



PP601-2

Through-hole PIN Photodiode/Double-end Type

Features

Package	Double-end type, Black Visible Radiation Cut Filter epoxy
Product features	<ul style="list-style-type: none">• Photo Current : $3\mu\text{A}$ TYP. ($V_R=5\text{V}$, $E_e=0.5\text{mW/cm}^2$)• Visible Radiation Cut Filter under 800nm• No lead package
Peak Sensitivity Wavelength	950nm
Half Intensity Angle	130 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



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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	
Storage Temperature	T_{stg}	-30~+100	

Electro-Optical Characteristics

(Ta=25°C)

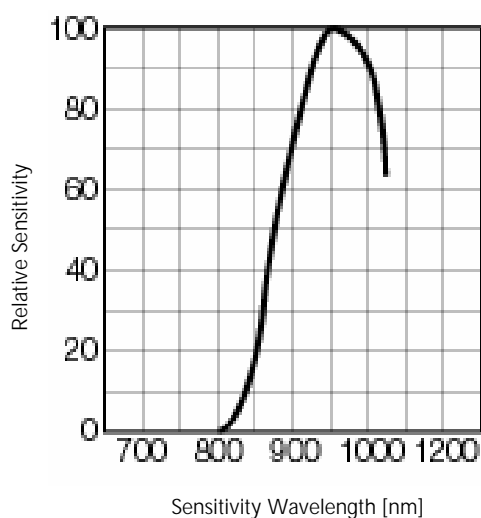
Item	Conditions	Symbol	Characteristics		Unit
Photo Current	$V_R=5V$, $E_e=0.5mW/cm^2$ ¹	I_p	TYP.	3	μA
Response Time	$V_R=10V$, $R_L=1,000$	tr/tf	TYP.	100	ns
Capacity	$V_R=10V$, $f=1MHz$	C_T	TYP.	13	pF
Dark Current	$V_R=10V$	I_D	Max.	30	nA
Peak Sensitivity Wavelength	$V_R=0V$	p	TYP.	950	nm
Sensitivity ^{※2}	$V_R=5V$, $\lambda=950nm$	S	TYP.	0.64	A/W
Spatial Half Width	$V_R=5V$		TYP.	130	deg.

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

2 By water clear package

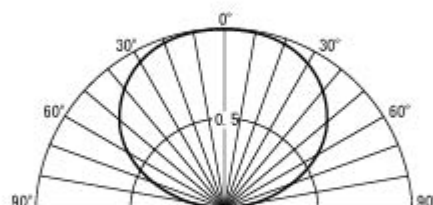
Technical Data

Relative Sensitivity vs. Sensitivity Wavelength
Condition : $T_a = 25^\circ\text{C}$, $V_R = 5\text{V}$

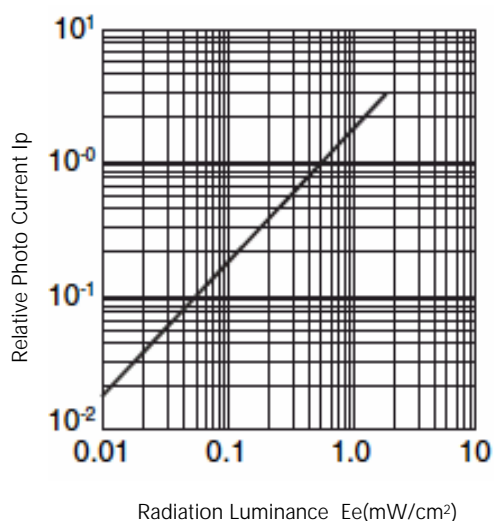


Spatial Distribution Example

Condition : $T_a = 25^\circ\text{C}$

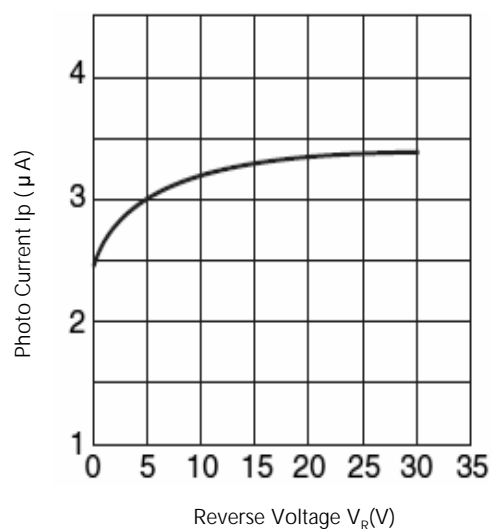


Radiation Luminance vs. Relative Photo Current
Condition : $T_a = 25^\circ\text{C}$, $V_R = 10\text{V}$



