

PHOTODIODE

General Description

The OSP-9FR2 is a high output , high speed photodiode mounted in special dark plastic package and suitable for the IRED (900nm) type.

Features

- Lens Appearance : Black
- Wide angular response
- High speed response
- Meet RoHS



Applications

- Remote control sensor
- Optical switches
- Photo couplers

MAXIMUM RATINGS

(Ta=25°C)

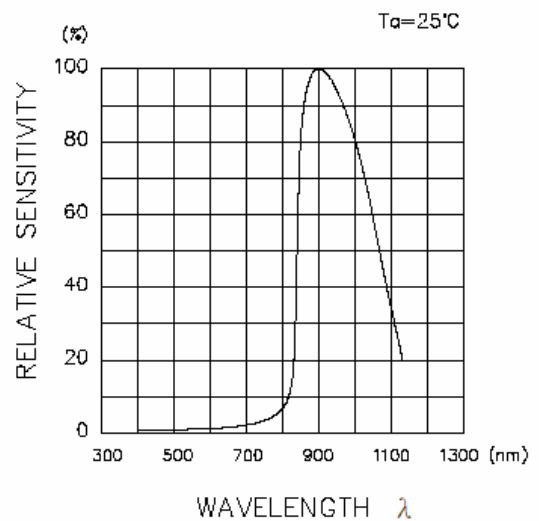
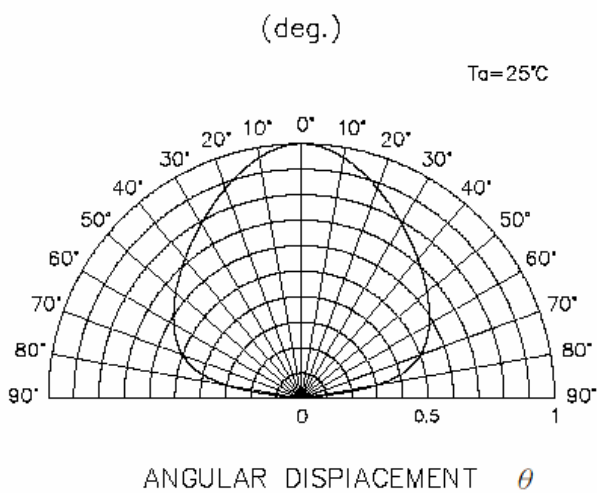
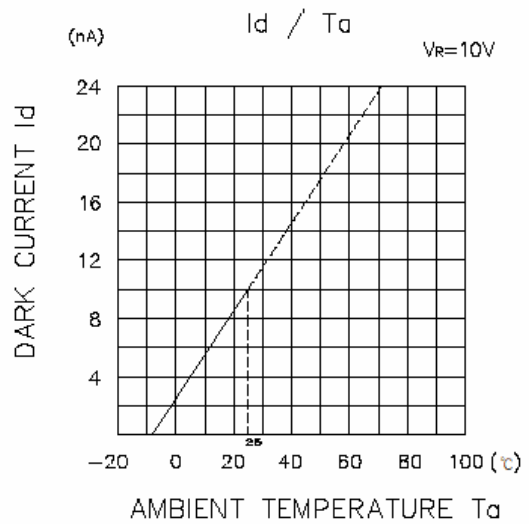
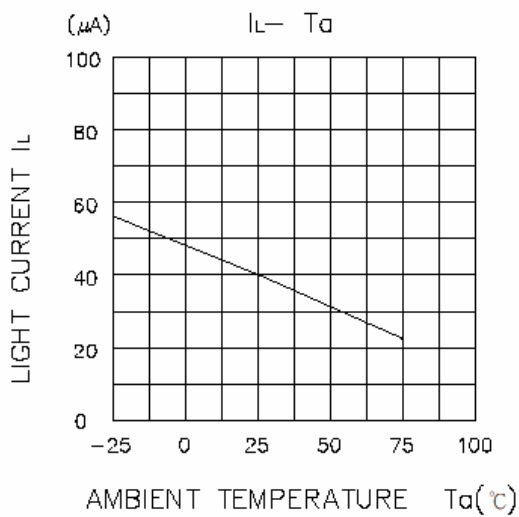
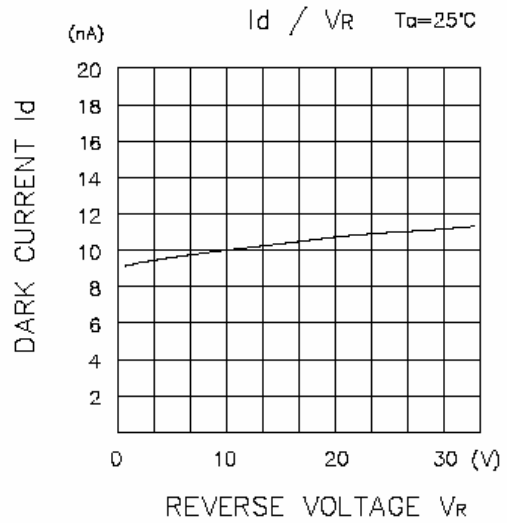
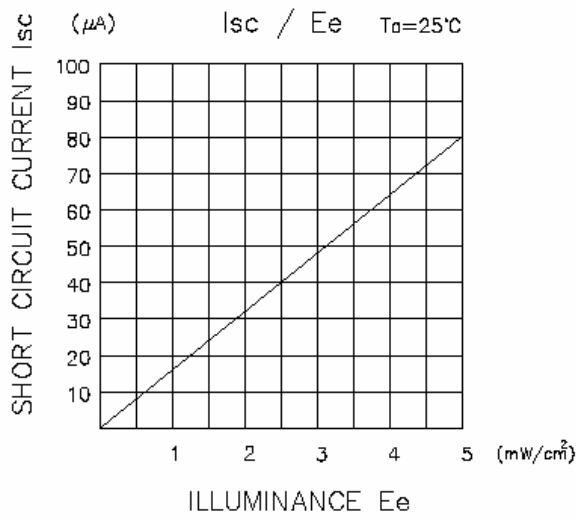
Item	Symbol	Rating	Unit
Maximum reverse voltage	V _{RM}	50	V
Operating temp.	Topr.	-25 ~ +75	°C
Storage temp.	Tstg.	-25 ~ +100	°C
Soldering temp. *1	Tsol.	260	°C

