

A

## Light pipes for SMDs

suitable for common SMD types, 3 mm light pipes, horizontal, ESD-protection from panel to PCB

B

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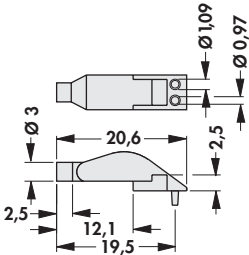
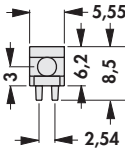
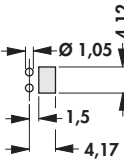
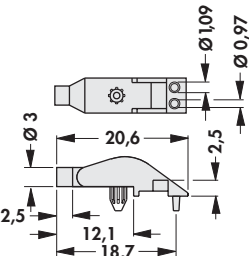
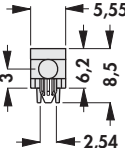
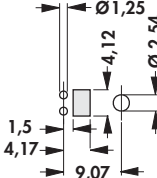
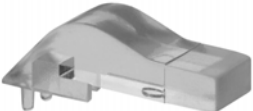
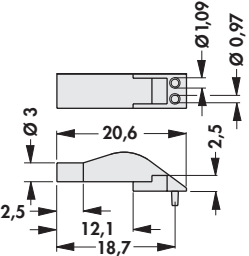
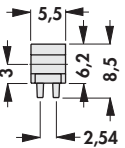
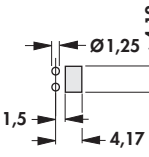
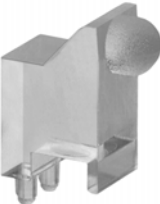
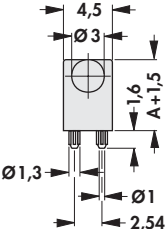
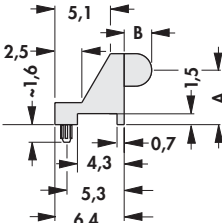
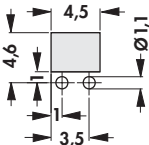
I

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|                                                                                     |                                                                                     |                    |                                                                                      |                                                                                       |      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------|
|    |    |                    |    |    |      |
| art. no.                                                                            | way of fixation                                                                     | diameter of lense  |                                                                                      |                                                                                       |      |
| LL 30 HRS                                                                           | by alignment pins                                                                   | Ø 3 mm             |                                                                                      |                                                                                       |      |
|    |    |                    |    |    |      |
| art. no.                                                                            | way of fixation                                                                     | diameter of lense  |                                                                                      |                                                                                       |      |
| LL 30 HRP                                                                           | by press-in pins                                                                    | Ø 3 mm             |                                                                                      |                                                                                       |      |
|  |   |                    |  |  |      |
| art. no.                                                                            | way of fixation                                                                     | diameter of lense  |                                                                                      |                                                                                       |      |
| LL 35 HVS                                                                           | by alignment pins                                                                   | rectangle 5.5x3 mm |                                                                                      |                                                                                       |      |
|  |  |                    |  |  |      |
| art. no.                                                                            | dim. [mm]                                                                           |                    | art. no.                                                                             | dim. [mm]                                                                             |      |
|                                                                                     | A                                                                                   | B                  |                                                                                      | A                                                                                     | B    |
| LL 30 WRBP 038                                                                      | 3.80                                                                                | 2.50               | LL 30 WRBP 076                                                                       | 7.60                                                                                  | 2.50 |
| LL 30 WRBP 050                                                                      | 5.00                                                                                | 2.50               | LL 30 WRBP 102                                                                       | 10.20                                                                                 | 2.50 |

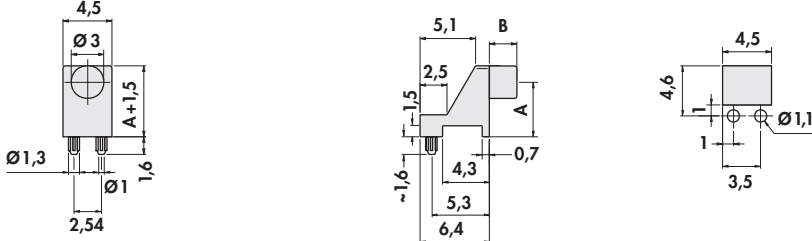
**material:** polycarbonat, clear colour

**temperature range:** -30 °C ... +100 °C

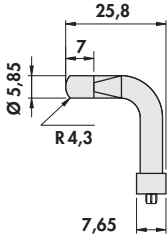
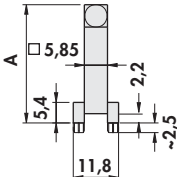
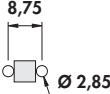
**flammability:** UL 94 V-0