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

Reverse Voltage vs. Photo Current
Condition : $T_a = 25^\circ\text{C}$, $E_e = 0.5\text{mW/cm}^2$

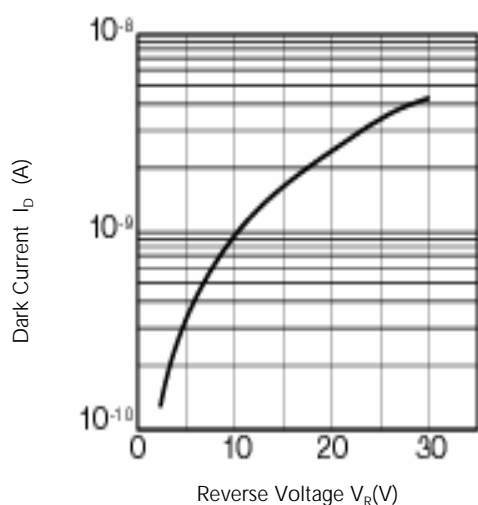


Employs a standard tungsten lamp of 2,856K.

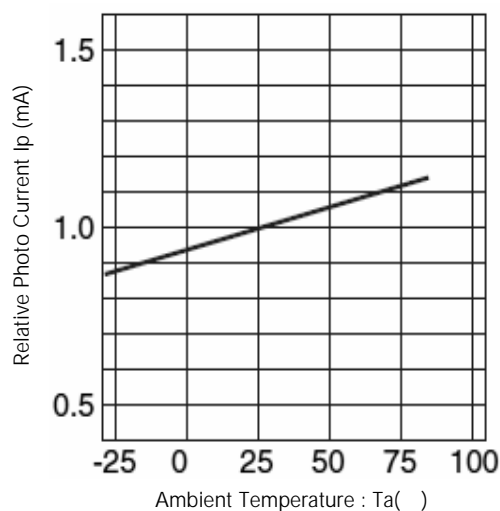


Technical Data

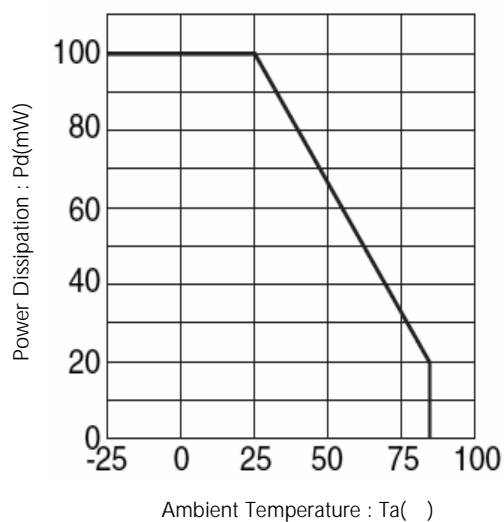
Reverse Voltage vs. Dark Current
Condition : $T_a = 25$



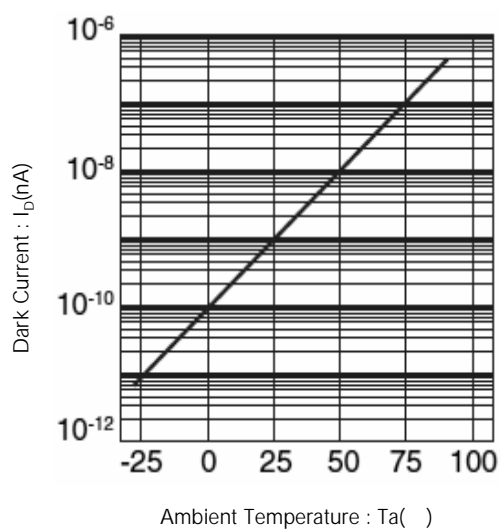
Ambient Temperature vs. Relative Photo Current
Condition : $V_R = 5V$



