

# Photoelectric slot sensor GL3-U/153



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

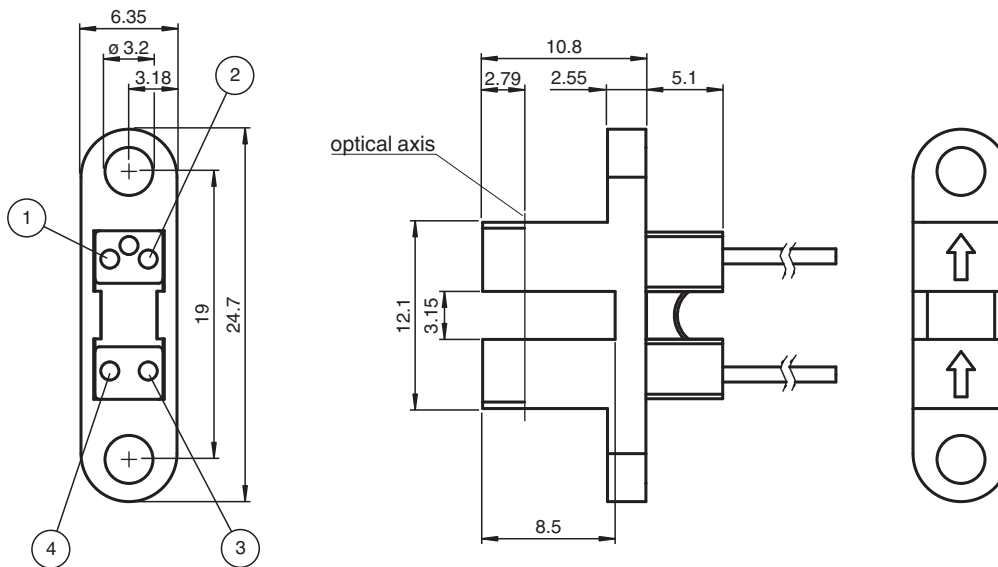
Miniature photoelectric slot sensor for the detection of small parts, U-shaped housing design, 3.15 mm slot width, infrared light, NPN outputs, fixed cable



## 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 µs 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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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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## Technical Data

Slot depth		3.15 mm
Ambient light limit		1000 Lux
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		44332 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	5 ... 30 V DC
Ripple		10 %
<b>Emitter</b>		
Light type		940 nm IR light
Forward voltage	V <sub>F</sub>	< 1.6 V
Peak forward voltage	V <sub>FM</sub>	30 V
Forward current	I <sub>F</sub>	50 mA
Reverse voltage	V <sub>R</sub>	5 V
Reverse current	I <sub>R</sub>	≤ 10 μA
Power dissipation		75 mW
<b>Receiver</b>		
Output type		NPN
C-E breakdown voltage	V <sub>CEO</sub>	30 V
E-C breakdown voltage	V <sub>ECO</sub>	5 V
Collector dark current	I <sub>CEO</sub>	< 1 μA
Collector DC current	I <sub>C</sub>	20 mA
Power dissipation	P <sub>D</sub>	75 mW
<b>Output</b>		
Signal output		1 NPN , photo transistor
Switching voltage		max. 30 V DC
Switching current		20 mA
Response time		25 μs
<b>Approvals and certificates</b>		
EAC conformity		TR CU 020/2011
CCC approval		CCC approval / marking not required for products rated ≤36 V
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 85 °C (-4 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>		
Core cross section		4 x 0.08 mm <sup>2</sup>
Degree of protection		IP30
Connection		610 mm, PVC cable , Individual colored wires
<b>Material</b>		
Housing		PC
Mass		7 g
<b>Dimensions</b>		
Height		15.9 mm
Width		6.35 mm
Depth		24.7 mm

