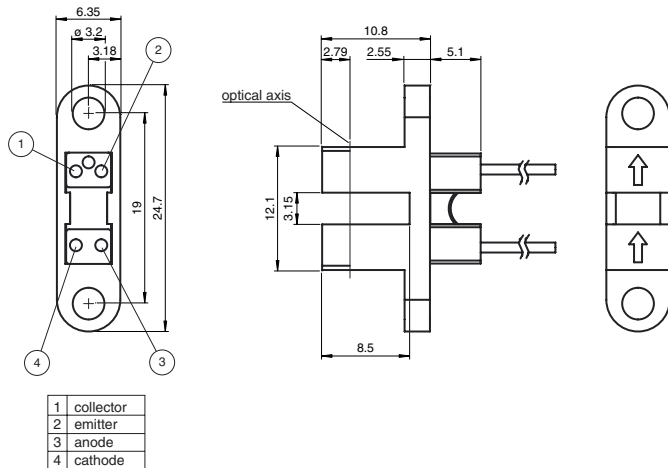




Dimensions



Model Number

GL3-U/153

Photoelectric slot sensor
with fixed cable

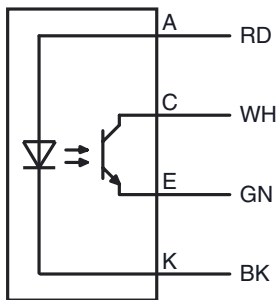
Features

- 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



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

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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 μA |
|------------------------|-----------|-------------|

| | | |
|----------------------|-------|-------|
| 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 μs |
|---------------|--|------------|

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 |
|--------------------|--|--------------------------|

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

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

Material

| | | |
|---------|--|----|
| Housing | | PC |
|---------|--|----|

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

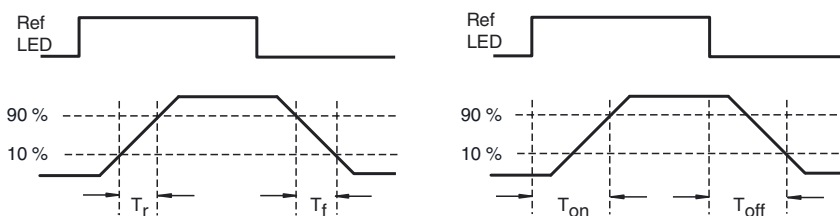
Approvals and certificates

| | | |
|--------------|--|--|
| CCC approval | | CCC approval / marking not required for products rated ≤ 36 V |
|--------------|--|--|

