



Photoelectric slot sensor GL3-T/153



- Miniature design
- Optimized for the detection of small parts
- High switching frequency

Miniature photoelectric slot sensor for the detection of small parts, T-shaped housing design, 3.15 mm slot width, infrared light, NPN outputs, fixed cable

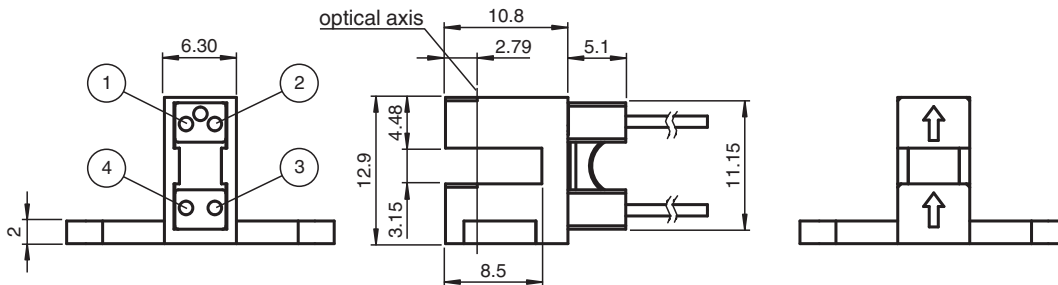
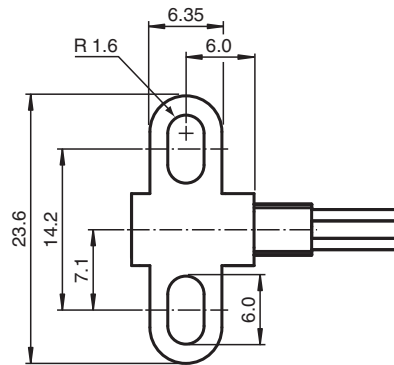


Function

The GL2 & GL3 miniature slot sensor is the smallest slot sensor in its family optimized to the requirements in semiconductors industry for small part detection. A wide voltage range of 5 V DC ... 30 V DC and a extreme fast response time of 25 μ s stands for the quality of this sensor. The GL2 & GL3 sensor can be directly connected to a comparator or Schmitt-trigger circuit. Due to a variety of different housings and an optimized housing concept offers the sensor a maximum of freedom in a crowded mounting environment.

Dimensions

| | |
|---|-----------|
| 1 | collector |
| 2 | emitter |
| 3 | anode |
| 4 | cathode |



Technical Data

General specifications

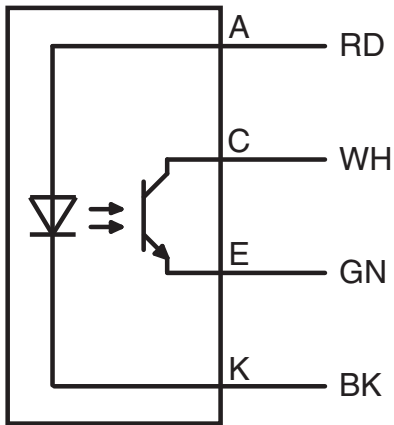
| | |
|--------------|---------------|
| Light source | IRED , 940 nm |
| Light type | IRED |
| Slot width | 3.15 mm |

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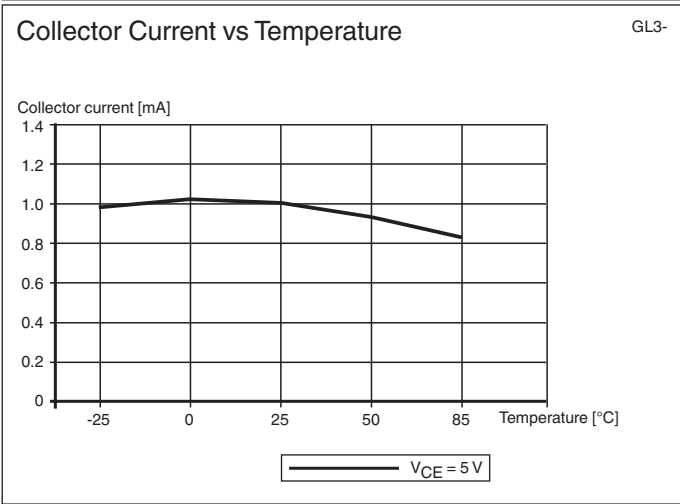
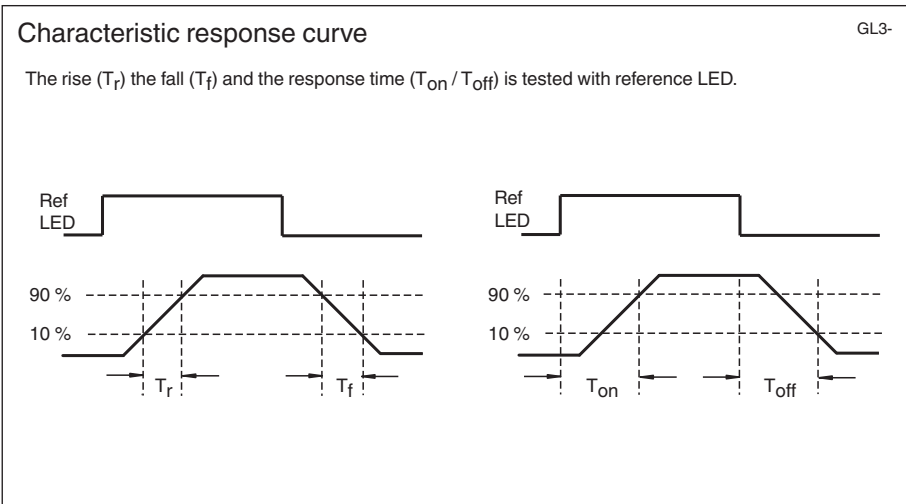
Technical Data

