Spec. No. : ODT-W010-82(0)

Issued Date : 2004.09.20

SPECIFICATION

MODEL NAME : Photo Diode

MODEL NO. : OP58TS

Prepared by :

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OP58TS

Description

The OP58TS is a high speed, high output pin photo diode, mounted in a low - cost PCB package.

Features

- **High output power**
- **High - speed response**
- **Easy to mount on PCB**
- **Low dark current**

Applications

- **Fiber optic communication**
- **Optical switches**

Absolute Maximum Ratings (Ta= 25℃)

Parameter	Symbol	Ratings	Unit
Reverse Breakdown Voltage	BV_R	30	V
Junction Temperature	T_J	150	℃
Operating Temperature	T_{OPR}	- 20 ~ 80	℃
Storage Temperature	T_{STG}	- 30 ~ 90	℃

Electro - Optical Characteristics (Ta=25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Open Circuit Voltage	V_{OC}	Ev=1,000lux *1	0.35	0.38	-	V
Short Circuit Current	I_{SC}	Ev=1,000lux *1	19	30.5	-	μA
	I_{SC}	Condition*2	-	4	-	μA
Dark Current	I_D	V_R=5V	-		100	nA
Capacitance	Ct	f=1MHz	-	22	-	pF
Temp. Coefficient of Voc	α t		-	- 2.2	-	mV/℃
Temp. Coefficient of Isc	β t		-	0.18	-	%/℃
Spectrum Sensitivity	λ		450	-	1100	nm
Peak Sensing Wavelength	λ p		-	940	-	nm
Reverse Breakdown Voltage	BV_R	I_R=10μA	30	70	-	V
Half Angle	$\angle\Theta$		-	±60	-	Deg.

*1 : Parallel light of 1,000lux illumination is applied by a tungsten lamp of 2856K

*2 : Light source : Laser Diode (λ =780nm), I_F=20, Distance = 30mm

■ Typical electrical / Optical characteristic curves (Ta=25℃)

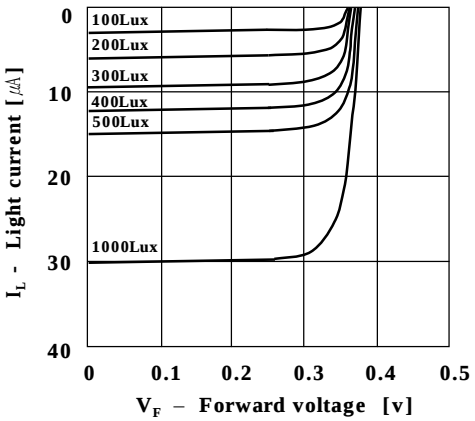


Fig.1 Light current vs. Forward voltage

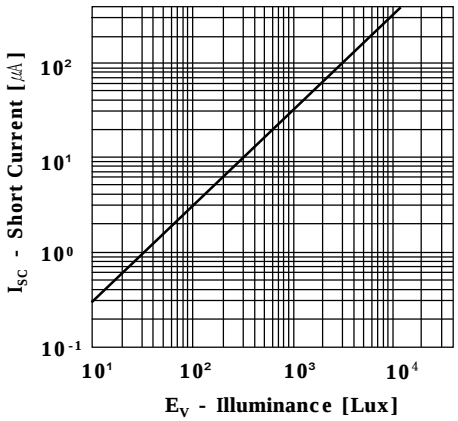


Fig.2 Short Current vs. Illuminance

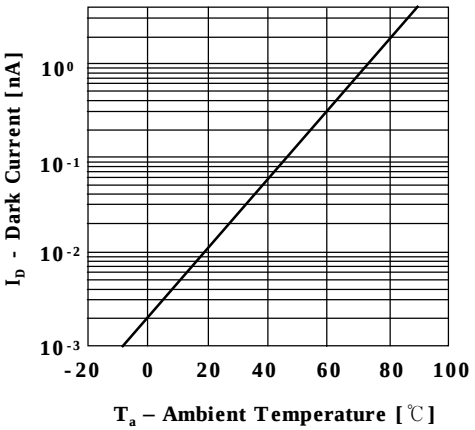


Fig.3 Dark current vs. Ambient temperature

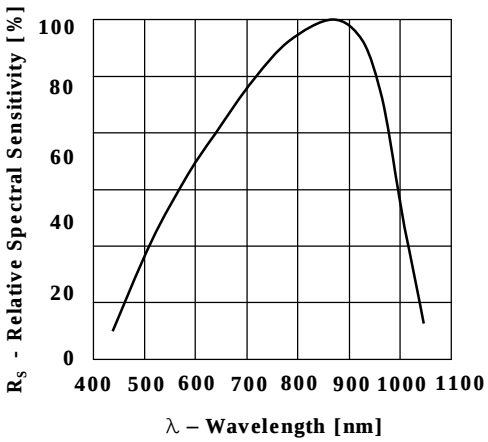


Fig.4 Relative spectral sensitivity vs. Wavelength

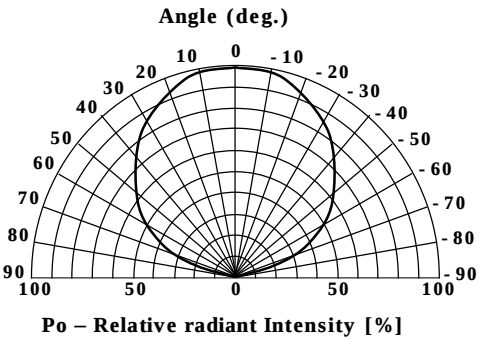
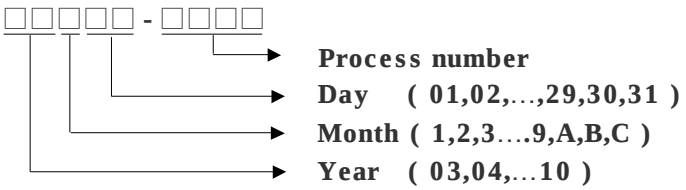


Fig.5 Radiant Pattern

■ Lot number

· The first five digits number shows lot number.

· The lot number is composed of the following characters;



■ Cleaning

· When washing is required, isopropyl alcohol should be used.

· The influence of ultrasonic cleaning on the optical detectors differs depending on factors such as oscillator output and how the optical detectors are mounted. Before cleaning by ultrasonic wave, testing should be performed to ensure this will not cause damage to the optical detectors.

■ Storage

· The optical detectors should be stored at 30℃ or less and 70%R.H or less after being shipped from ODTech and the storage life limits are 3 months. If the optical detectors are stored for 3 months or more, they can be stored for a year in a sealed container with a nitrogen atmosphere and moisture absorbent material.

· ODTech optical detectors leads are comprised of a gold plated iron alloy. The gold surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the device to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the optical devices be used as soon as possible.

· Please avoid rapid transitions in ambient temperature, especially, in high humidity environments where condensation can occur.

■ Outline Dimensions

(Unit : mm)