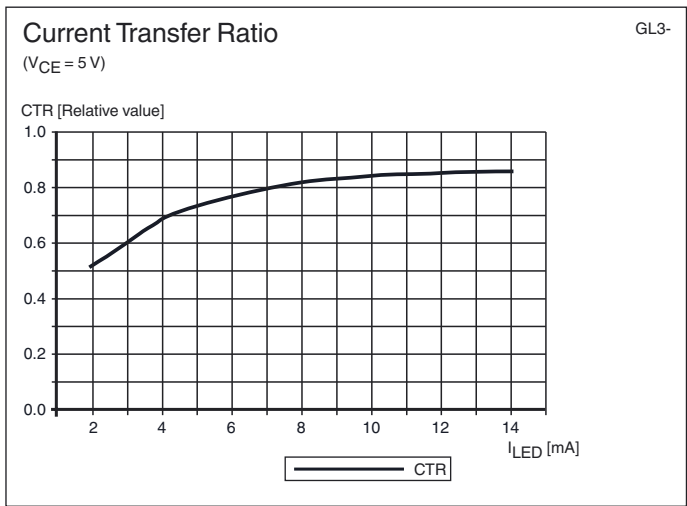
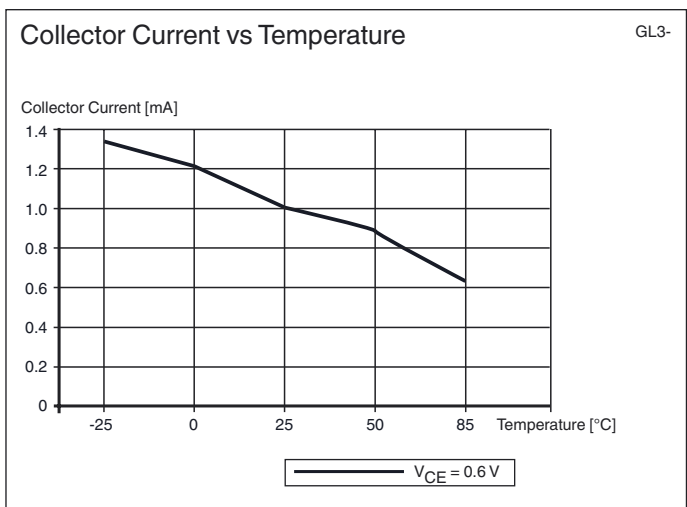
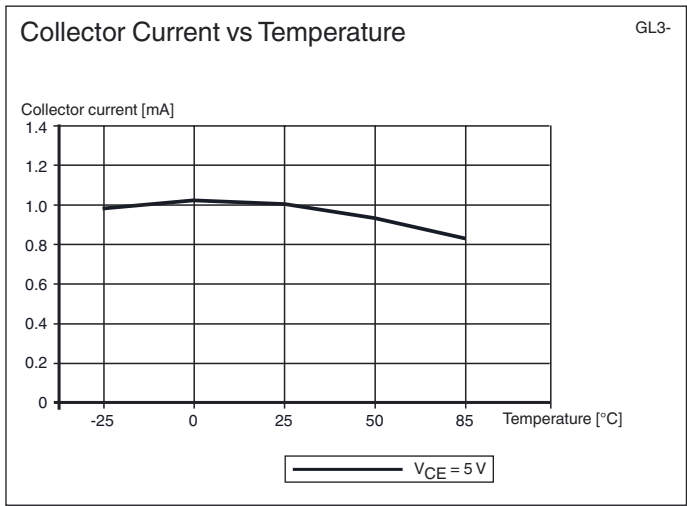
Curves/Diagrams**Characteristic response curve**

GL3-

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

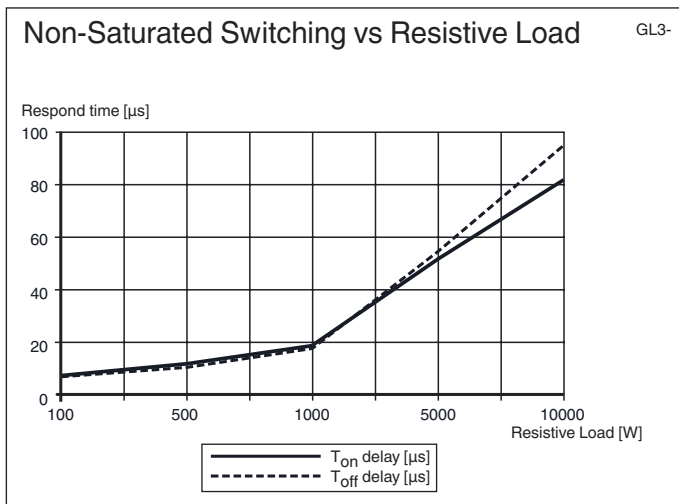
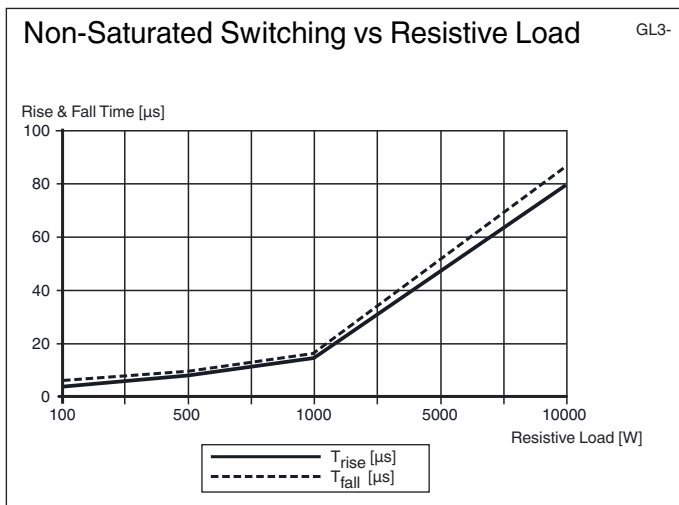
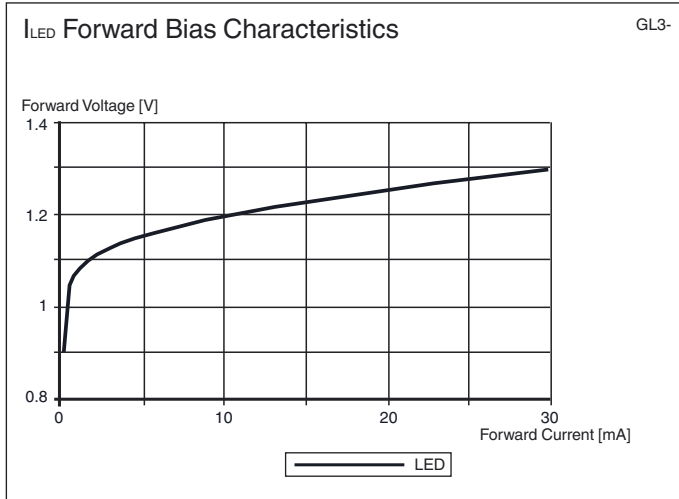


