PT480/PT480F

Narrow Acceptance Phototransistor

■ Features

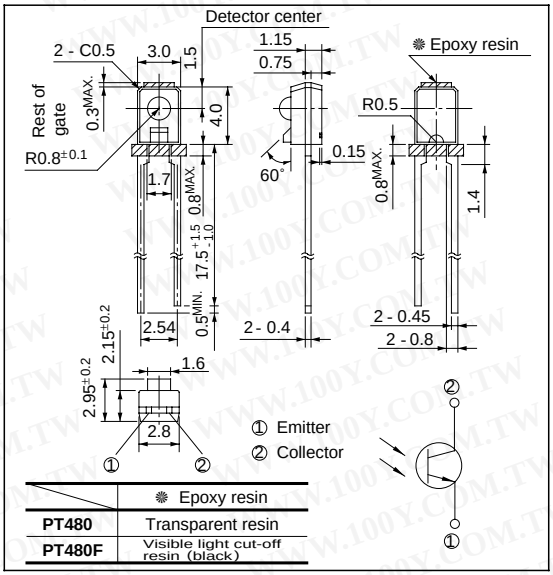
1. Epoxy resin package
2. Narrow acceptance (Δθ : TYP. ± 13˚)
3. Visible light cut-off type : **PT480F**

■ Applications

1. VCRs, cassette tape recorders
2. Floppy disk drives
3. Optoelectronic switches
4. Automatic stroboscopes

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Ta = 25˚C)

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V_{CEO}	35	V
Emitter-collector voltage	V_{ECO}	6	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	75	mW
Operating temperature	T_{opr}	- 25 to + 85	˚C
Storage temperature	T_{stg}	- 40 to + 85	˚C
*1Soldering temperature	T_{sol}	260	˚C

*1 For 5 seconds at the position of 1.4mm from the bottom face of resin package

■ Electro-optical Characteristics

(Ta = 25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*2Collector current	**PT480**	I_C	V_{CE} = 5V, E_e = 1mW/cm²	0.4	1.7	6.0	mA
	PT480F			0.25	0.8	3.0	mA
Collector dark crrent		I_{CEO}	V_{CE} = 20V, E_e = 0	-	10^{-9}	10^{-7}	A
*2Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C = 0.5mA, E_e = 10mW/cm²	-	0.1	0.4	V
Peak sensitivity wavelength	**PT480**	λ_P	-	-	800	-	nm
	PT480F			-	860	-	nm
Response time	Rise time	t_r	V_{CE} = 2V, I_C = 2mA	-	3	-	μs
	Fall time	t_f	R_L = 100Ω	-	3.5	-	μs

*2 E_e : Irradiance by CIE standard light source A (tungsten lamp)

