RPR-220UC30N

Reflective photosensor (photoreflector)

Absolute maximum ratings (Ta=25°C)

	Parameter	Symbol	Limits	Unit
Input (LED)	Forward current	I_F	30	mA
	Reverse voltage	V_R	10	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 to +85	°C
	Storage temperature	Tstg	−30 to +85	°C

Applications

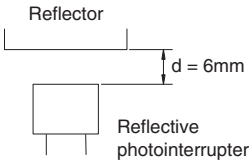
Printers
MFP (Multi-function Printer)

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	–	2.0	2.6	V	I_F=30mA
	Reverse current	I_R	–	–	100	μA	V_R=9V
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	0.3	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	Cut-off frequency	f_C	–	1	–	MHz	I_F=50mA * Non-coherent Infrared light emitting diode used.
	Peak light emitting wavelength	λ_P	–	950	–	nm	
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%)

Electrical and optical characteristics curves

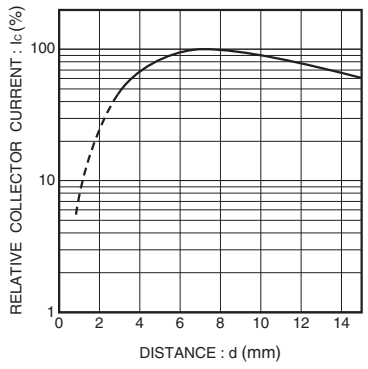


