

PT4600/PT4600F/PT4610/ PT4610F/PT4650F

Double-end Type Phototransistor

■ Features

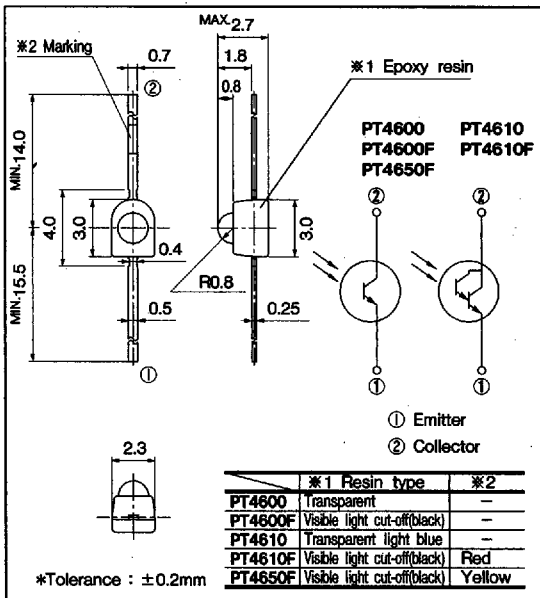
1. Compact double-end type package
(Mounting area : 37% smaller than PT480)
2. Narrow acceptance
($\Delta\theta : 20^\circ$)
3. Darlington type : **PT4610/PT4610F**
Visible light cut-off type : **PT4600F/PT4610F/PT4650F**
For tape end detection of VCRs : **PT4650F**
4. Taping package (2 000pcs./reel)

■ Applications

1. Floppy disk drives
2. VCRs
3. Audio equipment
4. Camcorders

■ 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_{EC0}	6	V
Collector current	*1	20	mA
	*2	50	
Collector power dissipation	*1	50	mW
	*2	100	
Operating temperature	T_{opr}	-25 to +85	°C
Storage temperature	T_{stg}	-40 to +85	°C
*3 Soldering temperature	T_{sol}	260	°C

*1 PT4600/PT4600F/PT4650F

*2 PT4610/PT4610F

*3 For MAX. 3 seconds at the position of 2.5mm from the edge of resin package

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■ Electro-optical Characteristics

(Ta = 25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector current	PT4600	I _C	*4E _e = 1mW/cm ² V _{CE} = 5V	0.95	—	2.80	mA
	PT4600F			0.55	—	1.85	
	PT4650F			0.55	—	1.2	
	PT4610		*4E _e = 0.01mW/cm ² V _{CE} = 5V	0.6	—	3.05	
	PT4610F			0.4	—	2.0	
Collector dark current	PT4600/4600F/4650F	I _{CEO}	*4E _e = 0, V _{CE} = 20V	—	—	0.1	μA
	PT4610/PT4610F		*4E _e = 0, V _{CE} = 10V	—	—	1.0	
Collector-emitter saturation voltage	PT4600/PT4600F PT4650F	V _{CE(sat)}	*4E _e = 10mW/cm ² I _C = 0.5mA	—	0.2	0.4	V
	PT4610/PT4610F		*4E _e = 1mW/cm ² I _C = 2.5mA	—	—	1.2	
Collector-emitter saturation voltage		BV _{CEO}	I _C = 0.1mA, *4E _e = 0	35	—	—	V
Emitter-collector breakdown voltage		BV _{ECO}	I _C = 0.01mA, *4E _e = 0	6	—	—	V
Peak sensitivity wavelength	PT4600/4610	λ _P	—	—	800	—	nm
	PT4600F/4610F/4650F			—	860	—	
Response time	Rise time	PT4600/4600F/4650F	V _{CE} = 20V, I _C = 1mA R _L = 1Ω	—	10	40	μs
	Fall time			—	8	35	
Response time	Rise time	PT4610/4610F	V _{CE} = 2V, I _C = 10mA R _L = 100Ω	—	400	2 000	
	Fall time			—	300	1 500	
Half sensitivity angle		Δθ	—	—	±20	—	°

*4 E_e : Illuminance by CIE standard light source A (tungsten lamp)

Fig. 1-a Collector Power Dissipation vs. Ambient Temperature (PT4600/PT4600F/PT4650F)

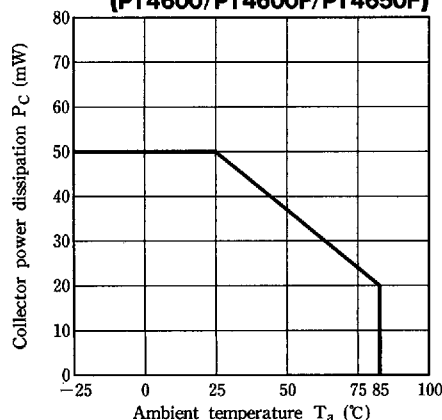
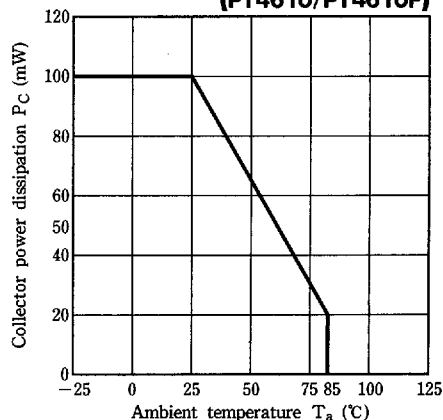


Fig. 1-b Collector Power Dissipation vs. Ambient Temperature (PT4610/PT4610F)



● Please refer to the chapter "Precautions for Use." (Page 78 to 93)