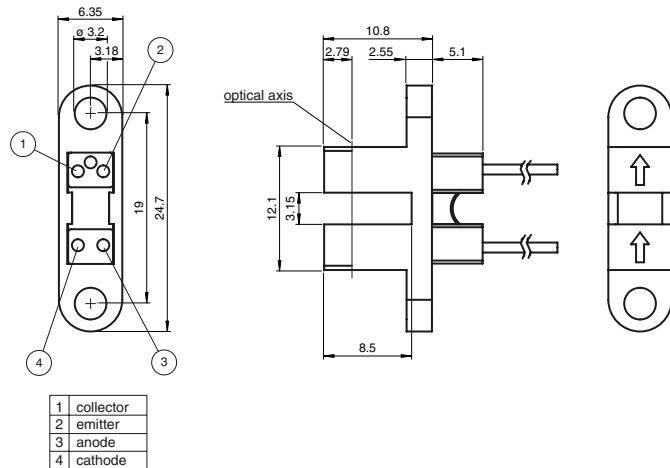




**Dimensions**



**Model Number**

**GL3-U/153**

Photoelectric slot sensor  
with fixed cable

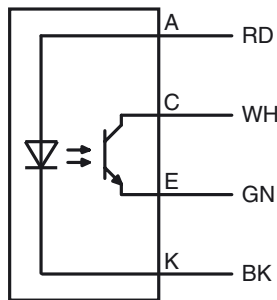
**Features**

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

**Product information**

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.

**Electrical connection**



Release date: 2014-02-07 11:24 Date of issue: 2014-02-07 802747\_eng.xml

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**Technical data****General specifications**

Light source	IREDD , 940 nm
Light type	IREDD
Fork width	3.15 mm
Ambient light limit	1000 Lux

**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
-----------------	-------	-------

Peak forward current	$I_{FM}$	1 A
----------------------	----------	-----

Reverse voltage	$V_R$	5 V
-----------------	-------	-----

Reverse current	$I_R$	$\leq 10 \mu A$
-----------------	-------	-----------------

Power loss		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 $\mu A$
------------------------	-----------	-------------

Collector DC current	$I_C$	20 mA
----------------------	-------	-------

Power loss	$P_D$	75 mW
------------	-------	-------

**Output**

Signal output		1 NPN , photo transistor
---------------	--	--------------------------

Switching voltage		max. 30 V DC
-------------------	--	--------------

Switching current		20 mA
-------------------	--	-------

Response time		25 $\mu s$
---------------	--	------------

**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 <sup>2</sup>
--------------------	--	--------------------------

Protection degree		IP30
-------------------	--	------

Connection		610 mm, PVC cable , Individual colored wires
------------	--	---

**Material**

Housing		PC
---------	--	----

Mass		7 g
------	--	-----

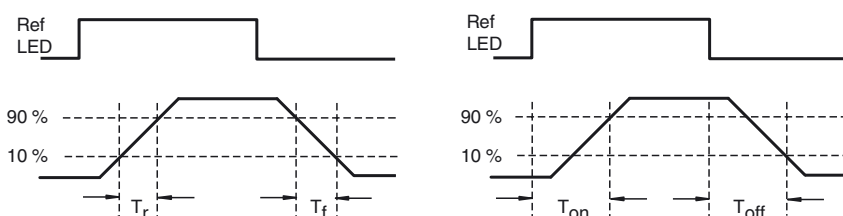
**Approvals and certificates**

CCC approval		CCC approval / marking not required for products rated $\leq 36$ V
--------------	--	--

