



PP508-1

Through-hole PIN Photodiode/Right Angle Type

Features

Package	Right angle type, Black Visible Radiation Cut Filter epoxy
Product features	<ul style="list-style-type: none"> • Outer Dimension 5 x 4.1 mm (Right Angle Type) • High Photo Current : $5.5 \mu A (V_R=5V, E_e=0.5mW/cm^2)$ • Wide Distribution • Visible Radiation Cut Filter under 700nm • No lead package • RoHS compliant
Peak Sensitivity Wavelength	950nm
Half Intensity Angle	$\theta_x = 130 \text{ deg.}, \theta_y = 150 \text{ deg.}$
Die materials	Si
Soldering methods	TTW (Through The Wave) soldering and manual soldering ※Please refer to Soldering Conditions about soldering.
ESD	2kV (HBM)
Packing	Bulk : 200pcs(MIN.)

Recommended Applications

Electric Household Appliances, OA/FA, PC/Peripheral Equipment, Other General Applications



Absolute Maximum Ratings

(Ta=25°C)

Item	Symbol	Absolute Maximum Ratings	Unit
Power Dissipation	P_d	100	mW
Reverse Voltage	V_R	30	V
Operating Temperature	T_{opr}	-30~+85	°C
Storage Temperature	T_{stg}	-30~+100	°C

Electro-Optical Characteristics

(Ta=25°C)

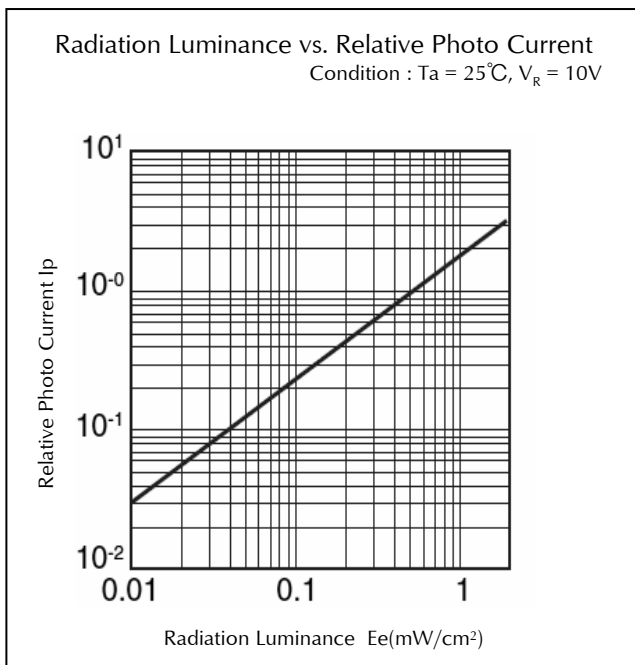
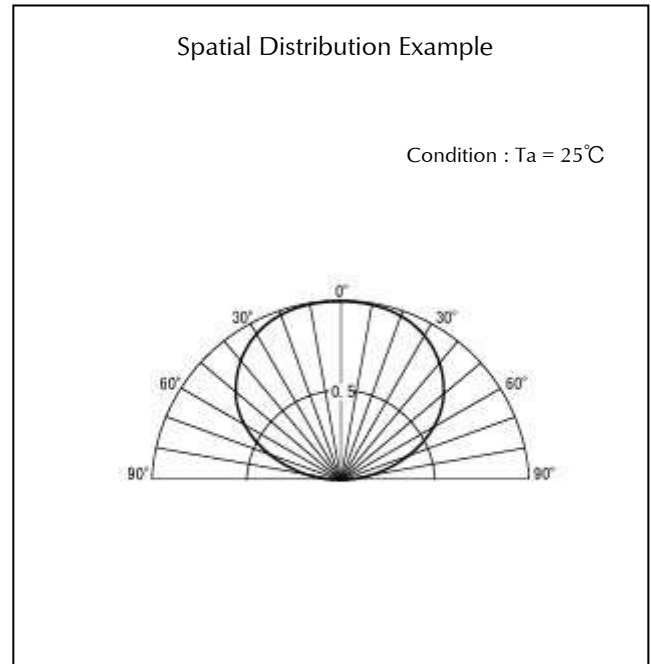
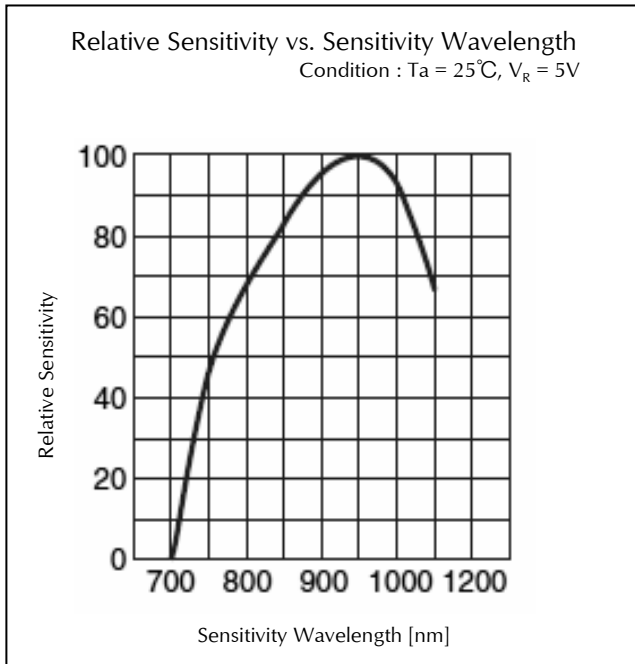
Item	Conditions	Symbol	Characteristics		Unit
Photo Current	$V_R=5V,$ $E_e=0.5mW/cm^2$ ※1	I_p	TYP.	5.5	μA
Response Time	$V_R=10V,$ $R_L=1,000\Omega$	tr/tf	TYP.	50	ns
Capacity	$V_R=10V,$ $f=1MHz$	C_T	TYP.	11	pF
Dark Current	$V_R=10V$	I_D	Max.	20	nA
Peak Sensitivity Wavelength	$V_R=0V$	λ_p	TYP.	950	nm
Sensitivity※2	$V_R=5V,$ $\lambda=950nm$	S	TYP.	0.64	A/W
Spatial Half Width	$V_R=5V$	$\Delta\theta$	TYP.	130(θ_x)	deg.
			TYP.	150(θ_y)	

