

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)

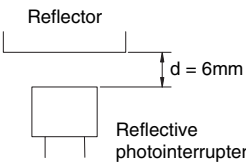
Features

- 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.

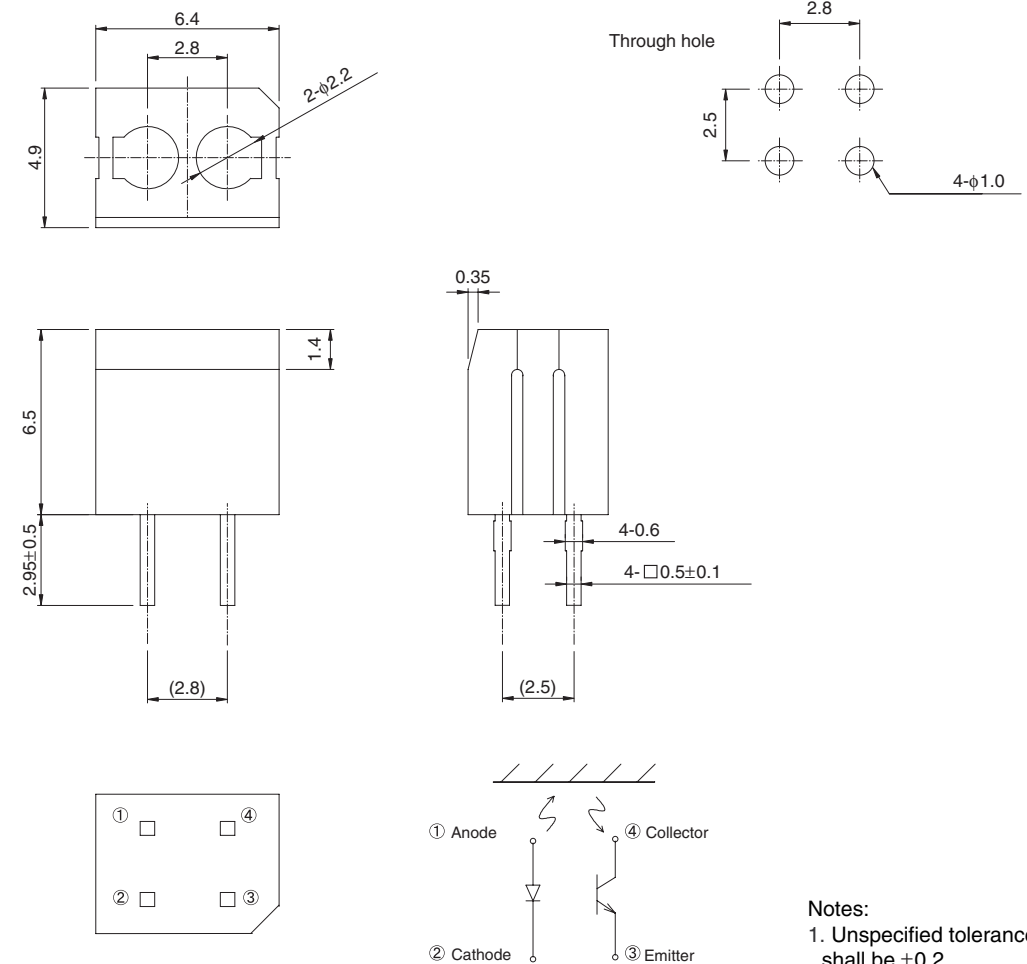
Electrical and optical characteristics (Ta=25°C)

| 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_{CE0} | - | - | 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 | $tr+tf$ | - | 10 | - | μs | $V_{CE}=10\text{V}, I_F=20\text{mA}, R_L=100\Omega$ |
| Infrared light emitter diode | Peak light emitting wavelength | λ_P | - | 470 | - | nm | $I_F=20\text{mA}$ * Non-coherent Infrared light emitting diode used. |
| | Response time | $tr+tf$ | - | 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%)



Dimensions (Unit : mm)



