

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_{CE0}	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	T_{opr}	-25 to +85	°C
	Storage temperature	T_{stg}	-30 to +85	°C

Applications

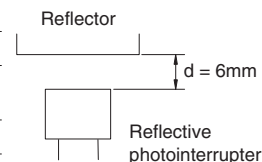
Printers
MFP (Multi-function Printer)

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	$I_F=20\text{mA}$
	Reverse current	I_R	-	-	100	μA	$V_R=5\text{V}$
Output characteristics	Dark current	I_{CEO}	-	-	10	μA	$V_{CE}=10\text{V}$
	Peak sensitivity wavelength	λ_P	-	800	-	nm	-
Transfer characteristics	Collector current	I_C	0.08	-	0.8	mA	$V_{CE}=2\text{V}, I_F=10\text{mA}$ *
	Collector-emitter saturation voltage	$V_{CE(sat)}$	-	0.1	0.3	V	$I_F=20\text{mA}, I_C=0.1\text{mA}$ *
	Response time	$t_r \cdot t_f$	-	10	-	μs	$V_{CE}=10\text{V}, I_F=20\text{mA}, R_L=100\Omega$ *
Light emitting diode	Peak light emitting wavelength	λ_P	-	470	-	nm	$I_F=20\text{mA}$ * Non-coherent Infrared light emitting diode used.
	Response time	$t_r \cdot t_f$	-	10	-	μs	$V_{CC}=5\text{V}, I_C=1\text{mA}, R_L=100\Omega$ * This product is not designed to be protected against electromagnetic wave.
Photo transistor	Maximum sensitivity wavelength	λ_P	-	800	-	nm	-