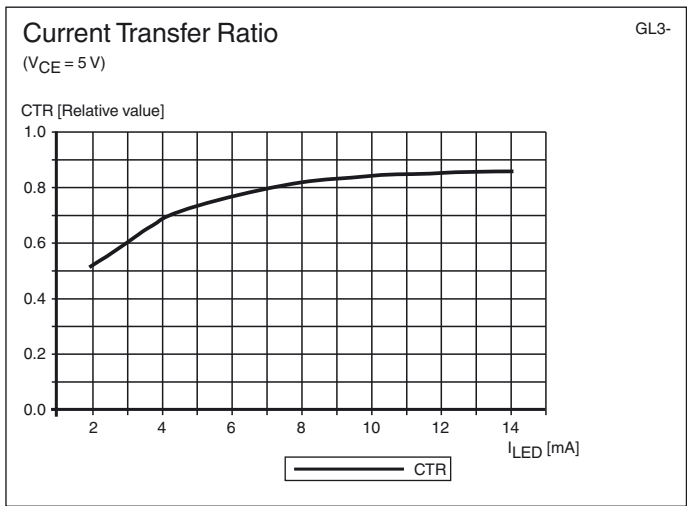
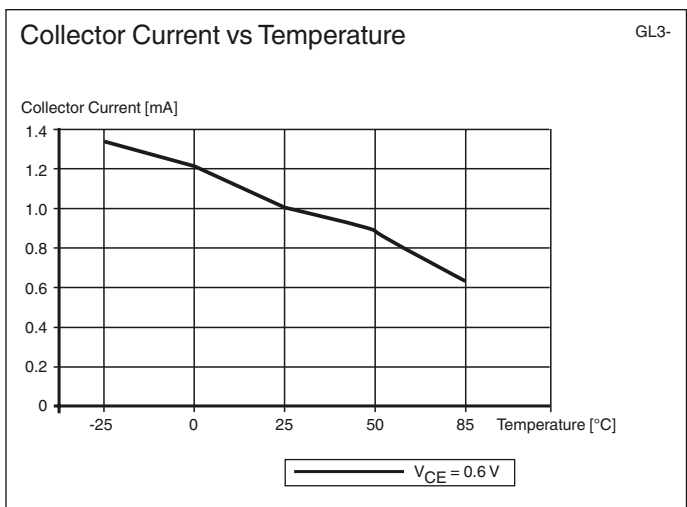
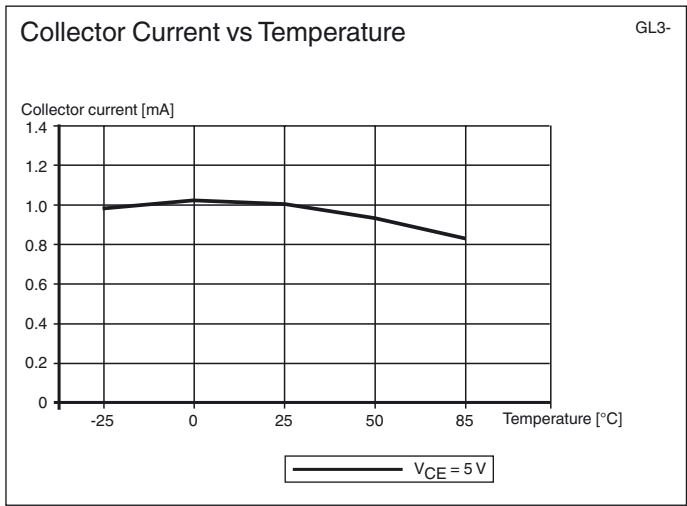
**Curves/Diagrams****Characteristic response curve**

GL3-

The rise ( $T_r$ ) the fall ( $T_f$ ) and the response time ( $T_{on}/T_{off}$ ) is tested with reference LED.

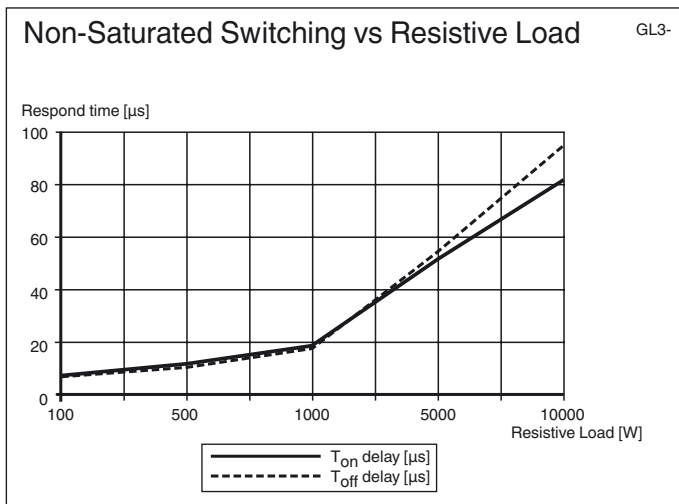
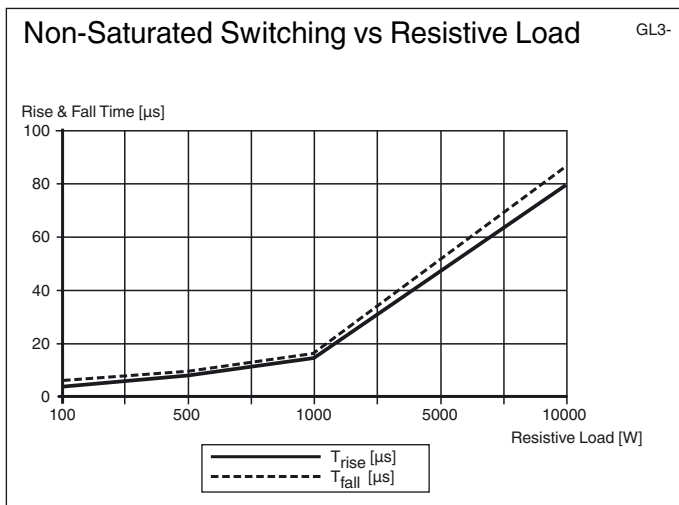
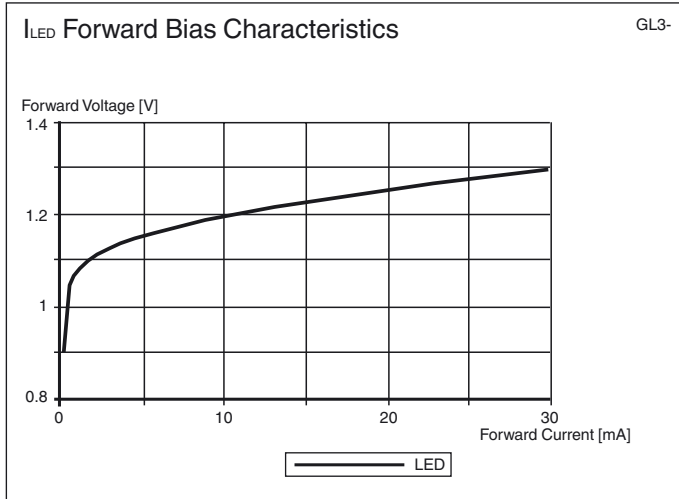