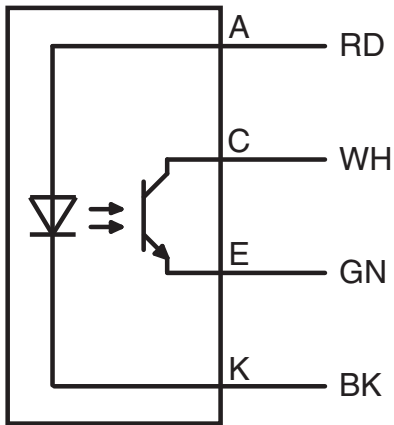
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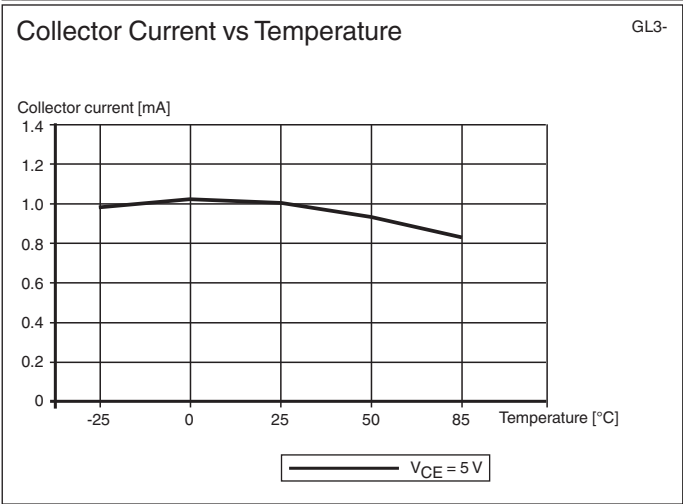
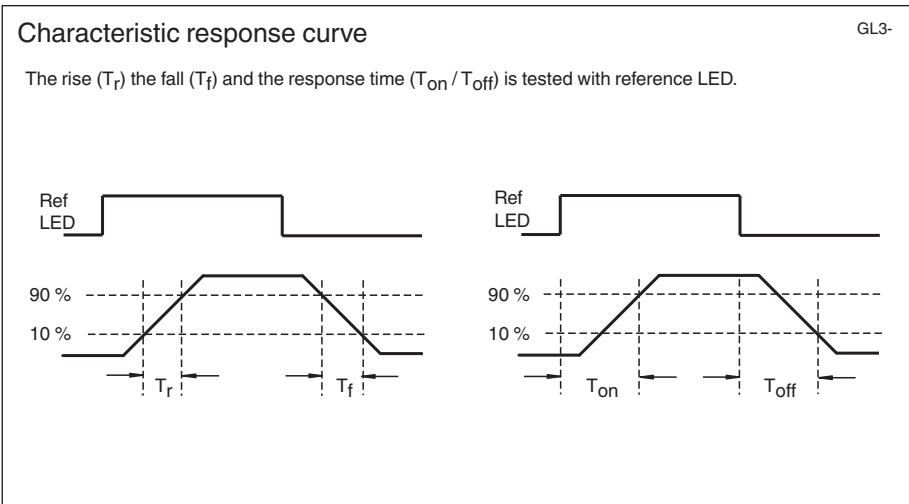
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**Connection Assignment**



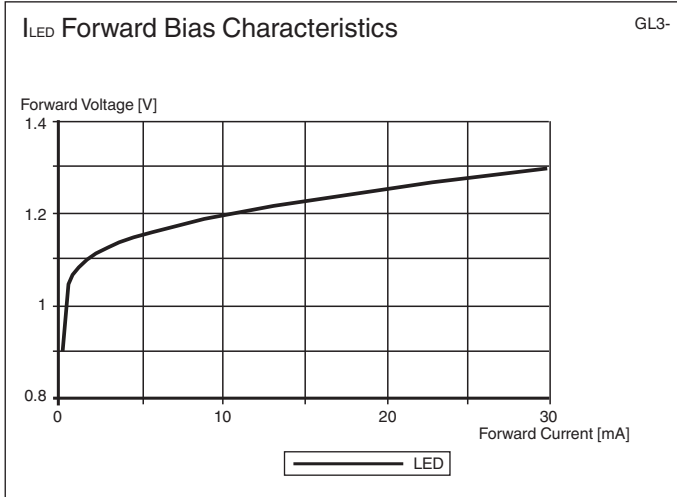
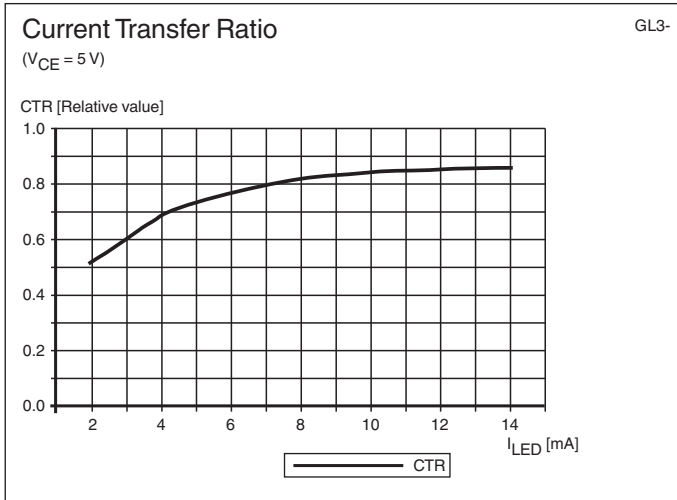
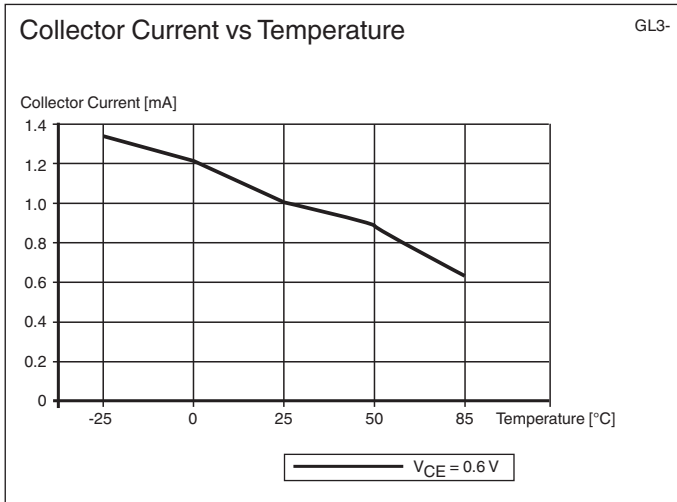
**Characteristic Curve**