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

Electrical and optical characteristics curves

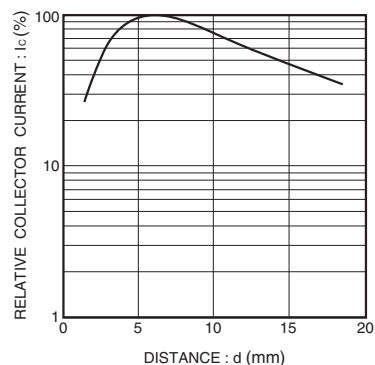


Fig.1 Relative output vs. distance

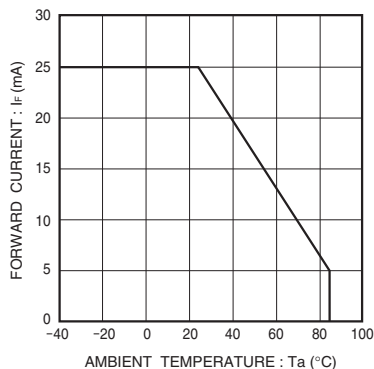


Fig.2 Forward current vs. ambient temperature

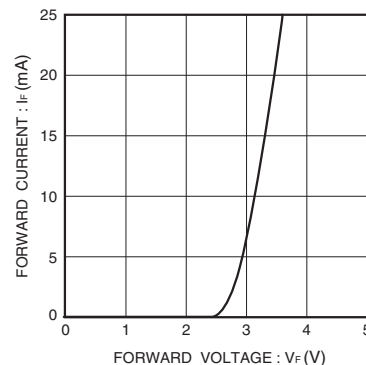


Fig.3 Forward current vs. forward voltage

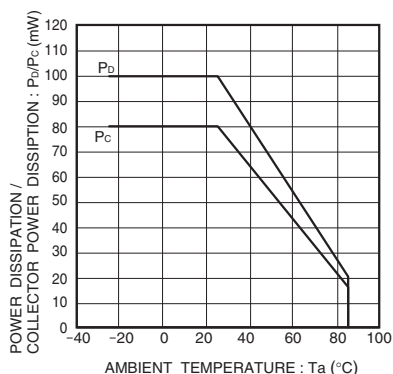


Fig.4 Power dissipation / collector power dissipation vs. ambient temperature

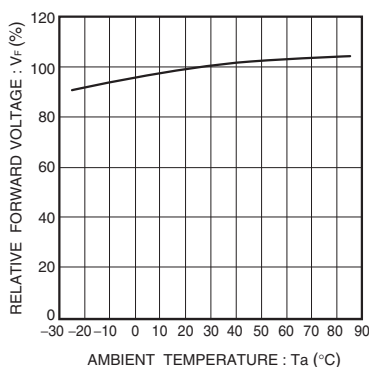


Fig.5 Relative output vs. ambient temperature

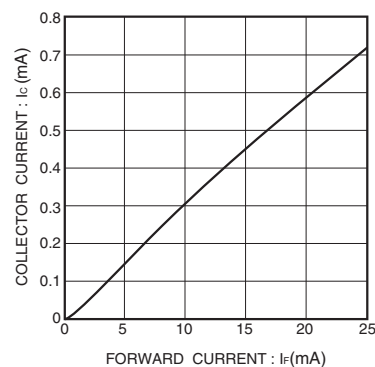
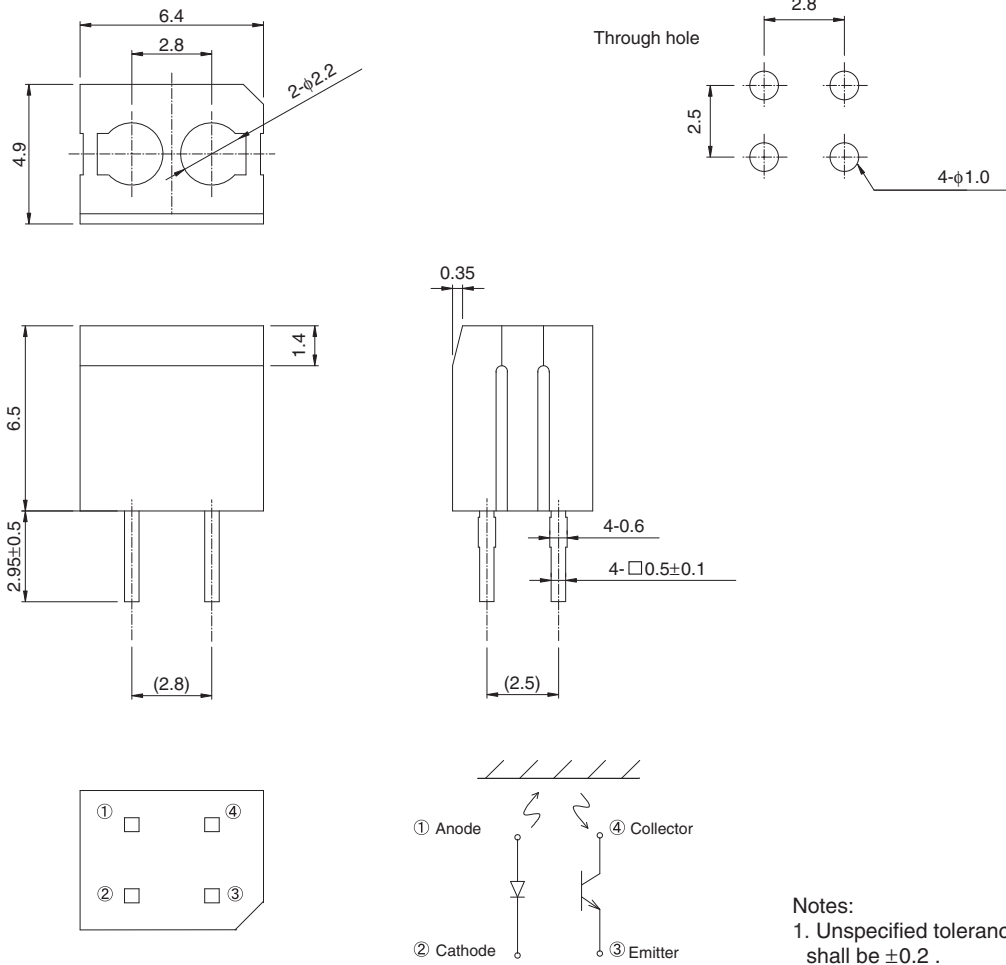


Fig.6 Collector current vs. forward current



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

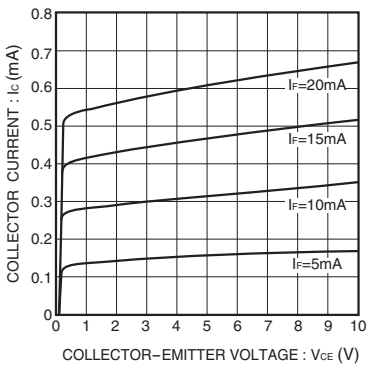


Fig.7 Output characteristics

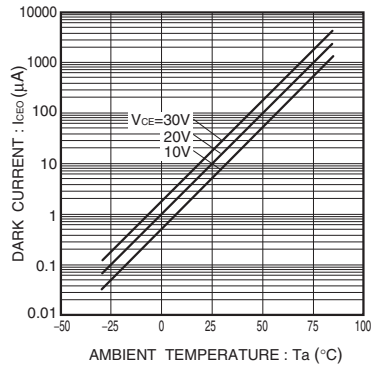


Fig.8 Dark current vs. ambient temperature

Notes

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