| | | |
|---|------------------|--|
| Slot depth | | 3.15 mm |
| Ambient light limit | | 1000 Lux |
| Functional safety related parameters | | |
| MTTF _d | | 44332 a |
| Mission Time (T _M) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| Electrical specifications | | |
| Operating voltage | U _B | 5 ... 30 V DC |
| Ripple | | 10 % |
| Emitter | | |
| Light type | | 940 nm IR light |
| Forward voltage | V _F | < 1.6 V |
| Peak forward voltage | V _{FM} | 30 V |
| Forward current | I _F | 50 mA |
| Reverse voltage | V _R | 5 V |
| Reverse current | I _R | ≤ 10 μA |
| Power dissipation | | 75 mW |
| Receiver | | |
| Output type | | NPN |
| C-E breakdown voltage | V _{CEO} | 30 V |
| E-C breakdown voltage | V _{ECO} | 5 V |
| Collector dark current | I _{CEO} | < 1 μA |
| Collector DC current | I _C | 20 mA |
| Power dissipation | P _D | 75 mW |
| Output | | |
| Signal output | | 1 NPN , photo transistor |
| Switching voltage | | max. 30 V DC |
| Switching current | | 20 mA |
| Response time | | 25 μs |
| Approvals and certificates | | |
| EAC conformity | | TR CU 020/2011 |
| CCC approval | | CCC approval / marking not required for products rated ≤36 V |
| Ambient conditions | | |
| Ambient temperature | | -20 ... 85 °C (-4 ... 185 °F) |
| Storage temperature | | -40 ... 85 °C (-40 ... 185 °F) |
| Mechanical specifications | | |
| Core cross section | | 4 x 0.08 mm ² |
| Degree of protection | | IP30 |
| Connection | | 610 mm, PVC cable , Individual colored wires |
| Material | | |
| Housing | | PC |
| Mass | | 7 g |
| Dimensions | | |
| Height | | 12.9 mm |
| Width | | 23.6 mm |
| Depth | | 15.9 mm |

