

PT360/PT360F

Compact Type Phototransistor

1-41-61

Features

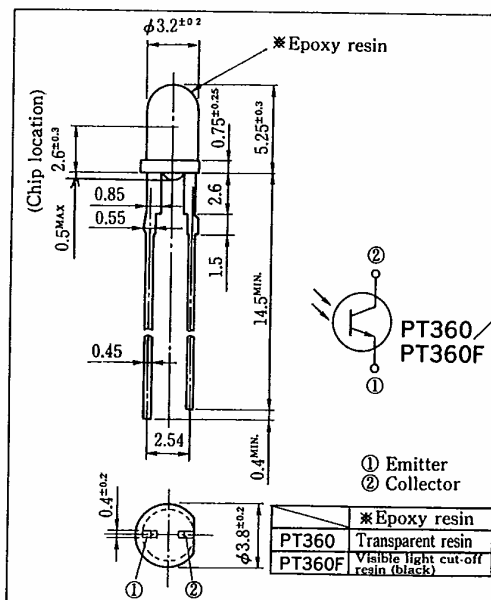
1. $\phi 3.2$ mm compact type epoxy resin package
2. Intermediate acceptance ($\Delta\theta$: TYP. $\pm 20^\circ$)
3. Lead pins space: 2.54mm
4. Visible light cut-off type: PT360F

Applications

1. VCRs, Video camera
2. Floppy disk drives
3. Optoelectronic switches

Outline Dimensions

(Unit : mm)



Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V_{CE0}	35	V
Emitter-collector voltage	V_{ECO}	6	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	50	mW
Operating temperature	T_{opr}	-25 ~ +85	°C
Storage temperature	T_{stg}	-25 ~ +85	°C
*1 Soldering temperature	T_{sol}	260	°C

*1 For 5 seconds at the position of 2.6mm from the bottom face of resin package

Electro-optical Characteristics

(Ta=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*2 Collector current	I_C	$V_{CE}=5V, E_v=100 \text{ lx}$ ($E_e=0.52 \text{ mW/cm}^2$)	75	200	420	μA
Collector dark current	I_{CE0}	$V_{CE}=20V, E_e=0$	—	2×10^{-9}	10^{-7}	A
*2 Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=0.5 \text{ mA}, E_e=10 \text{ mW/cm}^2$	—	0.2	0.4	V
Peak sensitivity wavelength	λ_P		—	800	—	nm
			—	860	—	nm
Response time (Rise)	t_r	$V_{CE}=20V, I_C=1 \text{ mA}$	—	10	40	μs
Response time (Fall)	t_f	$R_L=1 \text{ k}\Omega$	—	8	35	μs

*2 E_v, E_e : Illuminance, irradiance by CIE standard light source A (tungsten lamp)