Ambient Temperature vs. Power Dissipation

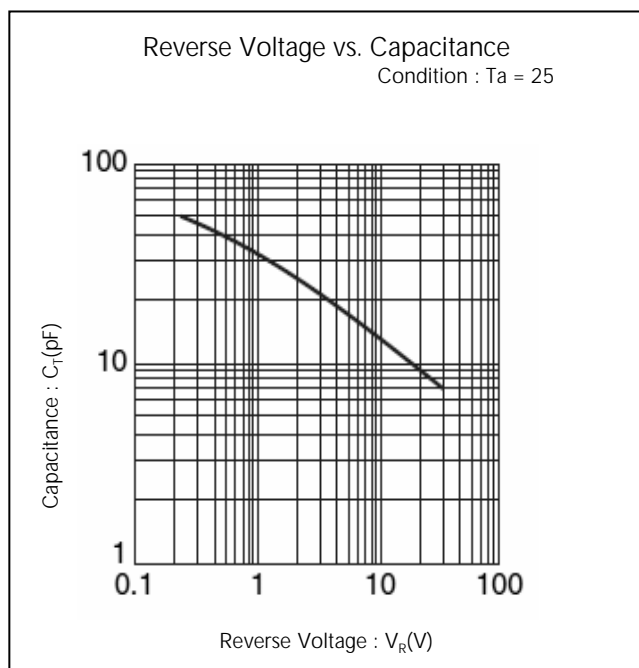


Ambient Temperature vs. Dark Current
Condition : $V_R = 10V$



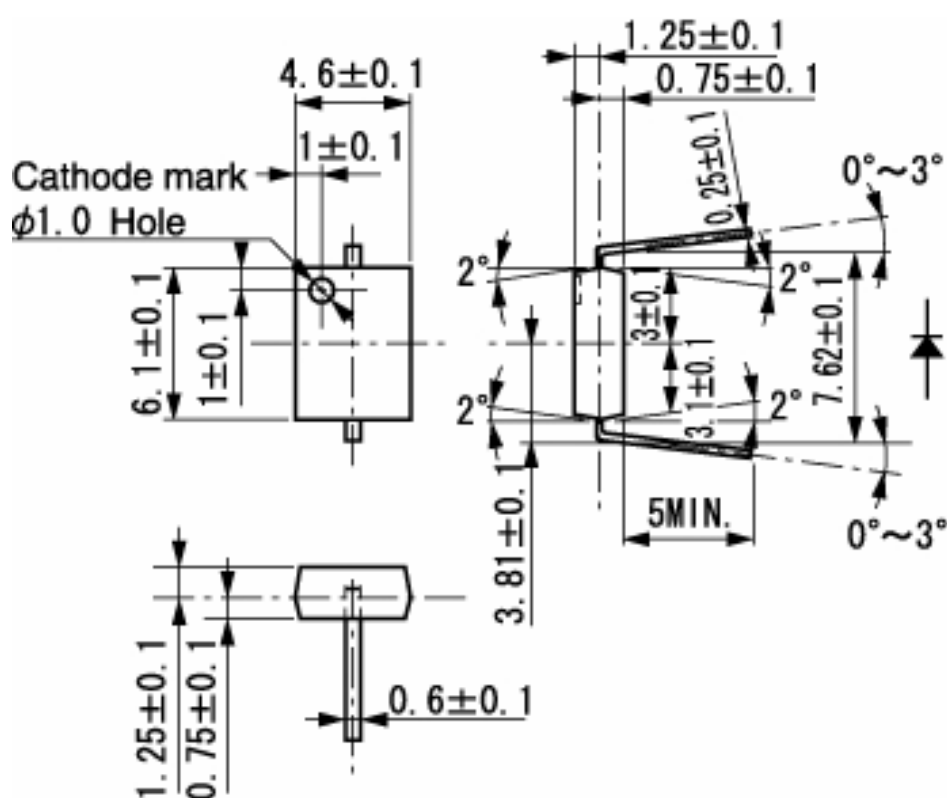


Technical Data



Package Dimensions

(Unit: mm)




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TTW (Through The Wave) soldering Conditions

Pre-heating	100 60 s	(MAX.) Resin surface temperature (MAX.)
Solder Bath Temp.	260	(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.

Manual Soldering Conditions

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



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)	5N, 1time	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 Radiant Intensity 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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