



Technical Data Sheet

1.5mm Side Looking Phototransistor

PT928-6C-F

Features

- Fast response time
- High sensitivity
- Small junction capacitance
- Pb free
- This product itself will remain within RoHS compliant version.



Descriptions

PT928-6C-F is a phototransistor in miniature package which is molded in a water clear plastic with spherical top view lens. The device is spectrally matched to infrared emitting diode.

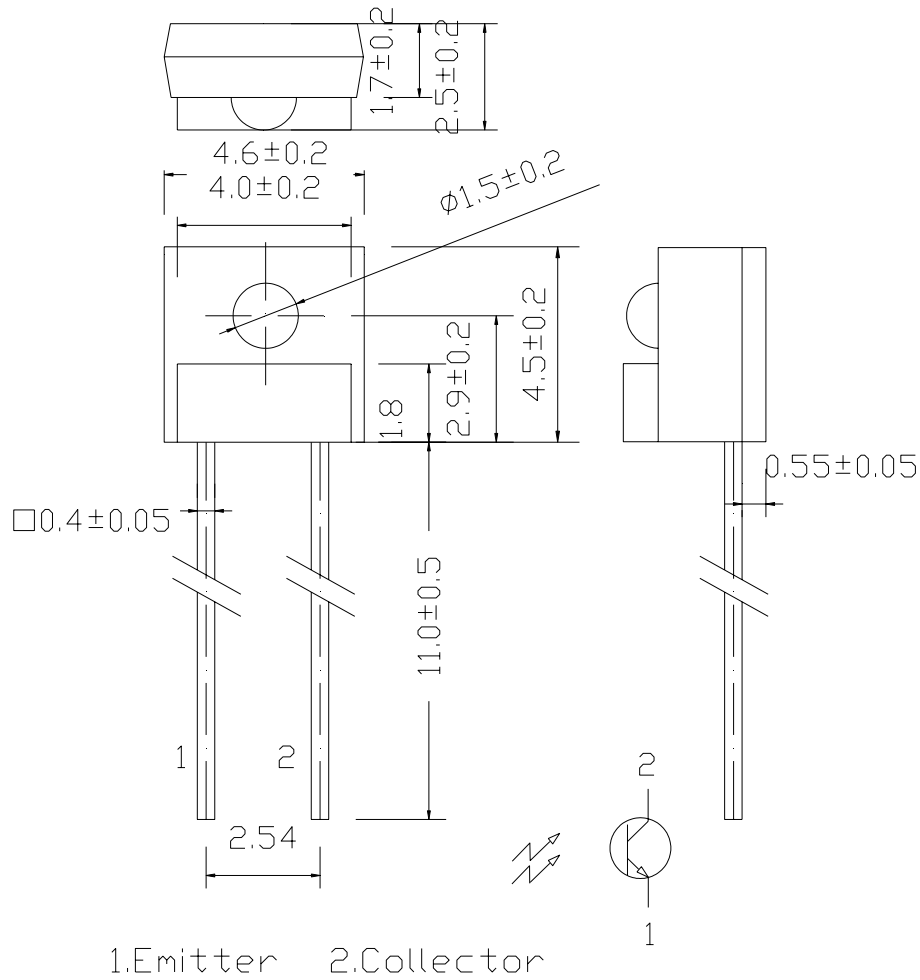
Applications

- Optoelectronic switch
- VCR , Video Camera
- Floppy disk drive
- Infrared applied system

Device Selection Guide

| LED Part No. | Chip | Lens Color |
|--------------|----------|-------------|
| | Material | |
| PT928-6C-F | Silicon | Water Clear |

Package Dimensions



- Notes:** 1. All dimensions are in millimeters
 2. Tolerances unless dimensions ± 0.25 mm

Absolute Maximum Ratings (Ta=25°C)