SHARP

Fig. 1 Collector Power Dissipation vs. Ambient Temperature

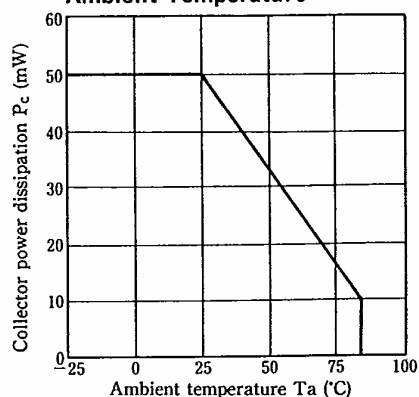


Fig. 2 Collector Dark Current vs. Ambient Temperature

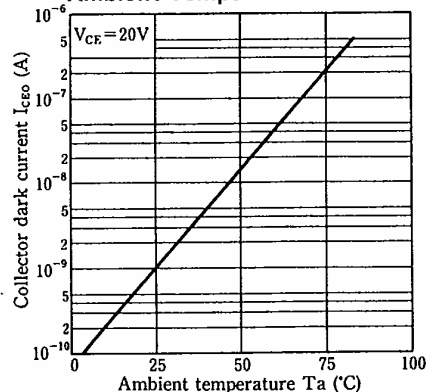


Fig. 3 Relative Collector Current vs. Ambient Temperature

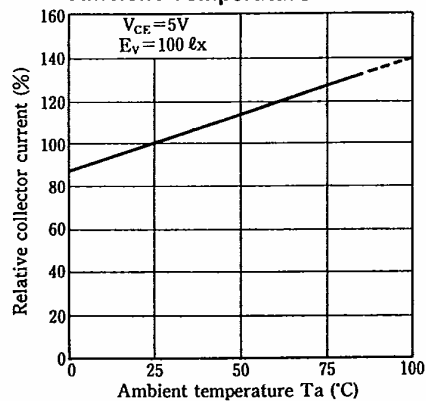


Fig. 4 Collector Current vs. Irradiance

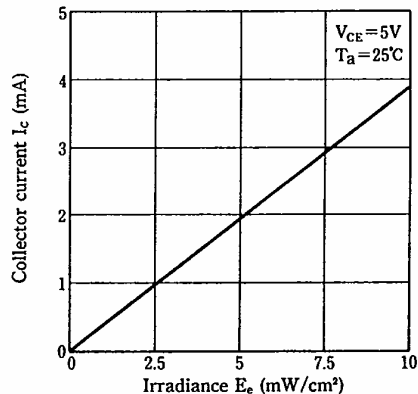


Fig. 5 Collector Current vs. Collector-emitter Voltage

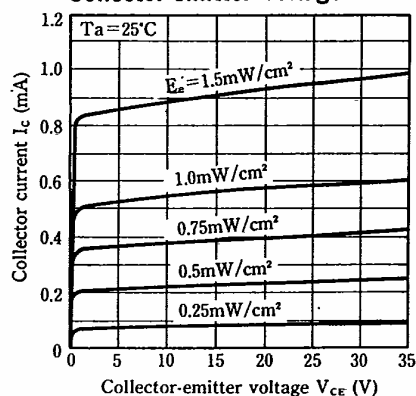


Fig. 6 Spectral Sensitivity

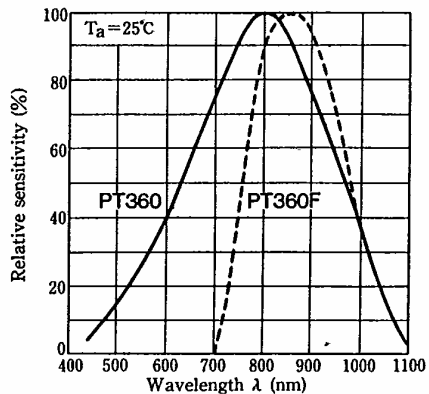
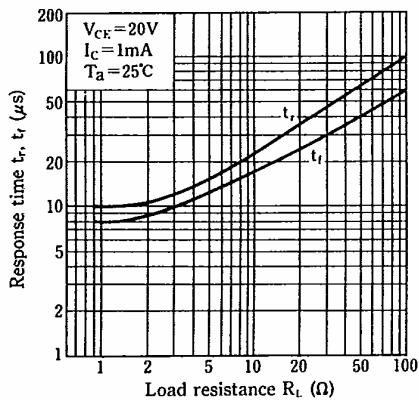


Fig. 7 Response Time vs. Load Resistance



Test Circuit for Response Time

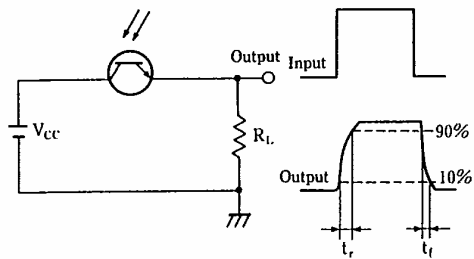


Fig. 8 Sensitivity Diagram ($T_a = 25^\circ C$)

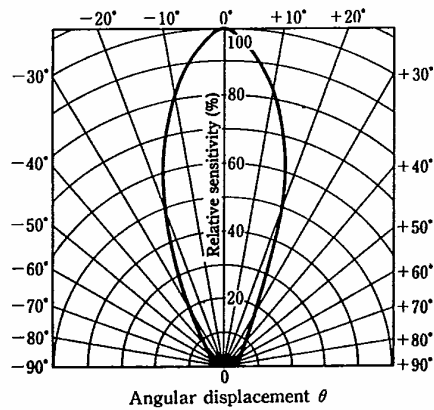


Fig. 9 Collector-emitter Saturation Voltage vs. Irradiance