Fig. 1 Collector Power Dissipation vs. Ambient Temperature

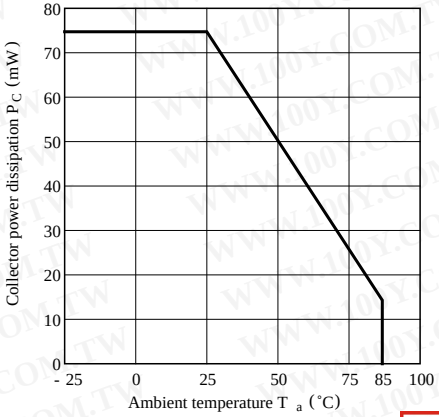


Fig. 2 Collector Dark Current vs. Ambient Temperature

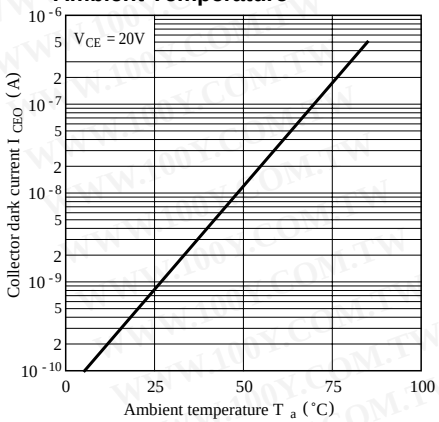


Fig. 3 Relative Collector Current vs. Ambient Temperature

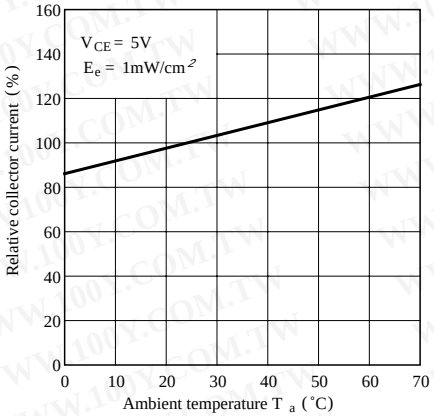


Fig.4-a Collector Current vs. Irradiance (PT480)

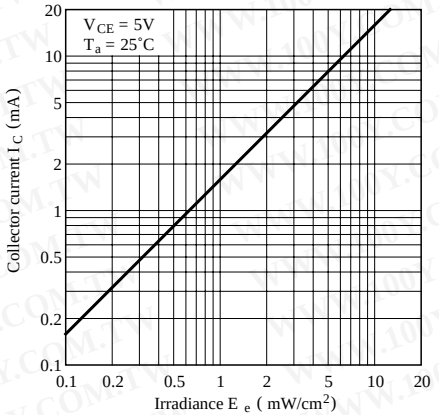


Fig.4-b Collector Current vs. Irradiance (PT480F)

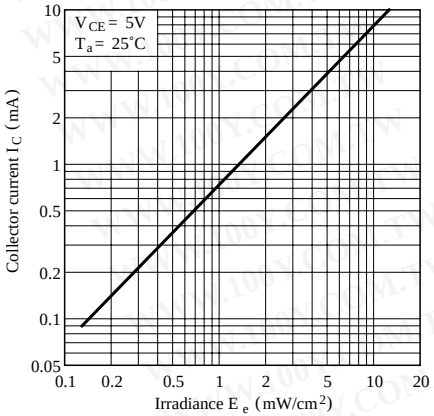


Fig.5-a Collector Current vs. Collector-emitter Voltage (PT480)

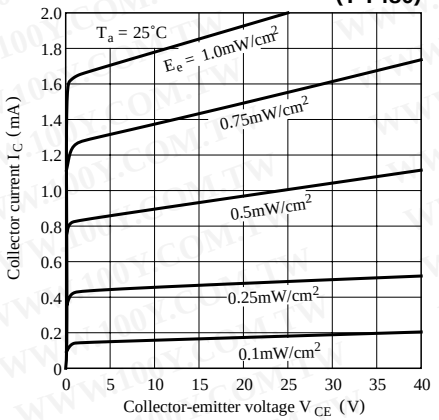


Fig.5-b Collector Current vs. Collector-emitter Voltage (PT480F)

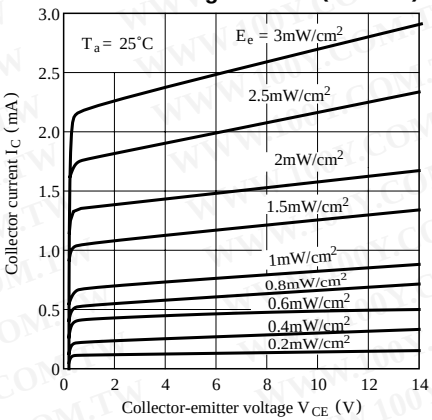


Fig. 6 Spectral Sensitivity

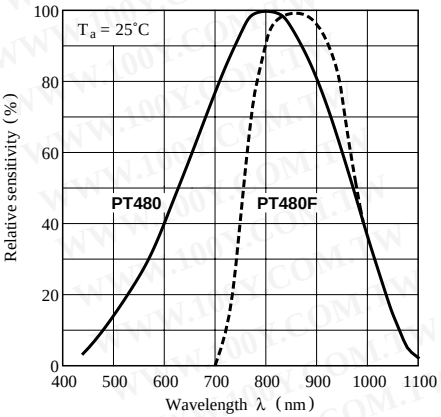
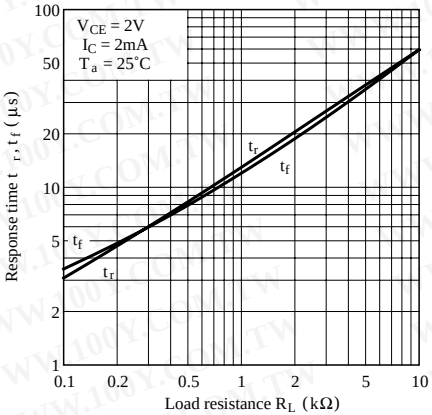


