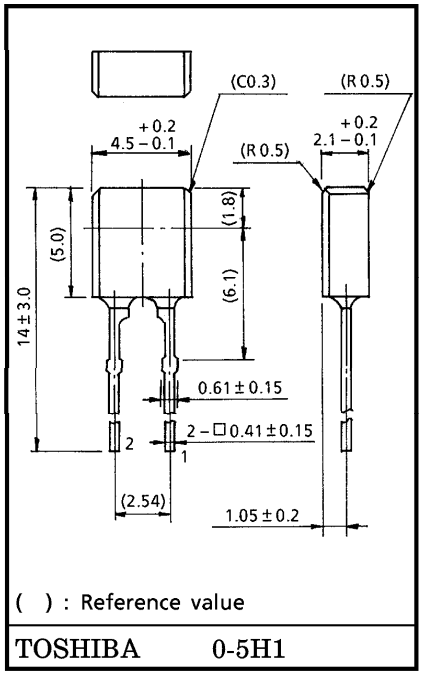
TOSHIBA PHOTODIODE SILICON PIN

TPS723A

PIN PHOTODIODE FOR FIBER OPTIC SYSTEM

Unit : mm



- Low Dark Current : I_D = 0.5 nA (typ.)
- High Sensitivity : S_f = 0.37 A / W (typ.)
- High-speed applications is possible : t_r, t_f = 100 ns (typ.)

PIN CONNECTION

1 : CATHODE
2 : ANODE

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	30	V
Power Dissipation	P_D	150	mW
Operating Temperature	T_{opr}	−30~80	°C
Storage Temperature	T_{stg}	−40~100	°C

OPTICAL AND ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	Min	Typ.	Max	UNIT
Dark Current		I_D	V_R = 10 V	—	0.5	8.0	nA
Fiber Coupled Sensitivity (Note)		S_f	V_R = 10 V, λ = 660 nm, P_f = 1 μW	0.32	0.37	—	A / W
Peak Sensitivity Wavelength		λ_P	V_R = 10 V	—	840	—	nm
Capacitance		C_T	V_R = 10 V, f = 1 MHz	—	10	—	pF
Switching Time	Rise Time	t_r	V_R = 10 V, R_L = 1 kΩ	—	100	—	ns
	Fall Time	t_f		—	100	—	

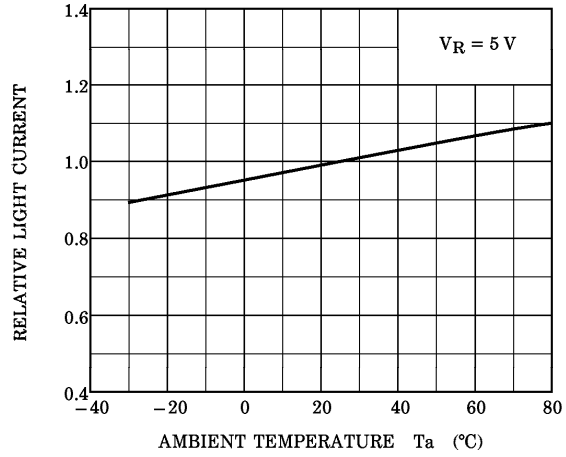
(Note) : Plastic fiber used : Fiber length 0.5 m, Core diameter 980 μm, NA 0.5

PRECAUTIONS

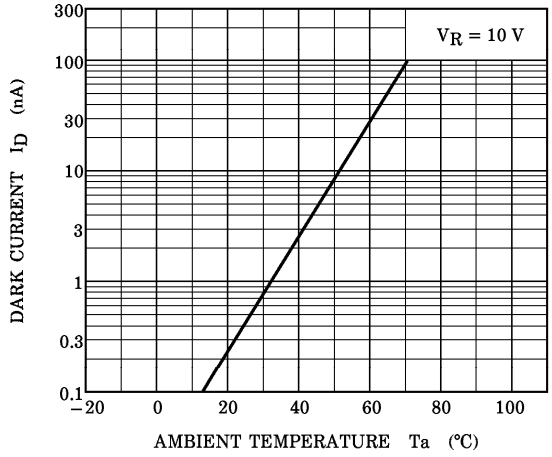
Please be careful of the followings.

1. Soldering temperature : 260°C max
   Soldering time : 3 s max
   (Soldering must be performed 2.5 mm under the package body.)
2. When forming the leads, bend each lead under the 2.5 mm from the body of the device.
   Soldering must be performed after the leads have been formed.

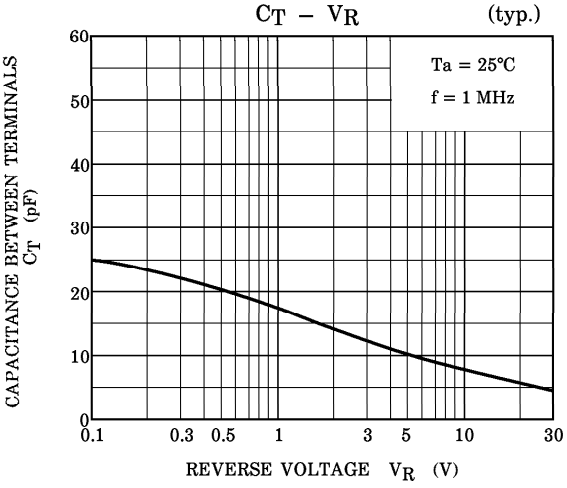
RELATIVE I_L – Ta (typ.)



I_D – Ta (typ.)

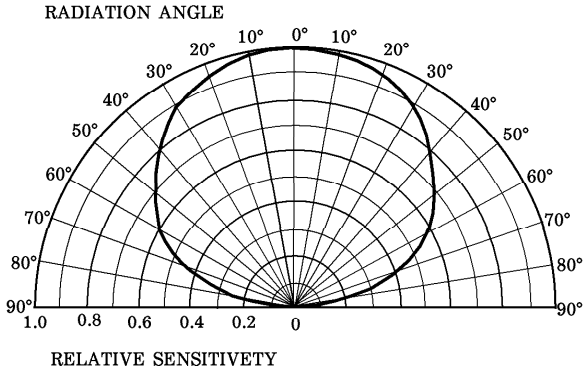


C_T – V_R (typ.)



RADIATION PATTERN CHARACTERISTIC (typ.)

(Ta = 25°C)



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