



ZPD053B-90-S90

Technical Data Sheet

5mm Photo Transistor



Descriptions

The ZPD053B-90-S90 is a high speed and high sensitive PIN photodiode in a standard 5 μ plastic package. Due to its black epoxy the device is sensitive to visible and infrared radiation.

Features

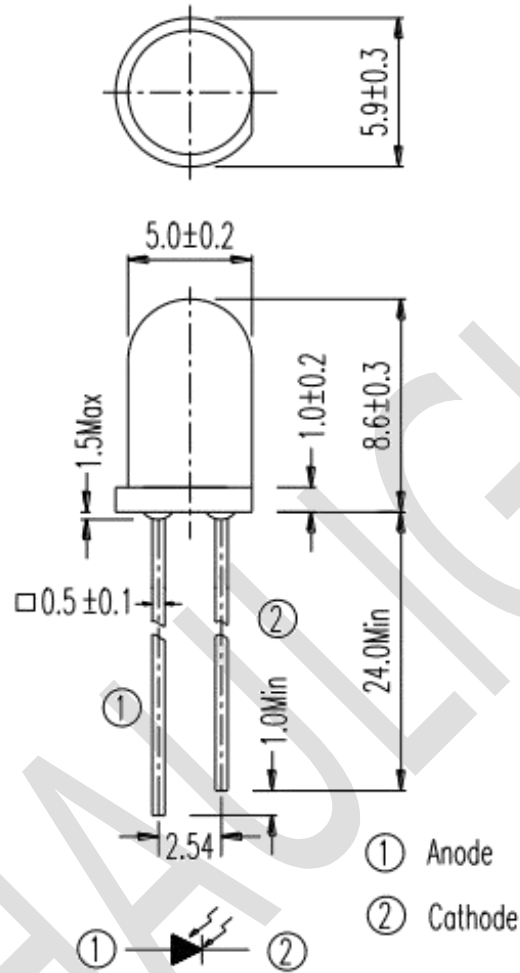
- Fast response time
- High photo sensitivity
- Pb.Free
- This product itself will remain within RoHS compliant version.

Applications

- High speed photo detector
- Security system
- Camera



Package Dimension



Notes:

1. All dimensions are in millimeters
2. Tolerances unless dimensions $\pm 0.3 \text{mm}$
3. Lead spacing is measured where the lead emerge from the package



