ kHz	-	450	-	pF

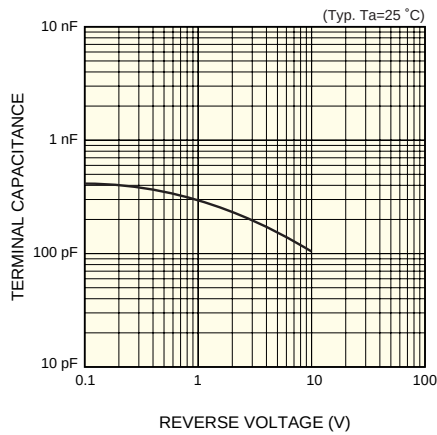
■ Spectral response



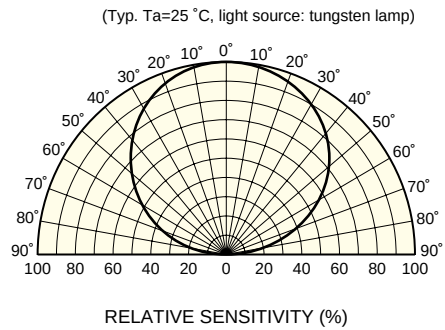
■ Dark current vs. reverse voltage



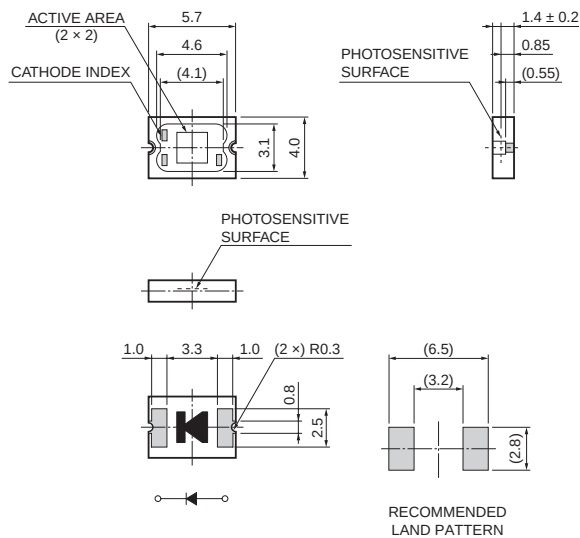
■ Terminal capacitance vs. reverse voltage



■ Directivity



■ Dimensional outline (unit: mm)

**HAMAMATSU**

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