Photointerrupter, encased type RPI-576

This product is heat-resist type due to PBT adoption for package material.

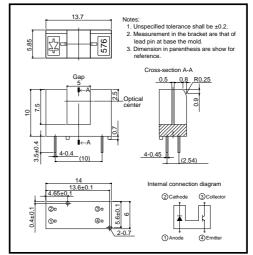
Application

Optical control

Features

- 1) Heat resistance (170°C)
- 2) Small gap (0.5mm) and good accuracy
- 3) Quick response time
- 4) Filter against visible ray is built-in

●External dimensions (Units : mm)



● Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Input(LED)	Forward current	lF	50	mA
	Reverse voltage	VR	5	V
	Power dissipation	Po	80	mW
Output (photo- (transistor)	Collector-emitter voltage	VCEO	30	V
	Emitter-collector voltage	VECO	4.5	V
	Collector current	Ic	30	mA
	Collector power dissipation	Pc	80	mW
Operating temperature		Topr	-25~+85	°C
Storage temperature		Tstg	-40~+85	°C



●Electrical and optical characteristics (Ta = 25°C)

Parameter		Symbol	Min.	Тур.	Max.	Unit	Conditions
Input charac- teristics	Forward voltage	VF	-	1.3	1.6	V	I⊧=50mA
	Reverse current	lr	-	-	10	μΑ	V _R =5V
Output charac- teristics	Dark current	ICEO	-	-	0.5	μΑ	Vce=10V
	Peak sensitivity wavelength	λР	-	800	_	nm	_
Transfer charac- teristics	Collector current	Ic	0.5	-	_	mA	Vce=5V, Ir=20mA
	Collector-emitter saturation voltage	VCE(sat)	-	0.1	0.5	V	I _F =20mA, I _C =0.5mA
	Response time	tr • tf	-	10	-	μs	Vcc=5V, I _F =20mA, R _L =100Ω

• Electrical and optical characteristic curves

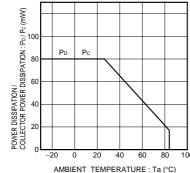


Fig.1 Power dissipation collector vs. ambient temperature

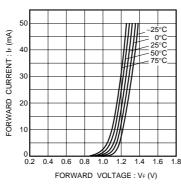


Fig.2 Forward current vs. forward voltage

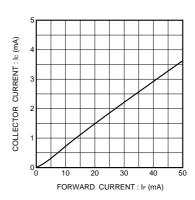


Fig.3 Collector current vs. forward current

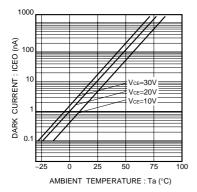


Fig.4 Dark current vs. ambient temperature

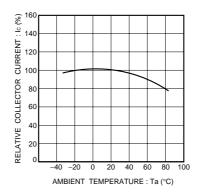


Fig.5 Relative output vs. ambient temperature

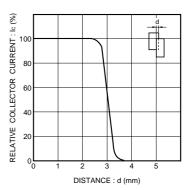


Fig.6 Relative output vs. distance characteristics

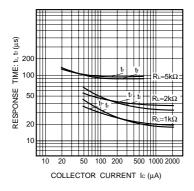


Fig.7 Response time vs. output current

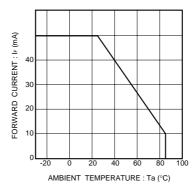


Fig.8 Forward current falloff

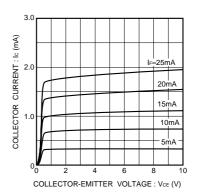
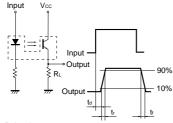


Fig.9 Collector current vs. collector-emitter voltage



- t_d: Delay time
- t_{r} : Rise time (time for output current to rise from 10% to 90% of peak current)
- $t_{\rm f}$: Fall time (time for output current to fall from 90% to 10% of peak current)

Fig.10 Response time measurement circuit

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