Fig.1 Relative output vs. distance

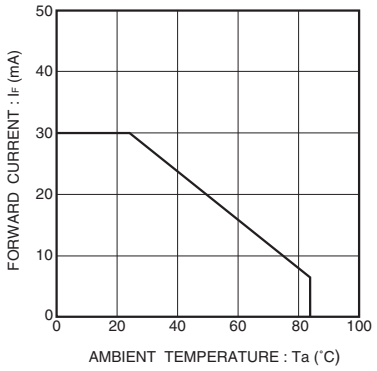


Fig.2 Forward current vs. ambient temperature

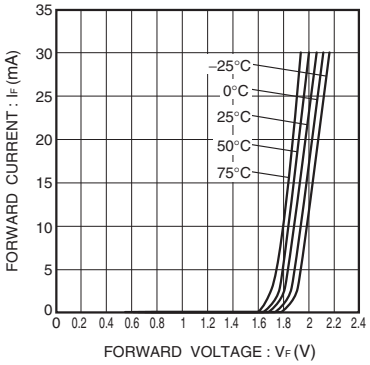


Fig.3 Forward current vs. forward voltage

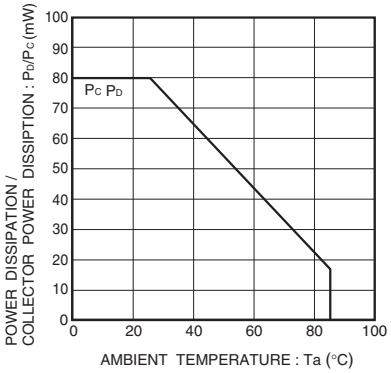


Fig.4 Power dissipation / collector power dissipation vs. ambient temperature

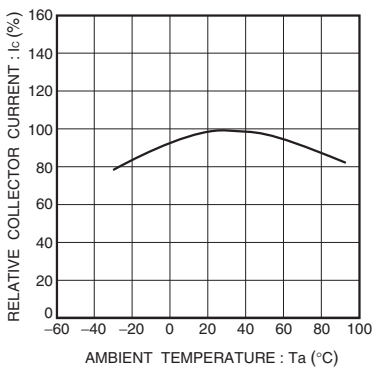


Fig.5 Relative output vs. ambient temperature

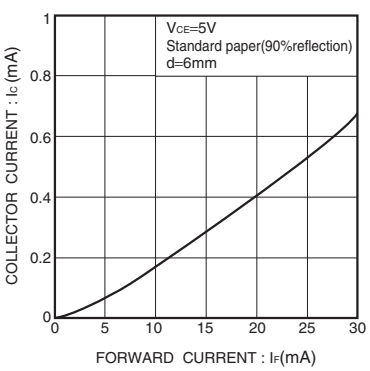
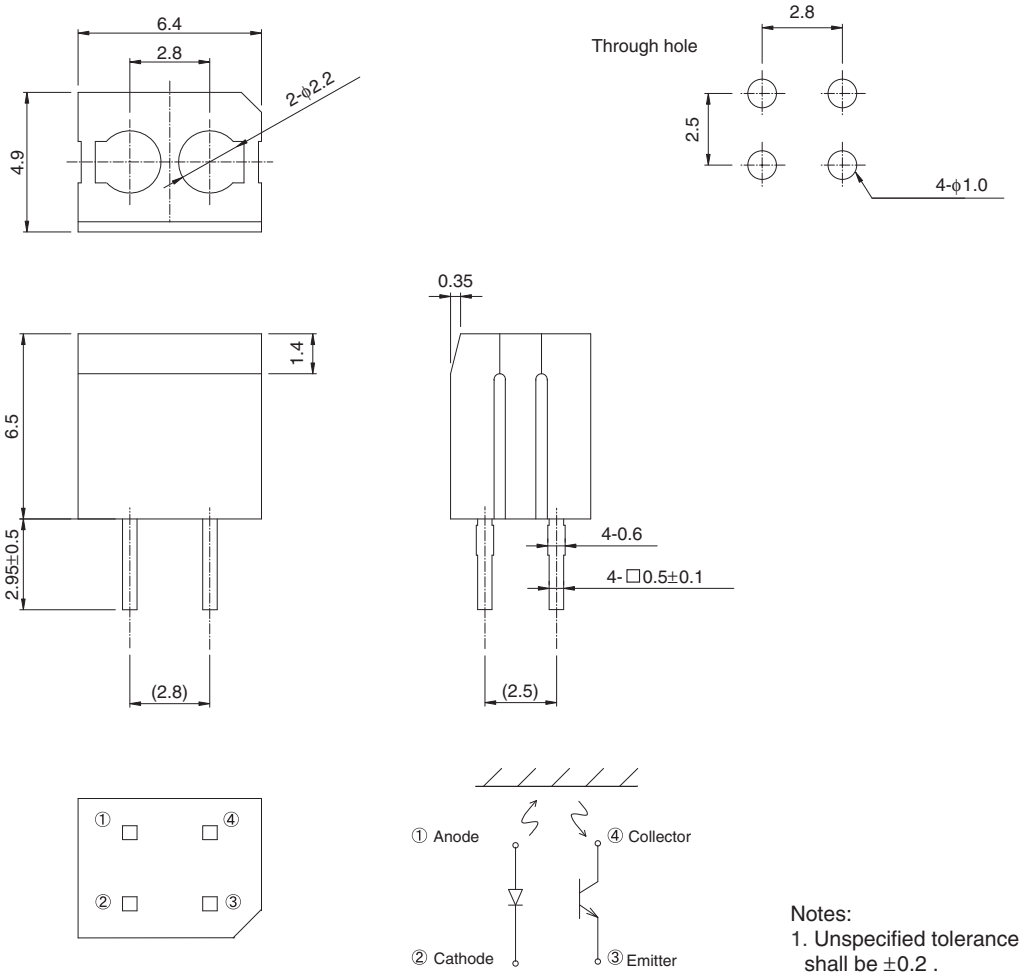


Fig.6 Collector current vs. forward current

Dimensions (Unit : mm)



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

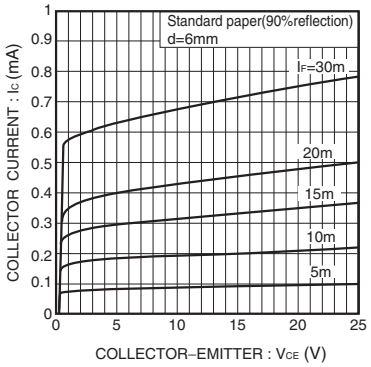


Fig.7 Output characteristics

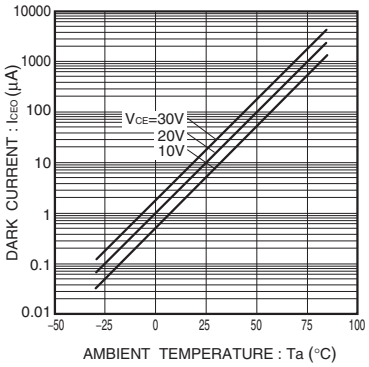


Fig.8 Dark current vs. ambient temperature

Notes

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