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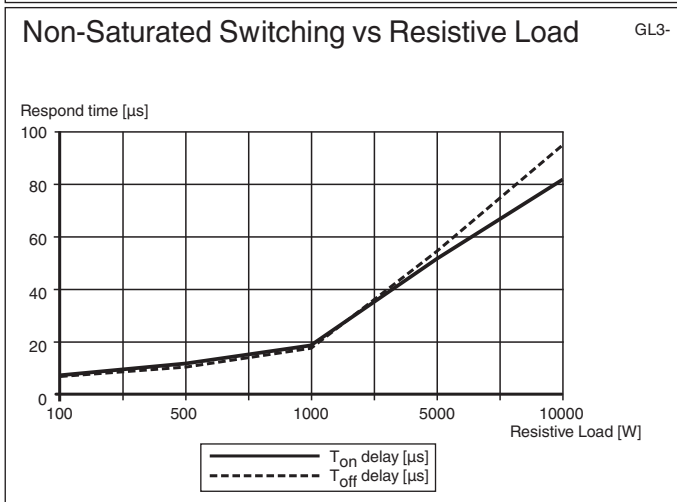
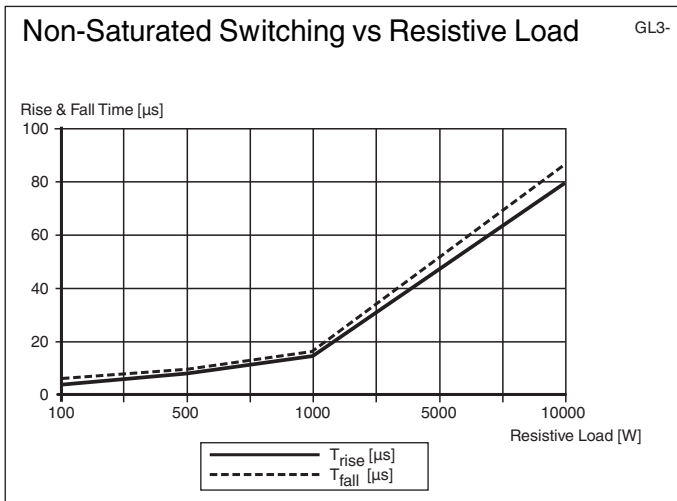
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Characteristic Curve



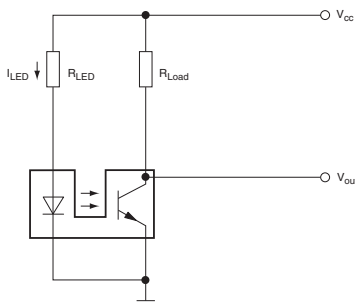
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**Connection example**



**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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