※1 Color temperature is 2,856K. Employs a standard tungsten lamp.

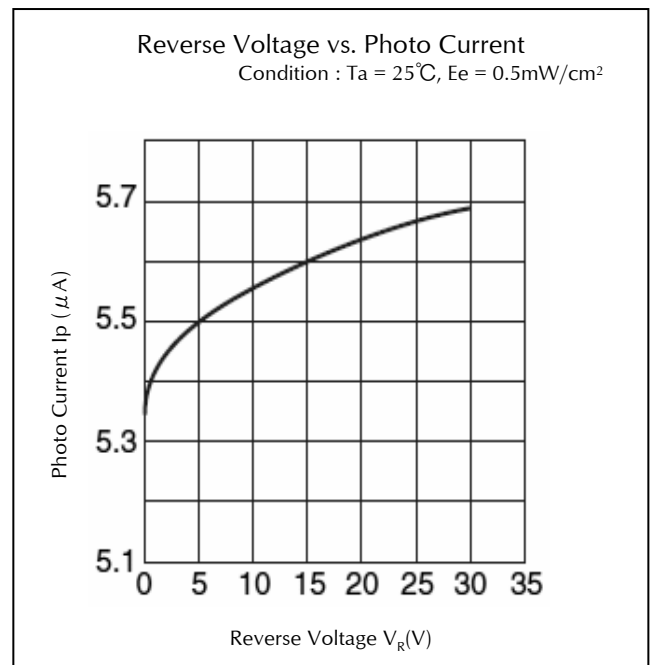
※2 By water clear package



Technical Data