Light pipes for SMDs

suitable for common SMD types, 3 mm light pipes, horizontal, ESD-protection from panel to PCB

|  |  |      |                |           |      |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------|----------------|-----------|------|
| art. no.                                                                          | dim. [mm]                                                                          |      | art. no.       | dim. [mm] |      |
|                                                                                   | A                                                                                  | B    |                | A         | B    |
| LL 30 WRFP 038                                                                    | 3.80                                                                               | 2.50 | LL 30 WRFP 076 | 7.60      | 2.50 |
| LL 30 WRFP 050                                                                    | 5.00                                                                               | 2.50 | LL 30 WRFP 102 | 10.20     | 2.50 |

panel light pipe, 6 mm lens, suitable for common SMD LEDs, white lens, large angle of radiation

|  |  |            |  |  |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| art. no.                                                                           | way of fixation                                                                    | dim. [mm]  |                                                                                     |                                                                                     |
| LL 60 WRB 254                                                                      | by press-in pins                                                                   | A<br>25.40 |                                                                                     |                                                                                     |

material: polycarbonat, clear colour

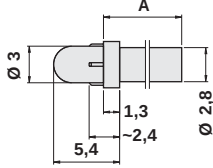
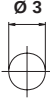
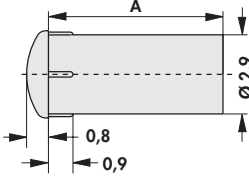
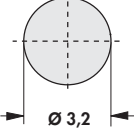
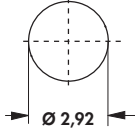
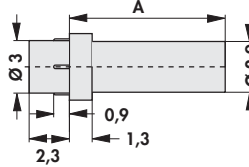
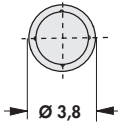
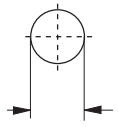
temperature range: -30 °C ... +100 °C

flammability: UL 94 V-0

A

## Light pipes for SMDs

panel light pipe 3 mm, ESD protection from panel to PCB

|    |    |   |    |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| art. no.                                                                            | dim. [mm]<br>A                                                                      | art. no.                                                                             | dim. [mm]<br>A                                                                        |
| <b>LL 30 PRB 032</b>                                                                | 3.20                                                                                | <b>LL 30 PRB 089</b>                                                                 | 8.90                                                                                  |
| <b>LL 30 PRB 064</b>                                                                | 6.40                                                                                |                                                                                      |                                                                                       |
|    |    |    |    |
| art. no.                                                                            | dim. [mm]<br>A                                                                      | art. no.                                                                             | dim. [mm]<br>A                                                                        |
| <b>LL 30 PRL 032</b>                                                                | 3.20                                                                                | <b>LL 30 PRL 127</b>                                                                 | 12.70                                                                                 |
| <b>LL 30 PRL 064</b>                                                                | 6.40                                                                                | <b>LL 30 PRL 159</b>                                                                 | 15.90                                                                                 |
| <b>LL 30 PRL 089</b>                                                                | 8.90                                                                                |                                                                                      |                                                                                       |
|  |  |  |  |
| art. no.                                                                            | dim. [mm]<br>A                                                                      | art. no.                                                                             | dim. [mm]<br>A                                                                        |
| <b>LL 30 PRF 032</b>                                                                | 3.20                                                                                | <b>LL 30 PRF 127</b>                                                                 | 12.70                                                                                 |
| <b>LL 30 PRF 064</b>                                                                | 6.40                                                                                | <b>LL 30 PRF 159</b>                                                                 | 15.90                                                                                 |
| <b>LL 30 PRF 089</b>                                                                | 8.90                                                                                |                                                                                      |                                                                                       |

**material:** polycarbonat, clear colour

**temperature range:** -30 °C ... +100 °C

**flammability:** UL 94 V-0

K

L

M

N

**L 19**

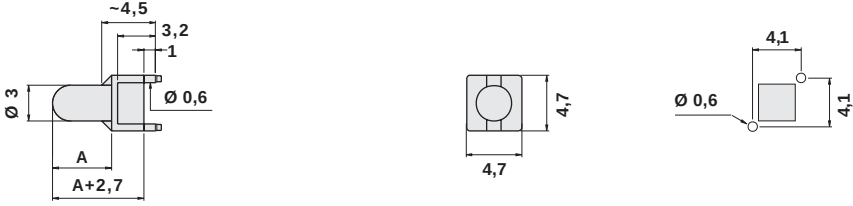
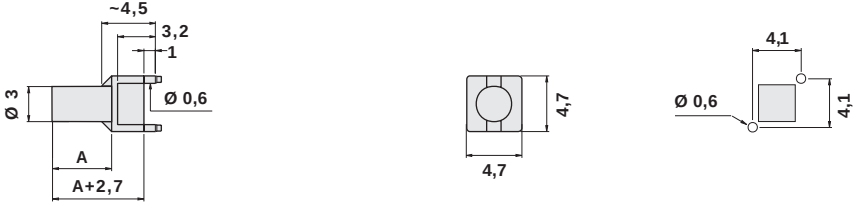
LED-holder/SMD mounting  
Spacers & mounting strips  
Sockets for LED  
Flexible light pipes