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

Electrical and optical characteristics curves

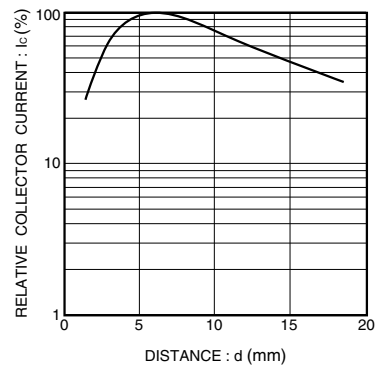


Fig.1 Relative output vs. distance

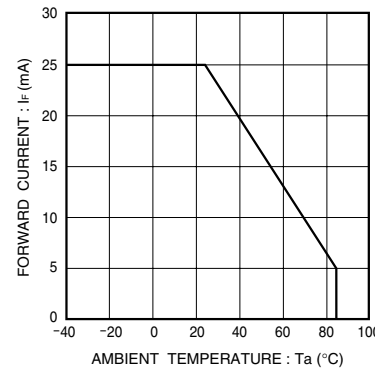


Fig.2 Forward current vs. ambient temperature

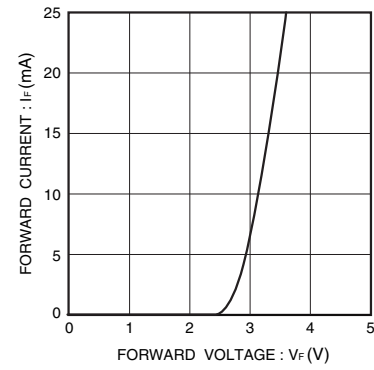


Fig.3 Forward current vs. forward voltage

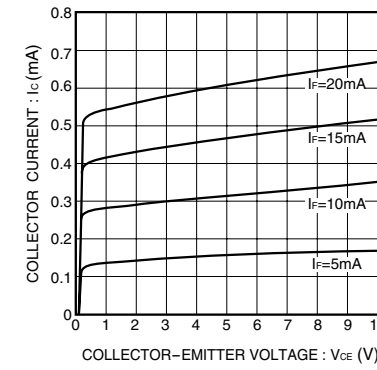


Fig.7 Output characteristics

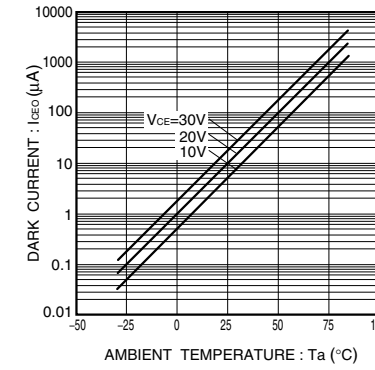


Fig.8 Dark current vs. ambient temperature

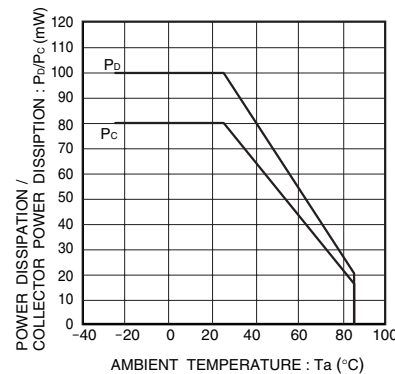


Fig.4 Power dissipation / collector power dissipation vs. ambient temperature

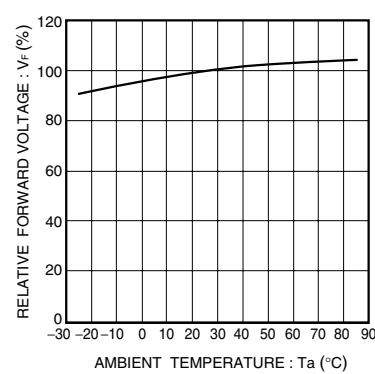


Fig.5 Relative output vs. ambient temperature

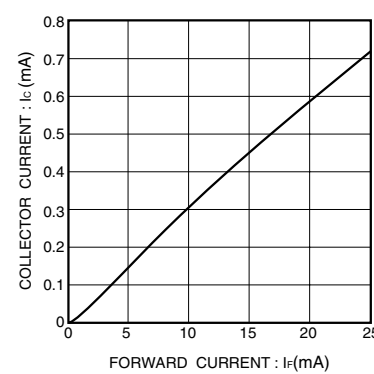


Fig.6 Collector current vs. forward current

Appendix

Notes

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