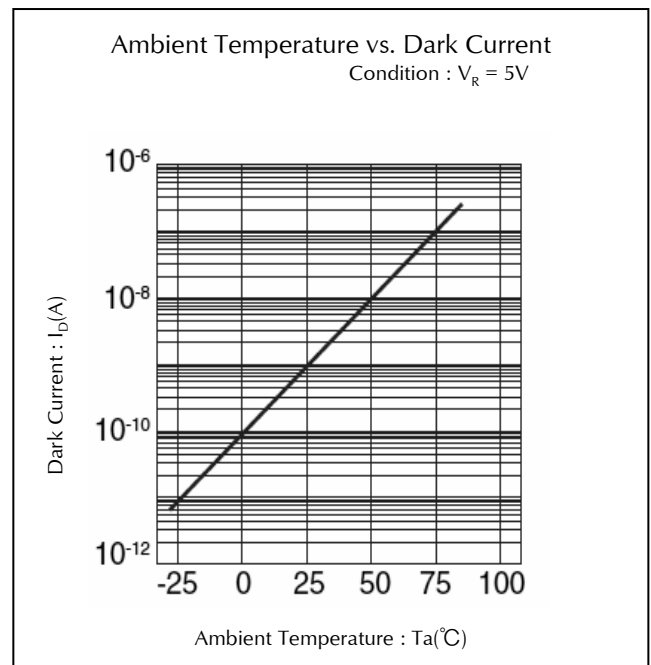
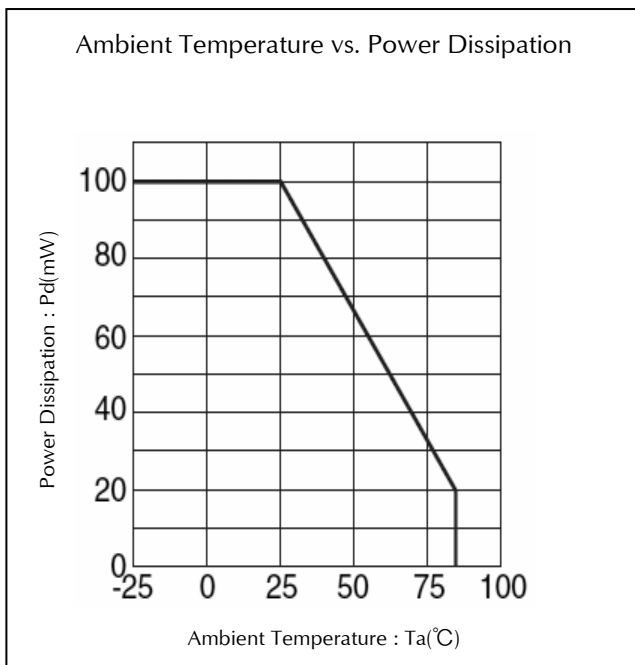
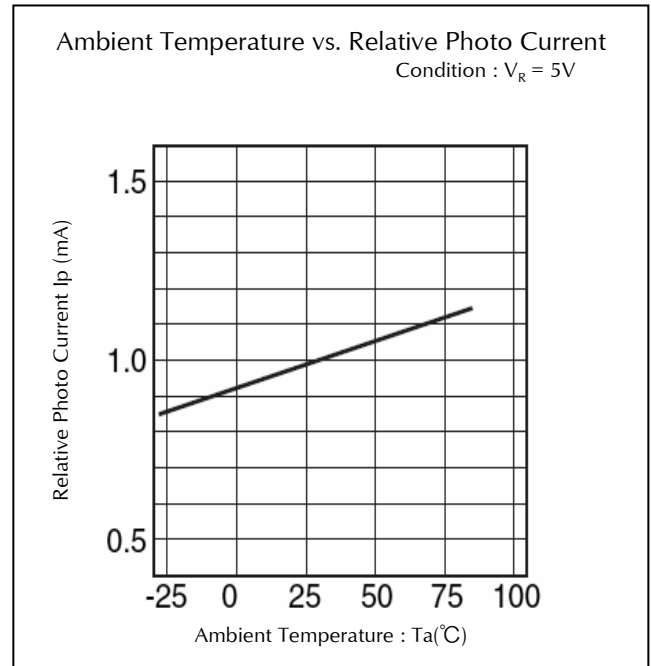
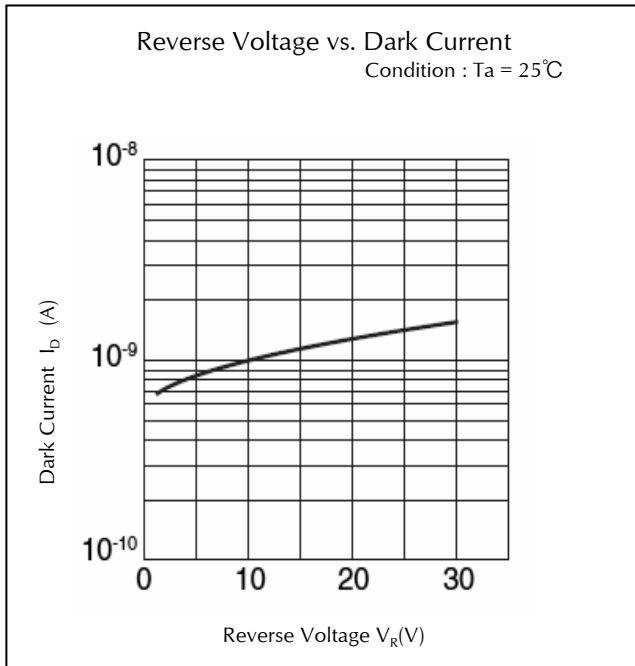


