

■ General Description

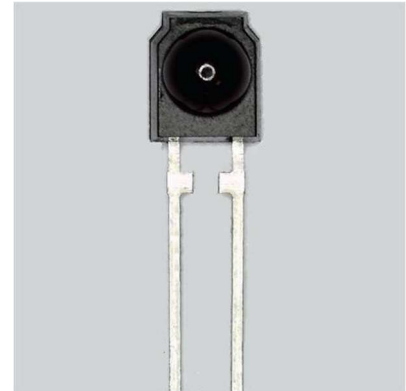
The CL-PD590B-07 is a high-output, high-speed silicon photodiode mounted in a side-viewing plastic package.

■ Features

- High-Output Power
- High-speed response
- Visible ray cut off
- Meet RoHS

■ Applications

- Optical counters
- Optical detectors
- Infrared sensors
- Encoders
- Smoke detectors



■ MAXIMUM RATINGS

(Ta=25°C)

Item	Symbol	Rating	Unit
Reverse Breakdown Voltage	V_{BR}	35	V
Power Dissipation	P_d	150	mW
Operating temp.	T_{opr}	-25 ~ +85	°C
Storage temp.	T_{stg}	-40 ~ +85	°C
Soldering temp. *1	T_{sol}	260	°C

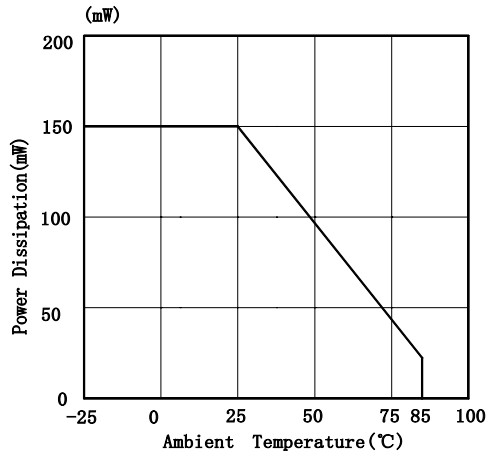
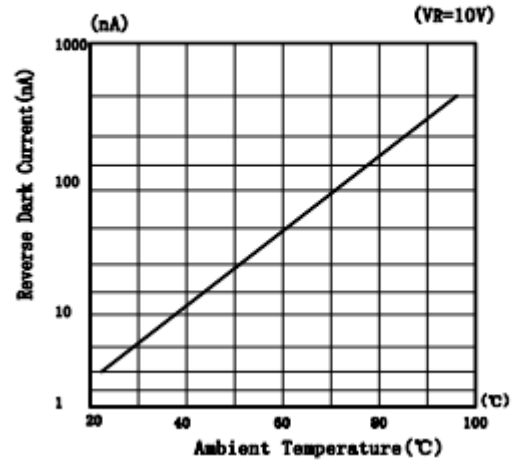
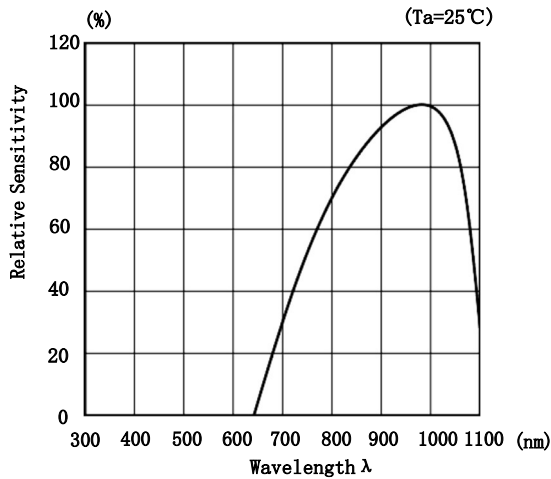
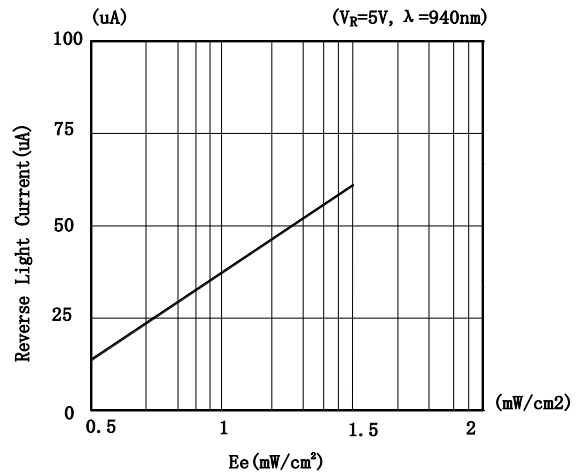
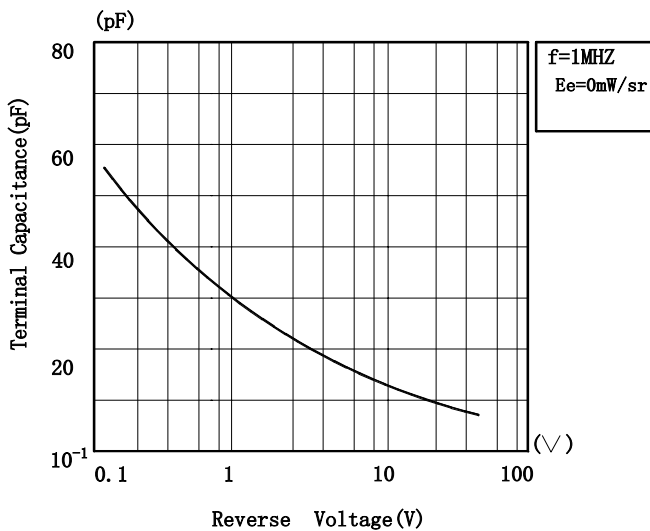
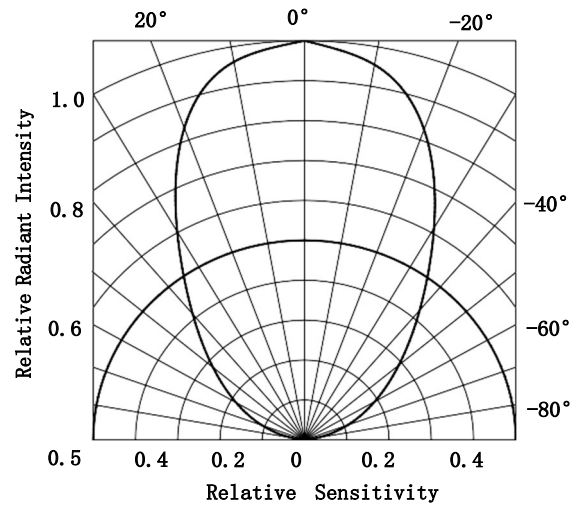
* 1 For MAX. 5 seconds at the position of 2mm from the resin edge.

■ ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25°C)

Item	Symbol	Condition	Min	Typ	Max	Unit
Open Circuit Voltage	V_{OC}	$E_e=5mW/cm^2 *2$	0.3	0.4	-	V
Short-Circuit Current	I_{SC}	$E_e=1mW/cm^2 *2$	36	46	-	μA
Reverse Light Current	I_L	$E_e=1mW/cm^2$ $V_R=5V *2$	25	35	-	μA
Dark current	I_D	$E_e=0mW/cm^2$ $V_R=10V$	-	10	30	nA
Total Capacitance	C_t	$E_e=0mW/cm^2$ $f=1MHZ V_R=5V$	-	18	-	pF
Rise Time/ Fall Time	t_r / t_f	$R_L=1K\Omega V_R=10V$	-	45/45	-	nS
Spectral sensitivity	λ	-	700	-	1100	nm
Peak wavelength	λ_p	-	-	980	-	nm
Half angle	$\Delta\theta$	-	-	± 35	-	deg.

*2. Illumination is applied by a tungsten lamp of 940nm infrared.

ELECTRO-OPTICAL CHARACTERISTICS
Power Dissipation vs. Ambient Temperature

Dark Current vs. Ambient Temperature

Spectral Sensitivity

Reverse Light Current vs. Ee

Terminal Capacitance vs. Reverse Voltage

Directive Characteristics


■ DIMENSIONS

(Unit: mm)