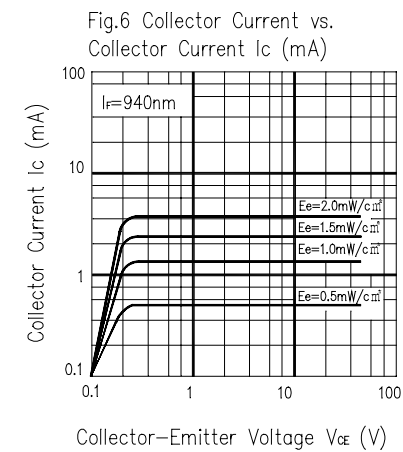
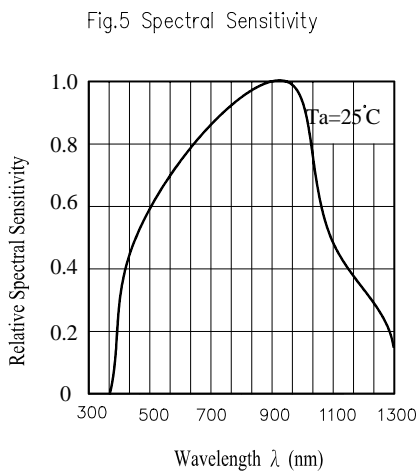
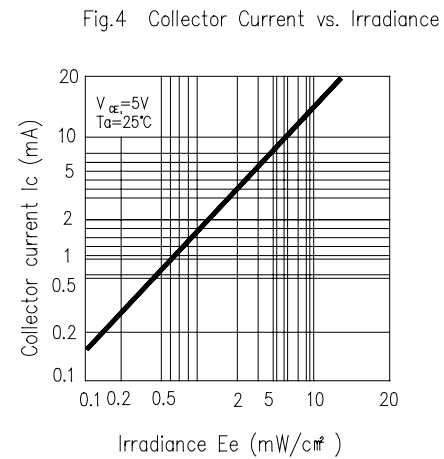
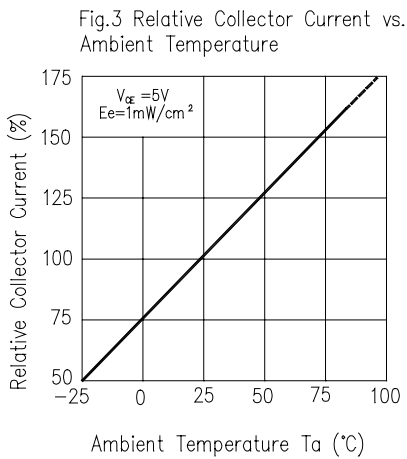
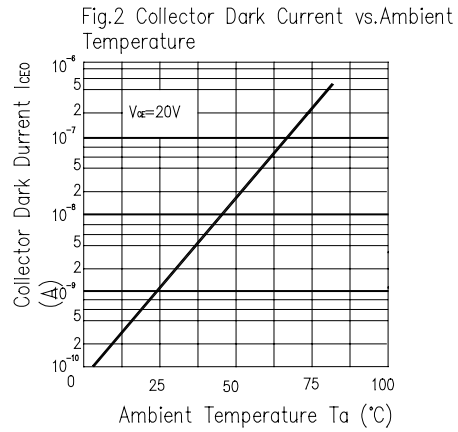
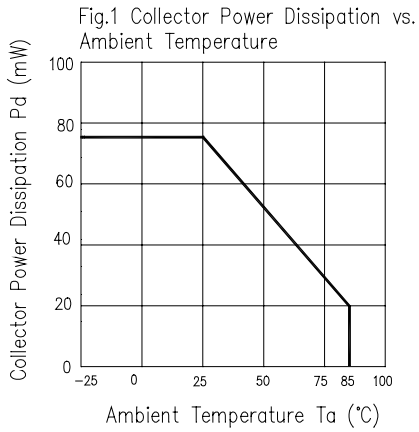
| Parameter | Symbol | Rating | Units |
|--|------------------|-------------|-------|
| Collector-Emitter Voltage | V _{CEO} | 30 | V |
| Emitter-Collector-Voltage | V _{ECO} | 5 | V |
| Collector Current | I _C | 40 | mA |
| Operating Temperature | T _{opr} | -25 ~ +85°C | °C |
| Storage Temperature | T _{stg} | -40 ~ +85°C | °C |
| Lead Soldering Temperature | T _{sol} | 260 | °C |
| Power Dissipation at (or below) 25°C Free Air Temperature | P _D | 75 | mW |