Curves/Diagrams

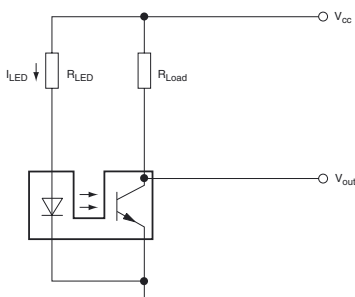


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Connection example

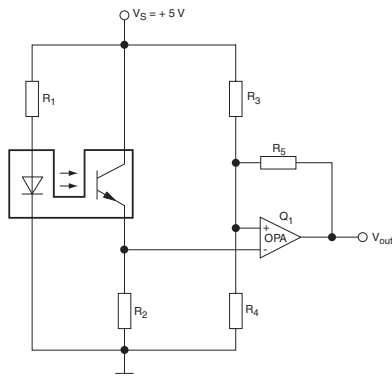


3 simple steps:

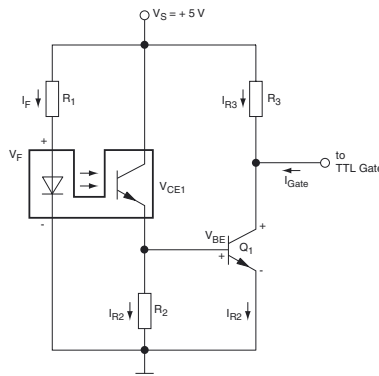
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- Choose power supply
- Choose LED current (set resistor R_{LED})
- Choose load current (set resistor R_{LOAD})

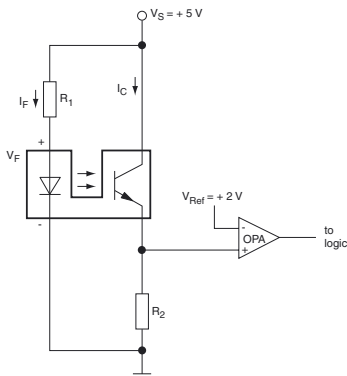
Possible connections



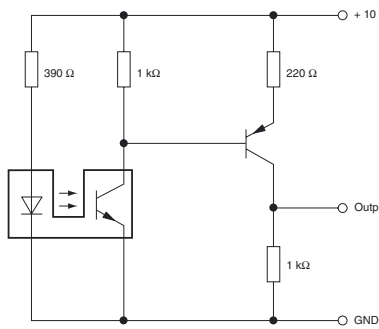
Circuit with voltage comparator



Circuit with additional transistor



Circuit with Op Amp



Circuit with PNP transistor output