It is based on $E_e=0.5\text{mW}/\text{cm}^2$.
Employs a standard tungsten lamp of 2,856K.

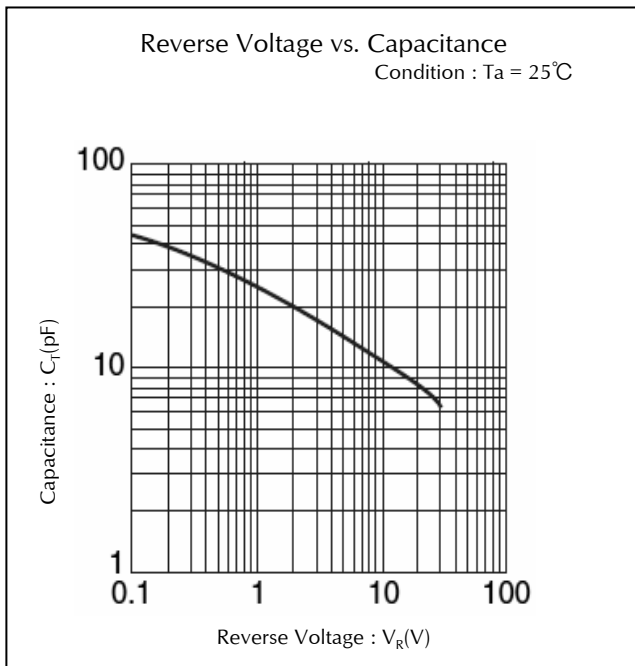


Employs a standard tungsten lamp of 2,856K.