Notes: *1:Soldering time ≤ 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

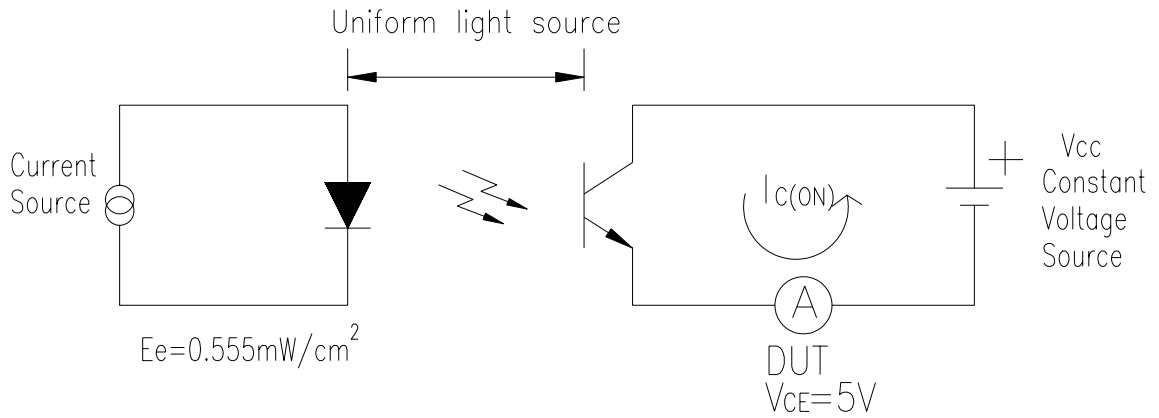
| Parameter | Symbol | Condition | Min. | Typ. | Max. | Units |
|---------------------------------------|------------------------|---|------|------|------|-------|
| Collector – Emitter Breakdown Voltage | BV _{CEO} | I _C =100 μA Ee=0mW/cm ² | 30 | --- | --- | V |
| Emitter-Collector Breakdown Voltage | BV _{ECO} | I _E =100 μA Ee=0mW/cm ² | 5 | --- | --- | V |
| Collector-Emitter Saturation Voltage | V _{(CE)(sat)} | I _C =2mA Ee=1mW/cm ² | --- | --- | 0.4 | V |
| Rise Time | t _r | V _{CE} =5V I _C =1mA | --- | 15 | --- | μS |
| Fall Time | t _f | RL=1000Ω | --- | 15 | --- | |
| Collector Dark Current | I _{CEO} | Ee=0mW/cm ² V _{CE} =20V | --- | --- | 100 | nA |
| On State Collector Current | I _{C(on)} | Ee=0.555mW/cm ² V _{CE} =5V | 0.53 | | 3.41 | mA |
| Wavelength of Peak Sensitivity | λ _p | --- | --- | 940 | --- | nm |
| Rang of Spectral Bandwidth | λ _{0.5} | --- | 400 | --- | 1200 | nm |

Typical Electro-Optical Characteristics Curves



Test method

Light current test method for PT:



Ranks

| Parameter | Symbol | Min | Max | Unit | Test condition |
|-----------|-------------|------|------|------|---|
| 7-3 | $I_{C(ON)}$ | 0.53 | 1.19 | mA | $V_{CE}=5\text{V}$ $E_e=0.555\text{mW/cm}^2$ |
| 7-2 | | 0.88 | 1.70 | | |
| 7-1 | | 1.24 | 2.21 | | |
| 6-2 | | 1.59 | 2.98 | | |
| 6-1 | | 1.77 | 3.41 | | |

Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

| NO. | Item | Test Conditions | Test Hours/ Cycles | Sample Sizes | Failure Judgement Criteria | Ac/Re |
|-----|------------------------------------|--|-----------------------|-----------------|--|-------|
| 1 | Solder Heat | TEMP:260°C±5°C | 10sec | 22pcs | More than 90% of lead to be covered by soldering $I_R \geq U \times 2$ $E_e \leq L \times 0.8$ $V_F \geq U \times 1.2$ U : Upper Specification Limit L : Lower Specification Limit | 0/1 |
| 2 | Temperature Cycle | H : +100°C 15mins \updownarrow 5mins L : -40°C 15mins | 300Cycle | 22pcs | | 0/1 |
| 3 | Thermal Shock | H :+100°C 5mins \updownarrow 10secs L :-10°C 5mins | 300cycle | 22pcs | | 0/1 |
| 4 | High Temperature Storage | TEMP. : +100°C | 1000hrs | 22pcs | | 0/1 |
| 5 | Low Temperature Storage | TEMP. : -40°C | 1000hrs | 22pcs | | 0/1 |
| 6 | DC Operating Life | $V_{CE}=5V$ | 1000hrs | 22pcs | | 0/1 |
| 7 | High Temperature/ High Humidity | 85°C / 85% R.H | 1000hrs | 22pcs | | 0/1 |



Packing Quantity Specification

- 1. 1000 Pcs/1Bag , 10 Bags/1Box
- 2. 10 Boxes/1Carton

Label Form Specification



CPN: Customer's Production Number
P/N : Production Number
QTY: Packing Quantity
CAT: Ranks
HUE: Peak Wavelength
REF: Reference
LOT No: Lot Number

Notes

- 1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
- 2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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| EVERLIGHT ELECTRONICS CO., LTD. Office: No 25, Lane 76, Sec 3, Chung Yang Rd, Tucheng, Taipei 236, Taiwan, R.O.C | Tel: 886-2-2267-2000, 2267-9936 Fax: 886-2267-6244, 2267-6189, 2267-6306 http://www.everlight.com |
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