Photointerrupter, double-layer mold type
RPI-243

The RPI-243 is a compact, double-layer mold photointerrupter.
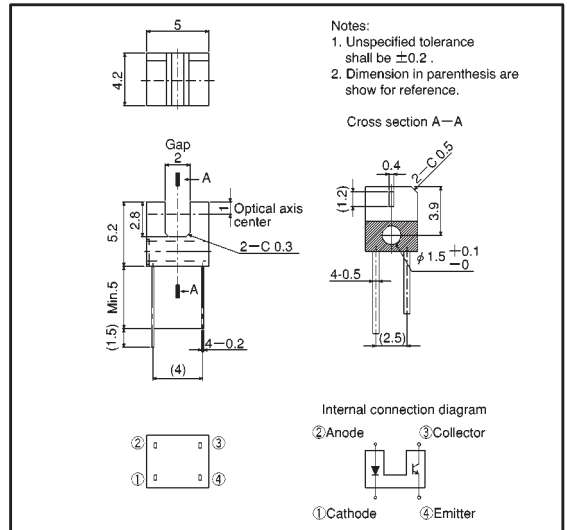
●Applications
Floppy disk drives
Printers
CD-ROM

●Features
1) 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	I_F	50	mA
	Reverse voltage	V_R	5	V
	Power dissipation	P_D	80	mW
Output (photo-transistor)	Collector-emitter voltage	V_{CEO}	30	V
	Emitter-collector voltage	V_{ECO}	4.5	V
	Collector current	I_C	30	mA
	Collector power dissipation	P_C	80	mW
Operating temperature		Topr	−25〜+85	℃
Storage temperature		Tstg	−30〜+100	℃

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

|	Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input charac-teristics	Forward voltage	V_F	—	1.3	1.6	V	I_F=50mA
	Reverse current	I_R	—	—	10	μA	V_R=5V
Output charac-teristics	Dark current	I_{CEO}	—	—	0.5	μA	V_{CE}=10V
	Peak sensitivity wavelength	λ_P	—	800	—	nm	—
Transfer charac-teristics	Collector current	I_C	0.5	—	—	mA	V_{CE}=5V, I_F=20mA
	Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.4	V	I_F=20mA, I_C=0.3mA
	Response time	tr・tf	—	10	—	μs	V_{CC}=5V, I_F=20mA, R_L=100Ω

●Electrical and optical characteristic curves
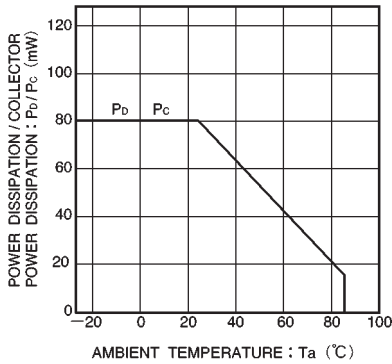
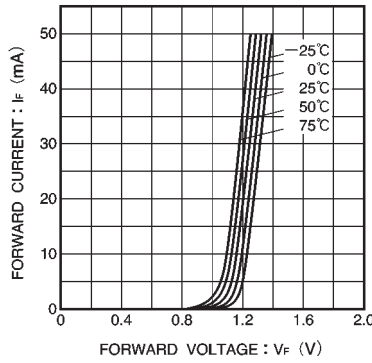Fig.1 Power dissipation / collector power dissipation vs. ambient temperature
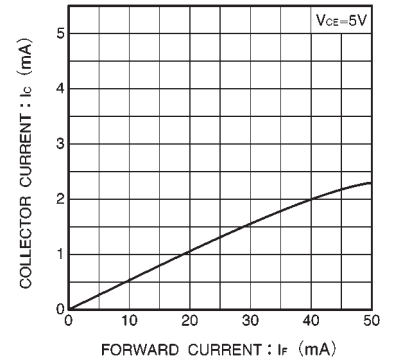

Fig.2 Forward current vs. forward voltage

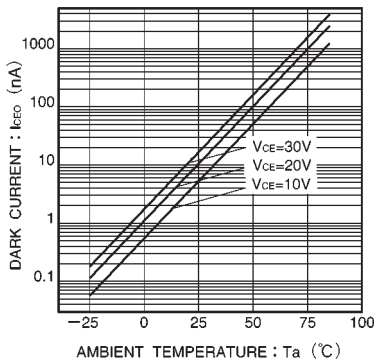Fig.3 Collector current vs.forward current
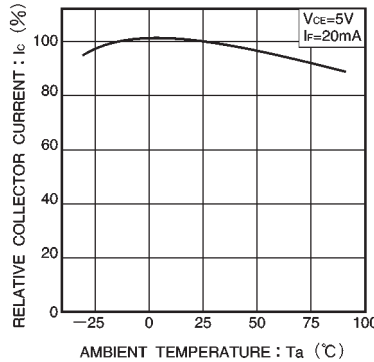

Fig.4 Dark current vs. ambient temperature

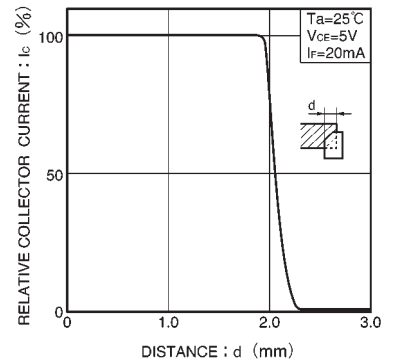Fig.5 Relative output vs. ambient temperature
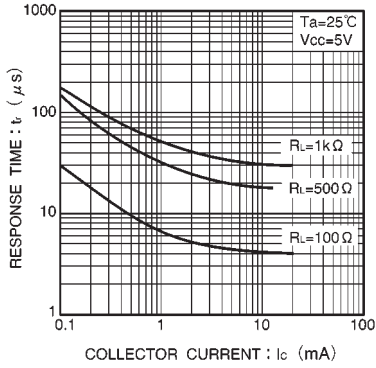

Fig.6 Relative output vs. distance

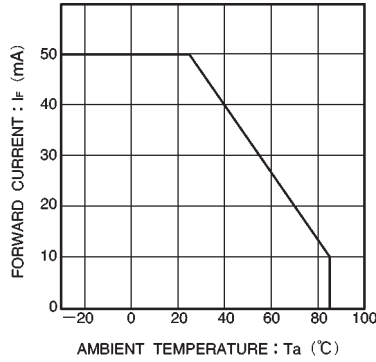Fig.7 Response time vs.
collector current
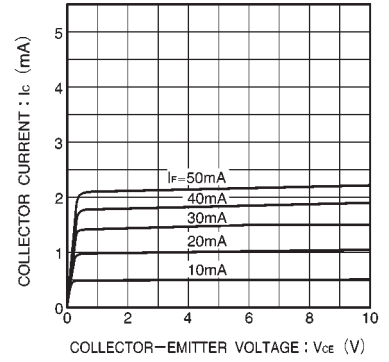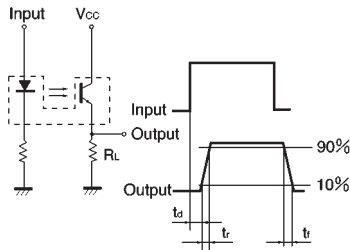

Fig.8 Forward current falloff

Fig.9 Output characteristics

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

Fig.10 Response time measurement circuit