Connection Assignment

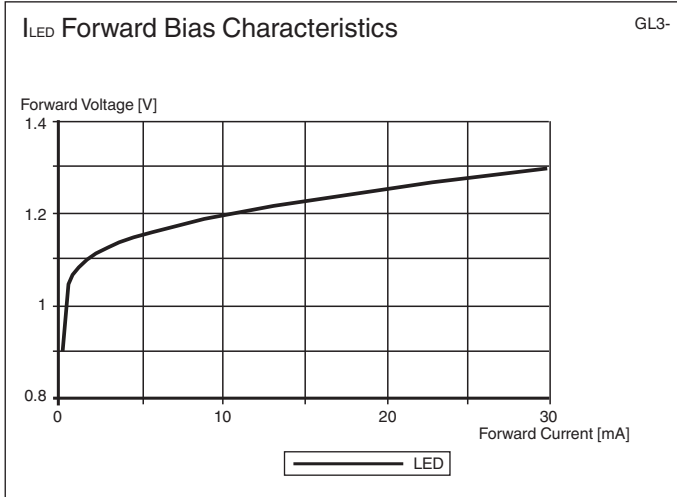
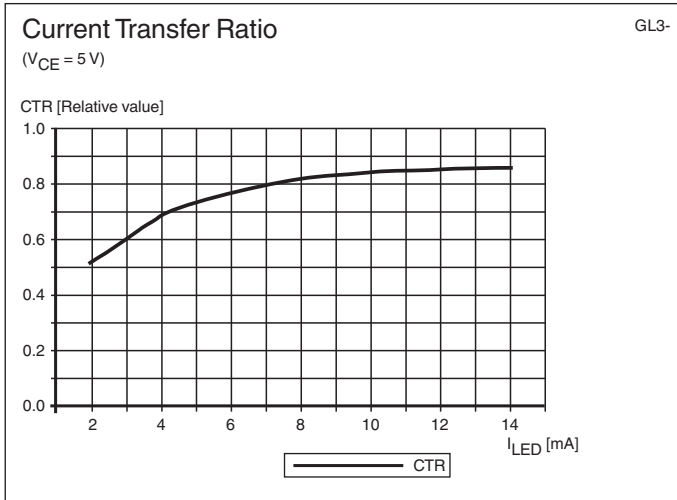
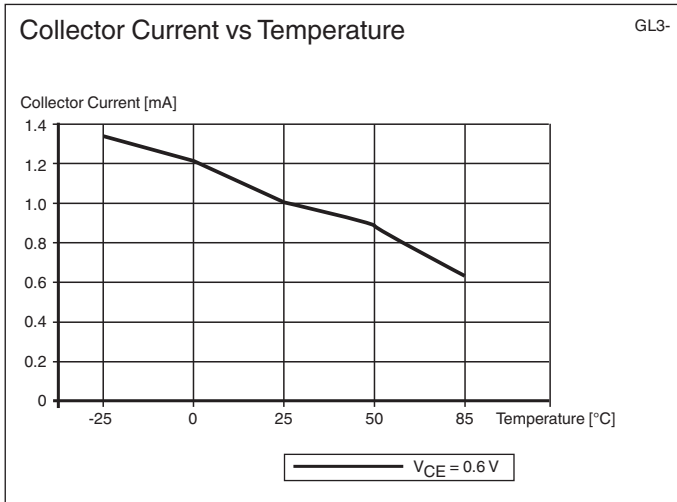


Characteristic Curve



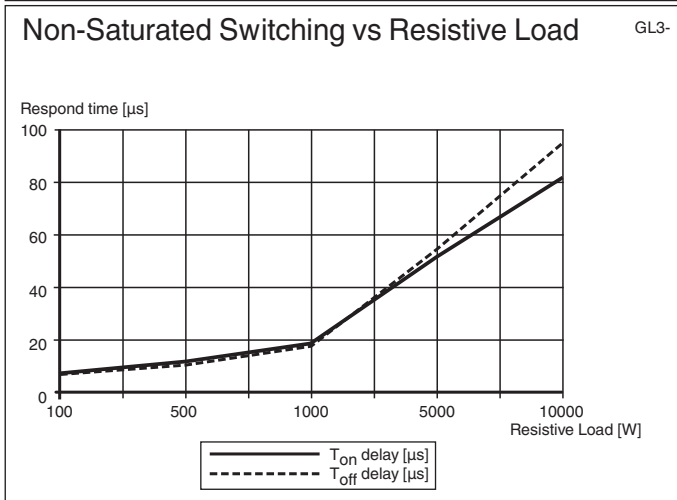
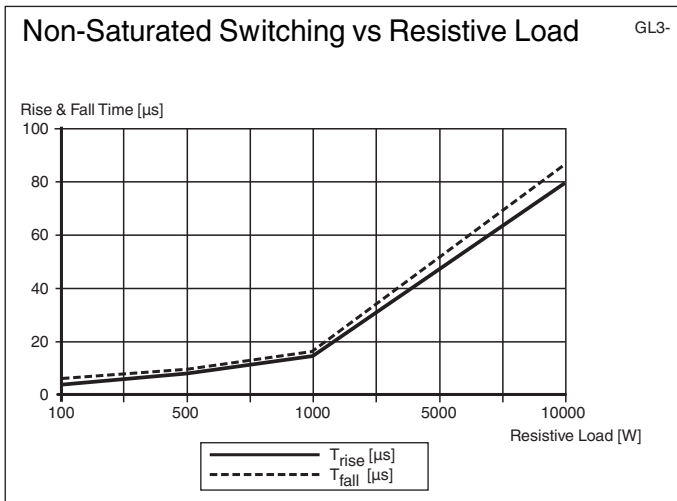
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Characteristic Curve



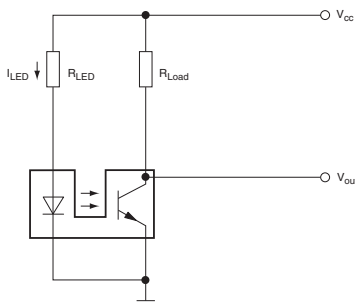
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Connection example



3 simple steps:

- Choose power supply
- Choose LED current (set resistor R_{LED})
- Choose load current (set resistor R_{LOAD})

Possible connections

| | |
|--|---|
| | |
| <p>Circuit with voltage comparator</p> | <p>Circuit with additional transistor</p> |
| | |
| <p>Circuit with Op Amp</p> | <p>Circuit with PNP transistor output</p> |

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