→ L 23  
→ L 2 - 3  
→ F 14 - 15  
→ L 22

LED-holders/PCB assembly  
LED-holders/front panel assembly  
Technical data of the LEDs

→ L 8 - 16  
→ L 5 - 7  
→ L 25 - 26

suitable for common SMD LEDs, vertical, rigid light pipe Ø 3 mm, ESD protection from panel to PCB

|                                                                                   |                                                                                    |                |                |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------|----------------|
|  |  |                |                |
| art. no.                                                                          | dim. [mm]<br>A                                                                     | art. no.       | dim. [mm]<br>A |
| LL 30 VRBS 024                                                                    | 2.40                                                                               | LL 30 VRBS 075 | 7.50           |
| LL 30 VRBS 050                                                                    | 5.00                                                                               |                |                |
|  |  |                |                |
| art. no.                                                                          | dim. [mm]<br>A                                                                     | art. no.       | dim. [mm]<br>A |
| LL 30 VRFS 024                                                                    | 2.40                                                                               | LL 30 VRFS 075 | 7.50           |
| LL 30 VRFS 050                                                                    | 5.00                                                                               | LL 30 VRFS 115 | 11.50          |

material: polycarbonat, clear colour

temperature range: -30 °C ... +100 °C

flammability: UL 94 V-0

A

Light pipes for SMDs

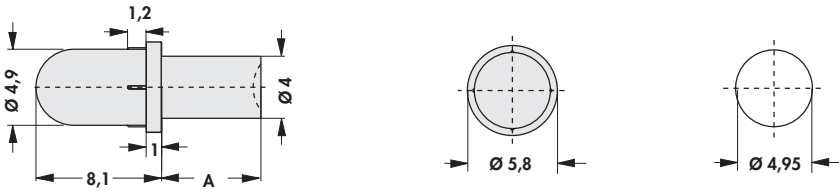
panel light pipe, 6 mm lens, suitable for common SMD LEDs, white lens, large angle of radiation

B

C

D

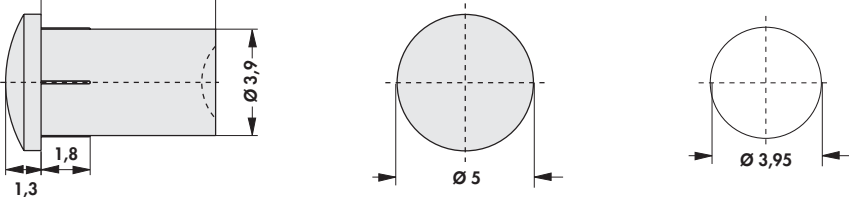
E

|  |                |  |                |
|-----------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------|----------------|
| art. no.                                                                          | dim. [mm]<br>A | art. no.                                                                           | dim. [mm]<br>A |
| LL 50 PRB 032                                                                     | 3.20           | LL 50 PRB 159                                                                      | 15.90          |
| LL 50 PRB 064                                                                     | 6.40           | LL 50 PRB 190                                                                      | 19.00          |
| LL 50 PRB 089                                                                     | 8.90           | LL 50 PRB 254                                                                      | 25.40          |
| LL 50 PRB 127                                                                     | 12.70          | LL 50 PRB 318                                                                      | 31.80          |

**material:** polycarbonat, clear colour  
**temperature range:** -30 °C ... +100 °C  
**flammability:** UL 94 V-0

F

G

|  |                |  |                |
|------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------|----------------|
| art. no.                                                                           | dim. [mm]<br>A | art. no.                                                                            | dim. [mm]<br>A |
| LL 50 PRL 032                                                                      | 3.20           | LL 50 PRL 159                                                                       | 15.90          |
| LL 50 PRL 064                                                                      | 6.40           | LL 50 PRL 190                                                                       | 19.00          |
| LL 50 PRL 089                                                                      | 8.90           | LL 50 PRL 254                                                                       | 25.40          |
| LL 50 PRL 127                                                                      | 12.70          | LL 50 PRL 318                                                                       | 31.80          |

**material:** polycarbonat, clear colour  
**temperature range:** -30 °C ... +100 °C  
**flammability:** UL 94 V-0

K

L

M

N

L 21