Technical Data



Technical Data



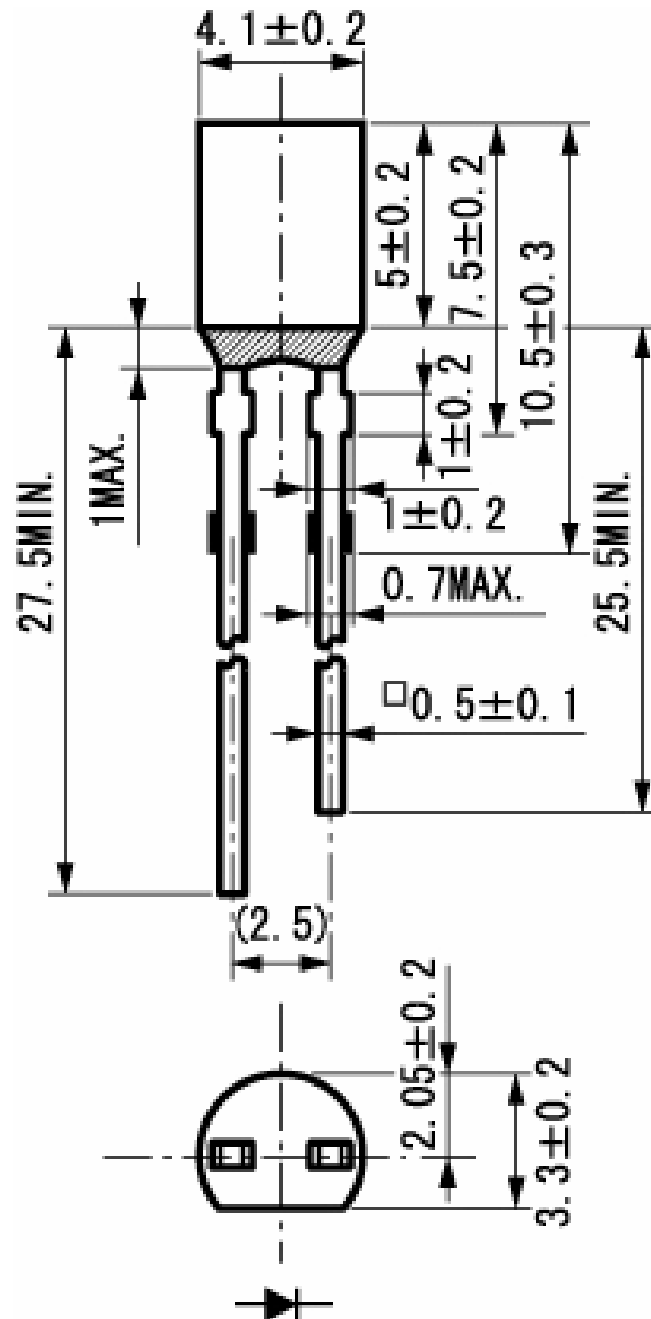


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Package Dimensions

(Unit: mm)





TTW (Through The Wave) soldering Conditions

Pre-heating	100 °C	(MAX.) Resin surface temperature
Solder Bath Temp.	260 °C	(MAX.)
Dipping Time	5 s	(MAX.)
Position	At least 3.0 mm away from resin body	

- 1) The dip soldering process shall be 2 times maximum.
- 2) The product shall be cooled to normal temperature before the second dipping process.
 ※The detail is described to LED and Photodetector handling precautions of home page:
 "Mounting through-hole Type Devices" and "Soldering", and use it after the confirmation, please.

Manual Soldering Conditions

Iron tip temp.	300 °C	(MAX.) (30 W Max.)
Soldering time and frequency	3 s	(MAX.)
	1 time	(MAX.)
Position	At least 3.0 mm away from resin body	

- ※The detail is described to LED and Photodetector handling precautions of home page:
 "Mounting through-hole Type Devices" and "Soldering", and use it after the confirmation, please.



Reliability Testing Result

Reliability Testing Result	Applicable Standard	Testing Conditions	Duration	Failure
Room Temp. Operating Life	EIAJ ED-4701/100(101)	Ta = 25°C, Pd = Maximum Rated Power Dissipation	1,000 h	0/16
Resistance to Soldering Heat	EIAJ ED-4701/300(302)	260±5°C, 3mm from package base	5sec	0/16
		265±5°C, 3mm from package base	5sec	0/16
Temperature Cycling	EIAJ ED-4701/100(105)	Minimum Rated Storage Temperature(30min) ~Normal Temperature(15min) ~Maximum Rated Storage Temperature(30min) ~Normal Temperature(15min)	5 cycles	0/16
Wet High Temp. Storage Life	EIAJ ED-4701/100(103)	Ta = 60±2°C, RH = 90±5%	1,000 h	0/16
High Temp. Storage Life	EIAJ ED-4701/200(201)	Ta = Maximum Rated Storage Temperature	1,000 h	0/16
Low Temp. Storage Life	EIAJ ED-4701/200(202)	Ta = Minimum Rated Storage Temperature	1,000 h	0/16
Lead Tension	EIAJ ED-4701/400(401)	10N,1time (□0.4 and Flat Package : 5N)	10sec	0/16
Vibration, Variable Frequency	EIAJ ED-4701/400(403)	98.1m/s ² (10G), 100 ~ 2KHz sweep for 20min., XYZ each direction	2 h	0/16

Failure Criteria

Items	Symbols	Conditions	Failure criteria
Photo Current	I _P	E _E Value of each product Irradiance of Photo Current V _R Value of each product Reverse Voltage of Photo Current	Testing Max. Value ≥ Initial Value x 1.3 Testing Min. Value ≤ Initial Value x 0.7
Dark Current	I _D	V _R Value of each product Reverse Voltage of Dark Current	Testing Max. Value ≥ Spec. Max. Value x 1.2
Cosmetic Appearance	-	-	No notable, decoloration, deformation and cracking



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