Curves/Diagrams

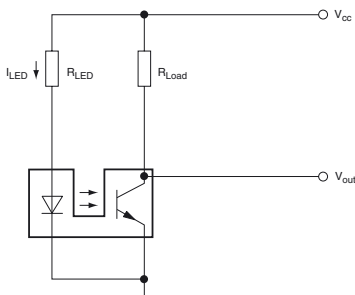


Release date: 2014-02-07 11:24 Date of issue: 2014-02-07 802747\_eng.xml

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



### Connection example

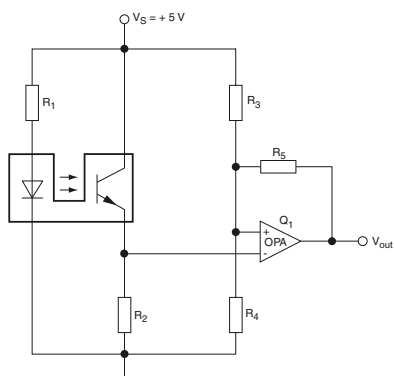


3 simple steps:

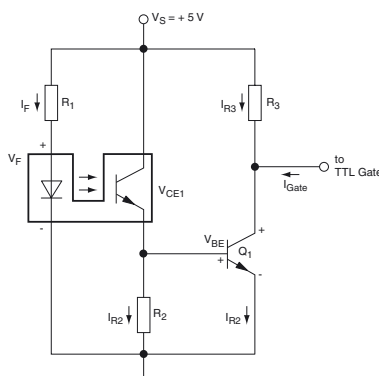
Release date: 2014-02-07 11:24 Date of issue: 2014-02-07 802747\_eng.xml

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

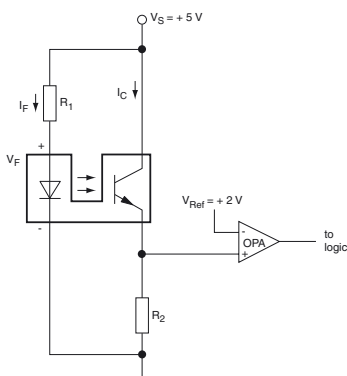
**Possible connections**



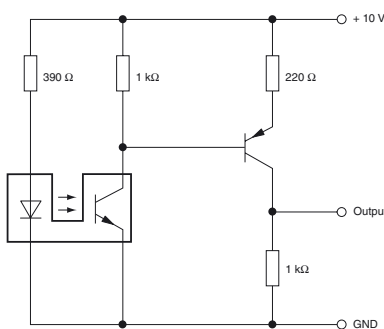
Circuit with voltage comparator



Circuit with additional transistor



Circuit with Op Amp



Circuit with PNP transistor output

Release date: 2014-02-07 11:24 Date of issue: 2014-02-07 802747\_eng.xml

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com