RPR-220PC30N

Reflective photosensor (photoreflector)

Absolute maximum ratings (Ta=25°C)

	Parameter	Symbol	Limits	Unit
Input (LED)	Forward current	I_F	25	mA
	Reverse voltage	V_R	5	V
	Power dissipation	P_D	100	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 to +85	°C
	Storage temperature	Tstg	−30 to +85	°C

Applications

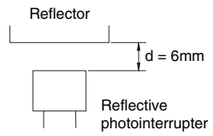
Printers
MFP (Multi-function Printer)

Features

1) A plastic lens is used for high sensitivity.
2) A built-in visible light filter minimizes the influence of stray light.
3) Lightweight and compact.

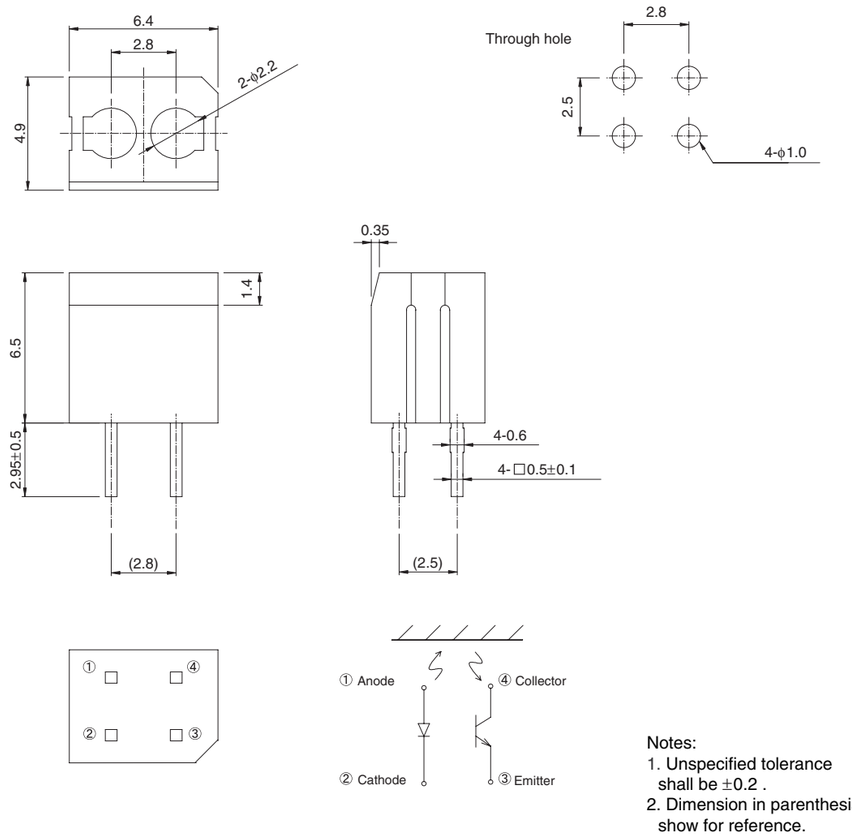
Electrical and optical characteristics (Ta=25°C)

	Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input characteristics	Forward voltage	V_F	–	3.5	3.8	V	I_F=20mA
	Reverse current	I_R	–	–	100	μA	V_R=5V
Output characteristics	Dark current	I_{CEO}	–	–	10	μA	V_{CE}=10V
	Peak sensitivity wavelength	λ_P	–	800	–	nm	–
Transfer characteristics	Collector current	I_C	0.08	–	0.8	mA	V_{CE}=2V, I_F=10mA *
	Collector-emitter saturation voltage	$V_{CE(sat)}$	–	0.1	0.3	V	I_F=20mA, I_C=0.1mA *
	Response time	tr•tf	–	10	–	μs	V_{CE}=10V, I_F=20mA, R_L=100Ω *
Infrared light emitter diode	Peak light emitting wavelength	λ_P	–	470	–	nm	I_F=20mA * Non-coherent Infrared light emitting diode used.
Photo transistor	Response time	tr•tf	–	10	–	μs	V_{CC}=5V, I_C=1mA, R_L=100Ω * This product is not designed to be protected against electromagnetic wave.
	Maximum sensitivity wavelength	λ_P	–	800	–	nm	–



* Reflector object : Standard white paper. (Reflection ratio = 90%)

Dimensions (Unit : mm)



Notes:
1. Unspecified tolerance shall be ±0.2 .
2. Dimension in parenthesis are show for reference.

Electrical and optical characteristics curves

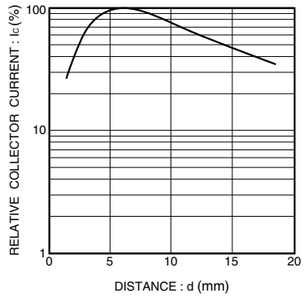


Fig.1 Relative output vs. distance

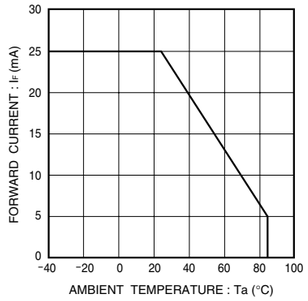


Fig.2 Forward current vs. ambient temperature

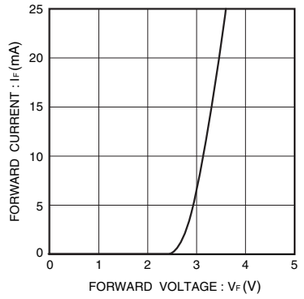


Fig.3 Forward current vs. forward voltage

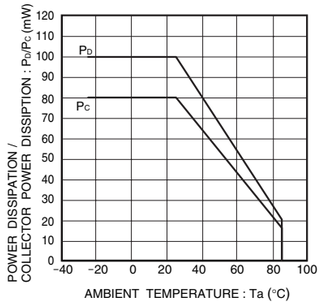


Fig.4 Power dissipation / collector power dissipation vs. ambient temperature

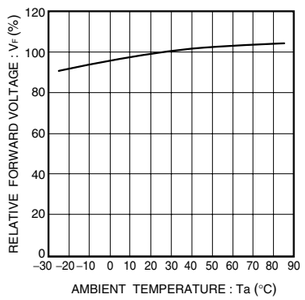


Fig.5 Relative output vs. ambient temperature

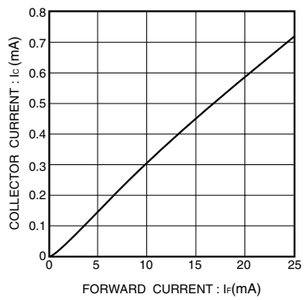


Fig.6 Collector current vs. forward current

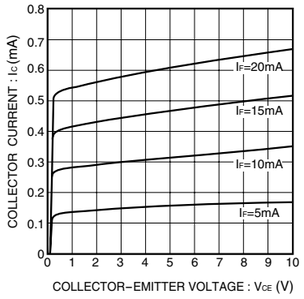


Fig.7 Output characteristics

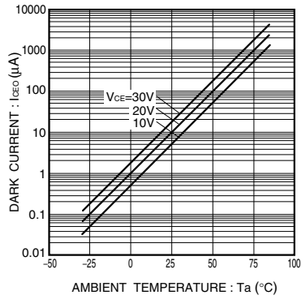


Fig.8 Dark current vs. ambient temperature

Notes

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Contact us : webmaster@rohm.co.jp

ROHM CO., LTD. 21 Saiin Mizosaki-cho, Ukyo-ku, Kyoto 615-8585, Japan
TEL : +81-75-311-2121
FAX : +81-75-315-0172