Absolute Maximum Ratings

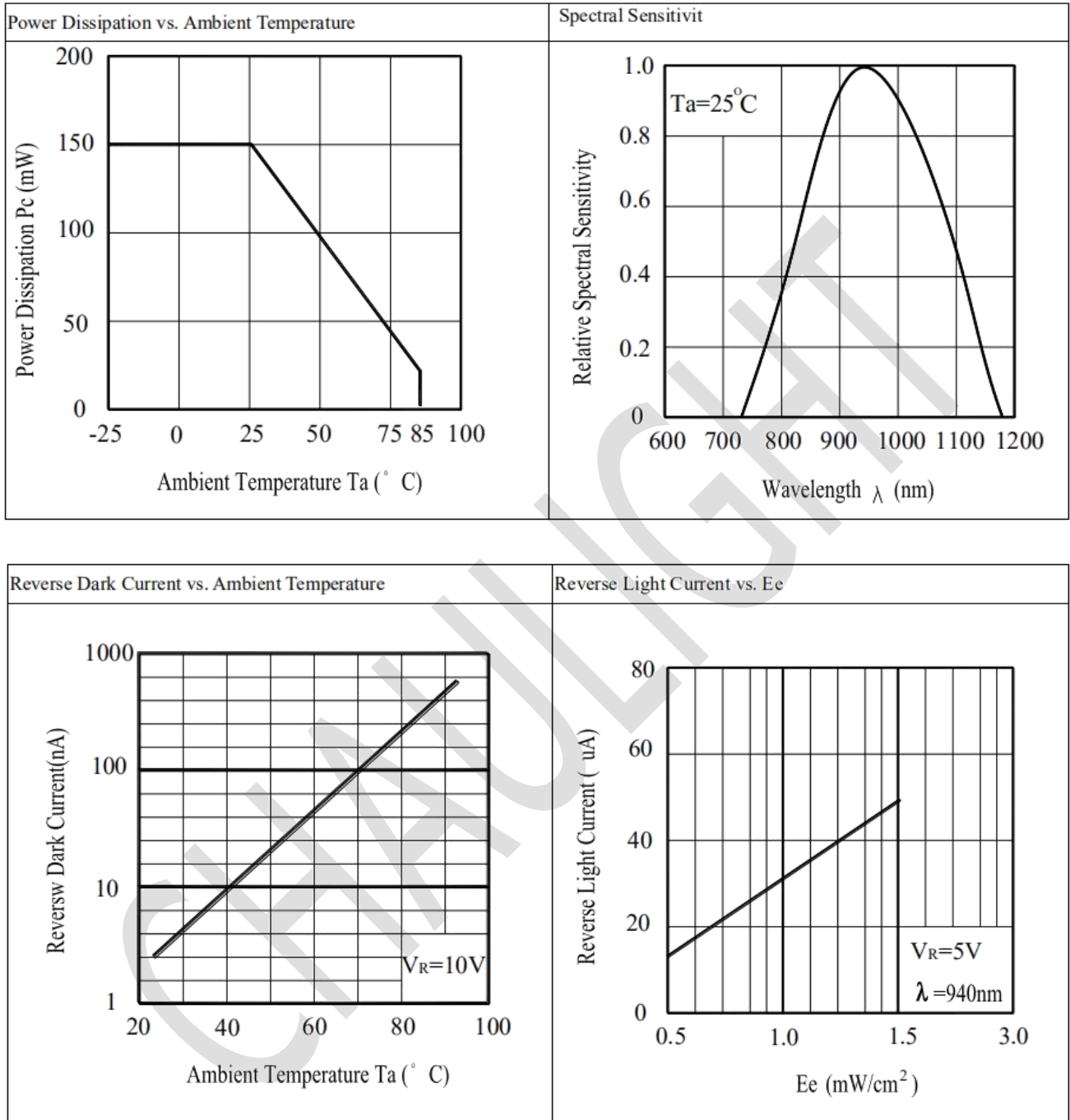
| Parameter (Ta=25°C) | Symbol | Ratings | Unit |
|--|--------|----------|------|
| Power Dissipation at(or below) 25 Free Air Temperature | Pd | 150 | mW |
| Reverse Voltage | VR | 32 | V |
| Operating Temperature | Topr | -25~+85 | °C |
| Storage Temperature | Tstg | -40~+100 | °C |
| Lead Soldering Temperature (2mm form body for 5 seconds) | Tsol | 260 | °C |

Electro-Optical Characteristics

| Parameter (Ta=25°C) | Symbol | Condition | Min. | Typ. | Max. | Units |
|--------------------------------|-----------------|---|------|------|------|---------------|
| Range Of Spectral Bandwidth | $\lambda_{0.5}$ | -- | 840 | -- | 1100 | nm |
| Wavelength Of Peak Sensitivity | λ_p | -- | | 940 | | nm |
| Open-Circuit Voltage | V_{OC} | Ee=1mW/cm ² $\lambda_p=940\text{nm}$ | -- | 0.39 | -- | V |
| Short-Circuit Current | I_{SC} | Ee=0.555mW/cm ² $\lambda_p=940\text{nm}$ | -- | 35 | -- | μA |
| Reverse Light Current | I_L | Ee=1mW/cm ² $\lambda_p=940\text{nm}$ $V_R=5\text{V}$ | 20 | -- | 30 | μA |
| Reverse Dark Current | I_D | Ee=0mW/cm ² $V_R=10\text{V}$ | -- | 5 | 30 | nA |
| Reverse Breakdown Voltage | B_{VR} | Ee=0mW/cm ² $I_R=100\mu\text{A}$ | 32 | 170 | -- | V |
| Total Capacitance | C_t | Ee=0mW/cm ² $V_R=5\text{V}$ $f=1\text{MHz}$ | -- | 18 | -- | pF |
| Rise Time | t_r | $V_R=10\text{V}$ | -- | 45 | -- | nS |
| Fall Time | t_f | $RL=1000\ \Omega$ | -- | 45 | -- | |



