

# IPT0118

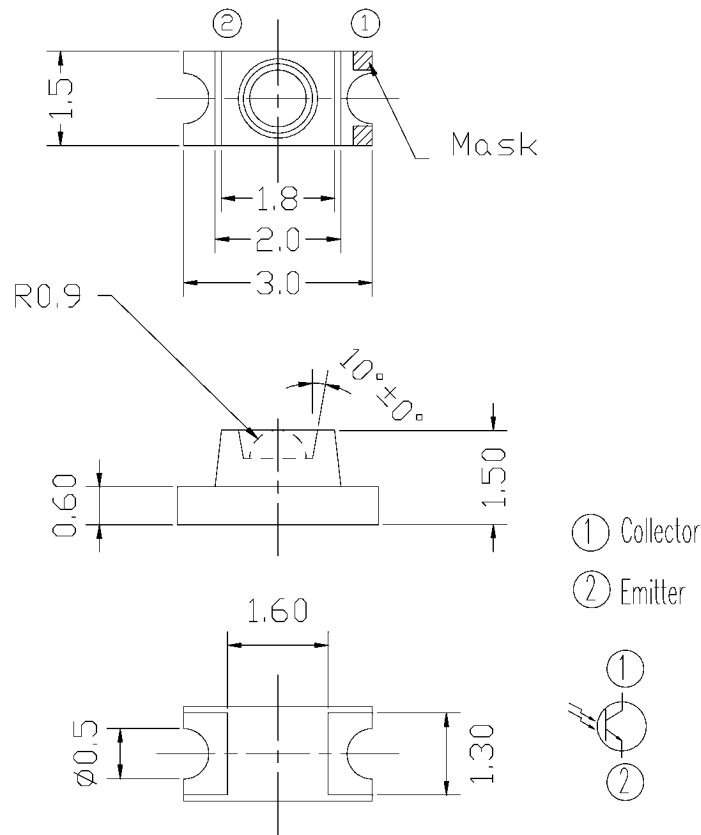
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This is a phototransistor in miniature SMD package. It is molded in a water clear plastic with a flat top view lens.



RoHS Compliant  
Aug 2004



| PART NO. | Chip     | Lens Color  |
|----------|----------|-------------|
|          | Material |             |
| IPT0118  | Silicon  | Water Clear |

\* Specifications subject to change without notice. Dimensions are in mm±0.1 unless stated otherwise.

IDEA, Inc., 1351 Titan Way, Brea, CA 92821 Ph:714-525-3302, 800-LED-IDEA; Fax: 714-525-3304 0507

**Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$** 

| Parameter  | Symbol    | Rating     | Units            |
|--|-----------|------------|------------------|
| Collector-Emitter Voltage  | $V_{CEO}$ | 60         | V                |
| Emitter-Collector Voltage  | $V_{ECO}$ | 5          | V                |
| Collector Current  | $I_C$     | 20         | mA               |
| Operating Temperature  | $T_{opr}$ | -25 to +85 | $^\circ\text{C}$ |
| Storage Temperature  | $T_{stg}$ | -40 to +85 | $^\circ\text{C}$ |
| Soldering Temperature  | $T_{sol}$ | 260        | $^\circ\text{C}$ |
| Power Dissipation at (or below) $25^\circ\text{C}$<br>Free Air Temperature | $P_d$     | 75         | mW               |

**Electronic Optical Characteristics**

| Parameter                            | Symbol          | Min. | Typ. | Max  | Units         | Condition  |
|--------------------------------------|-----------------|------|------|------|---------------|--|
| Collector-Emitter Breakdown Voltage  | $BV_{CEO}$      | 60   | —    | —    | V             | $I_C=100\mu\text{A}$<br>$E_e=0\text{ mW/cm}^2$                 |
| Emitter-Collector Breakdown Voltage  | $BV_{ECO}$      | 5    | —    | —    | V             | $I_E=100\mu\text{A}$<br>$E_e=0\text{ mW/cm}^2$                 |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$   | —    | —    | 0.4  | V             | $I_C=2\text{ mA}$<br>$E_e=1\text{ mW/cm}^2$                    |
| Rise Time                            | $t_r$           | —    | 15   | —    | $\mu\text{s}$ | $V_{CE}=5\text{ V}$<br>$I_C=1\text{ mA}$<br>$R_L=1000\ \Omega$ |
| Fall Time                            | $t_f$           | —    | 15   | —    | $\mu\text{s}$ |  |
| Collector Dark Current               | $I_{CEO}$       | —    | —    | 100  | nA            | $V_{CE}=20\text{ V}$<br>$E_e=0\text{ mW/cm}^2$                 |
| On State Collector Current           | $I_{C(on)}$     | 0.5  | 0.8  | —    | mA            | $V_{CE}=5\text{ V}$<br>$E_e=1\text{ mW/cm}^2$                  |
| Peak Wavelength                      | $\lambda_p$     | —    | 860  | —    | nm            | —  |
| Range of Spectral Bandwidth          | $\lambda_{0.5}$ | 400  | —    | 1200 | nm            | —  |

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