*1. For MAX. 5 seconds at the position of 5mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25°C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	V _{BR}	I _R =100uA	33	170	-	V
Reverse dark current	I _D	V _R =10V	-	-	30	nA
Light current	I _L	λ _p = 940nm E _e = 0.5mW/cm ²	24	40	-	uA
Open circuit voltage	V _{OC}	E _e = 5mW/cm ²	-	350	-	mV
Short circuit current	I _{SC}	E _e = 5mW/cm ²	-	80	-	uA
Total capacitance	C _t	V _R =5V , f=1MHz	-	21	-	pF
Peak sensitive wavelength	λ _p		-	900	-	nm
Radiant sensitivity area	A		-	8	-	mm ²
Switching speeds	Turn-on time	V _R =5V , R _L =50Ω	-	50	-	ns
	Turn-off time		-	50	-	
Half angle	Δθ		-	± 70	-	deg.



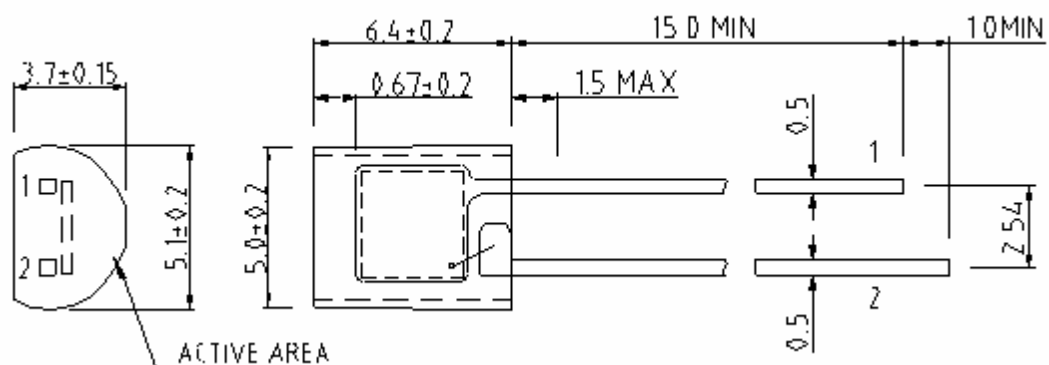
RELIABILITY TEST

CONDITIONS :

The reliability of products shall be satisfied with items listed below .

NO.	Item	Condition	Time / Cycle	Number of Damaged
1	Soldering Heat Test	260°C	5 sec	0 / 60
2	Thermal Shock	0°C (15 sec) ~ 100°C (15 sec)	20 cycle	0 / 60
3	High Temp. Storage	100°C	1000 Hrs	0 / 60
4	Low Temp. Storage	-25°C	1000 Hrs	0 / 60
5	Operation Temperature Cycle TEST	-25°C ~ 75°C	100 Cycles 200Hrs	0 / 60
6	High Temp. High Humidity Test	60°C , 90% RH	1000 Hrs	0 / 60
7	Operation Life Test	Room Temp : @IR940nm	1000 Hrs	0 / 60

DIMENSIONS



SIGN : 1. CATHODE

2. ANODE

UNIT : mm

Lamp Condition

In the automatic mounting of LAMP LED to the L/F , any bending , expanding and pulling forces against the LAMP LED should be minimized to prevent the electrical failures or mechanical damaged .

Reflow Soldering and Temperature Profile

The LAMP LED is designed for the reflow soldering process. Too high temperature or too large temperature gradient may cause the electrical and optical failures .