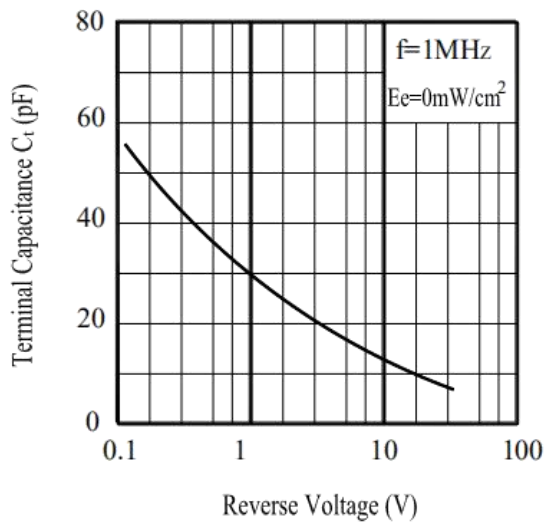
Typical Electrical/Optical/Characteristics Curves



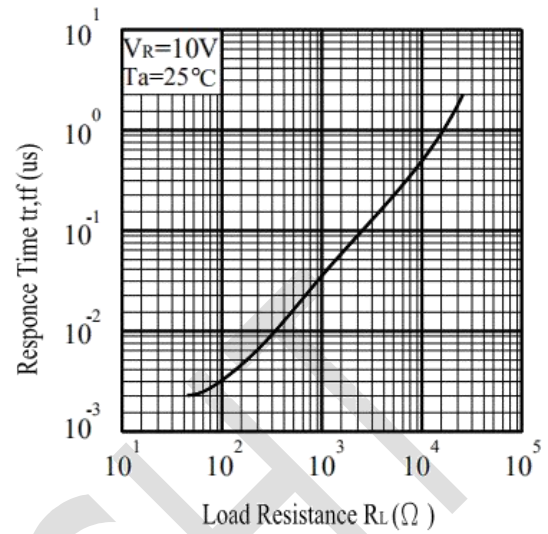


CHAU LIGHT Technical Data Sheet

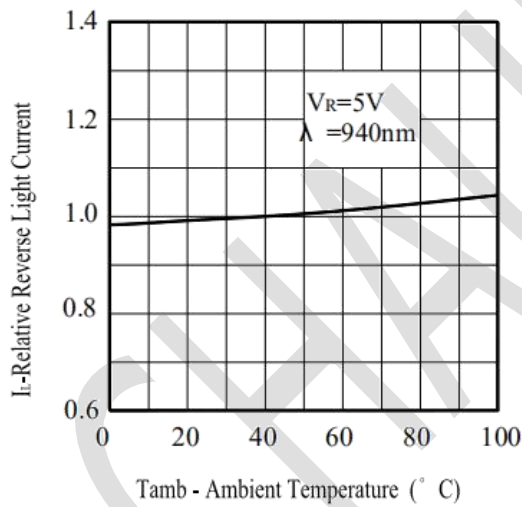
Terminal Capacitance vs. Reverse Voltage



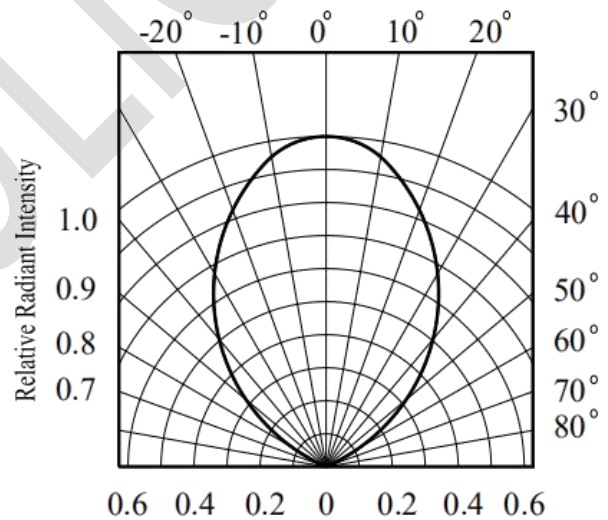
Response Time vs. Load Resistance



Relative Reverse Light Current vs. Ambient Temperature



Relative Radiant Intensity vs. Angular Displacement



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