Fig. 7 Response Time vs. Load Resistance



Test Circuit for Response Time

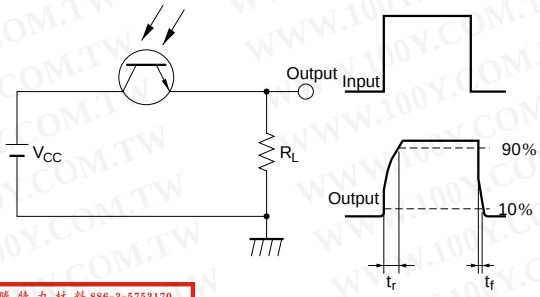


Fig. 8 Sensitivity Diagram (Ta = 25°C)

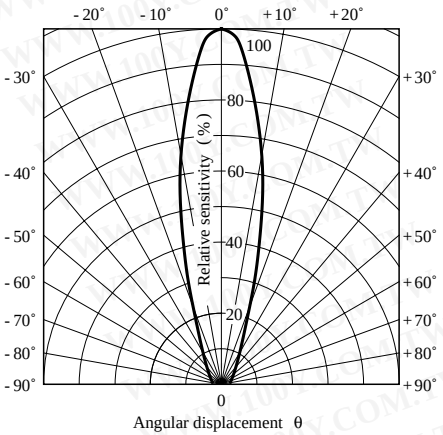


Fig.9-a Collector-emitter Saturation Voltage vs. Irradiance (PT480)

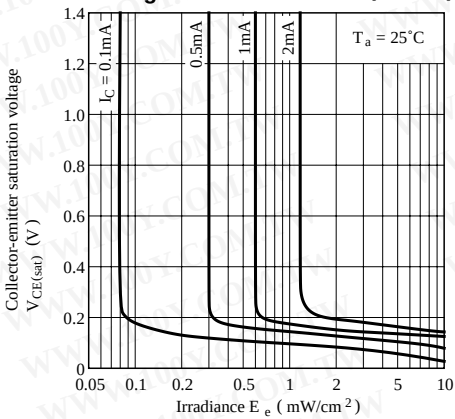


Fig.9-b Collector-emitter Saturation Voltage vs. Irradiance (PT480F)

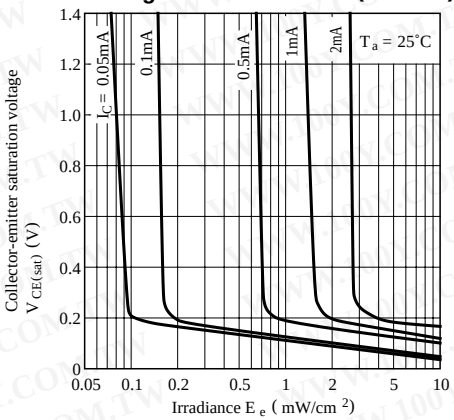
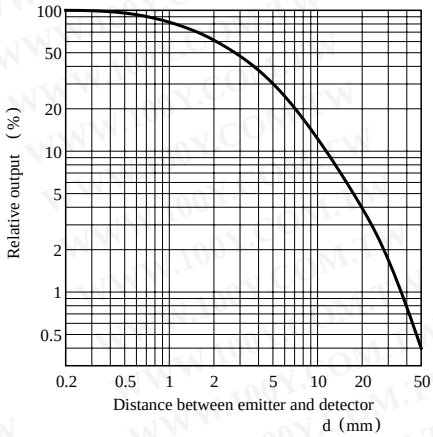


Fig.10 Relative Output vs. Distance (Emitter : GL480)



Please refer to the chapter " Precautions for Use."