Photointerrupter, double-layer mold type

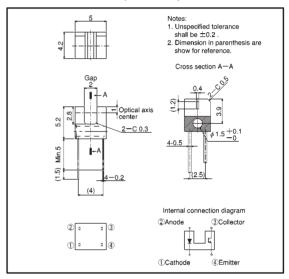
The RPI-243 is a compact, double-layer mold photointerrupter.

ApplicationsFloppy disk drivesPrintersCD-ROM

Features

- Compact package based on the double-mold method
- 2) High resolution (slit width = 0.4 mm).
- 3) Gap between emitter and detector is 2.0 mm.

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	Pb	80	mW
Output (photo- (transistor)	Collector-emitter voltage	VCEO	30	V
	Emitter-collector voltage	VECO	4.5	V
	Collector current	lc	30	mA
	Collector power dissipation	Pc	80	mW
Operating temperature		Topr	-25~ + 85	°C
Storage temperature		Tstg	-30~+100	°C

Sensors RPI-243

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

Parameter		Symbol	Min.	Тур.	Max.	Unit	Conditions
Input charac- teristics	Forward voltage	VF	_	1.3	1.6	٧	I _F =50mA
	Reverse current	la	_	_	10	μΑ	V _R =5V
Output charac- teristics	Dark current	ICEO	_	_	0.5	μΑ	VcE=10V
	Peak sensitivity wavelength	λp	_	800	_	nm	_
Transfer charac- teristics	Collector current	lc	0.5	_	_	mA	V _{CE} =5V, I _F =20mA
	Collector-emitter saturation voltage	VCE(sat)	_	_	0.4	٧	I _F =20mA, I _C =0.3mA
	Response time	tr • tf	_	10	_	μs	Vcc=5V, I==20mA, RL=100 Ω

Electrical and optical characteristic curves

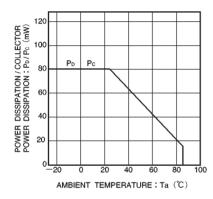


Fig.1 Power dissipation / collector power dissipation vs. ambient temperature

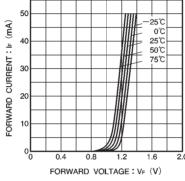


Fig.2 Forward current vs. forward voltage

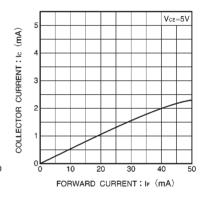


Fig.3 Collector current vs.forward current

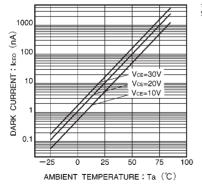


Fig.4 Dark current vs. ambient temperature

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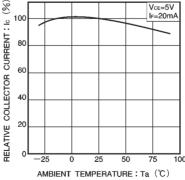


Fig.5 Relative output vs. ambient temperature

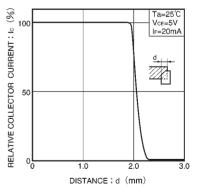


Fig.6 Relative output vs. distance

Sensors RPI-243

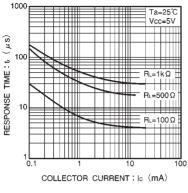


Fig.7 Response time vs. collector current

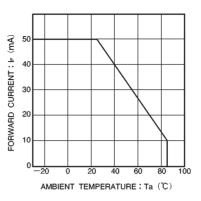


Fig.8 Forward current falloff

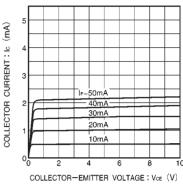
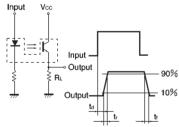


Fig.9 Output characteristics



- td: Delay time
- t_r: Rise time (time for output current to rise from 10% to 90% of peak current)
- tr: Fall time (time for output current to fall from 90% to 10% of peak current)

Fig.10 Response time measurement circuit