

---

**LUMINESZENZDIODEN**

**LIGHT EMITTING DIODES**

---



## SMT-LED-Typenbezeichnungsschema

2<sup>nd</sup> and 3<sup>rd</sup> letter for the color of all MULTILED® package outlines  
(higher wavelength = first letter, lower wavelength = second and third letter)

|    | Wavelength<br>( $\lambda_{\text{dom, typ.}}$ ) | Emission Color <sup>1)</sup> |
|----|------------------------------------------------|------------------------------|
| H: | 645 nm                                         | hyper-red                    |
| R: | 645 nm                                         | red                          |
| S: | 632 nm                                         | super-red (hyper-bright LED) |
| S: | 628 nm                                         | super-red (standard LED)     |
| U: | 628 nm                                         | super-red                    |
|    | 570 nm                                         | green                        |
| A: | 615 nm                                         | amber                        |
| O: | 605 nm                                         | orange                       |
| Y: | 590 nm                                         | yellow (standard LED)        |
|    | 587 nm                                         | yellow (hyper-bright LED)    |
| G: | 570 nm                                         | green                        |
| P: | 560 nm                                         | pure green                   |
| T: | 525 nm                                         | true green (InGaN)           |
| V: | 505 nm                                         | verde (InGaN)                |
| B: | 470 nm                                         | blue (InGaN)                 |
| B: | 466 nm                                         | blue (GaN)                   |

Color coordinates according to CIE1931 / Emission color:  
W: x = 0.30  
y = 0.32

L: Light  
emitting  
diode

|   |   |  |  |  |   |   |   |   |   |    |    |    |
|---|---|--|--|--|---|---|---|---|---|----|----|----|
| L | S |  |  |  | T | 6 | 7 | 6 | - | P1 | Q1 | -1 |
|---|---|--|--|--|---|---|---|---|---|----|----|----|

## Lead Form

- 4: reverse gullwing leads through-hole
- 5: gullwing leads
- 6: folded leads
- 7: reverse gullwing leads
- 8: solder terminal
- 9: leadless PCB

## Package Color

- 3: colorless clear
  - 5: colorless clear
  - 7: colorless diffused
  - 8: colored diffused
  - 9: colorless clear
- (SOT-23 requires no angle)

## Viewing Angle (typ.)

- 30 ... 70 degrees
- 40 ... 80 degrees
- > 80 degrees
- > 80 degrees
- > 80 degrees

## Special Versions

- 0: standard LED
- 1: foreign die
- 2: high-current LED
- 3: hyper-bright LED (InGaN)
- 4: GaAlAs double hetero LED
- 5: high-optical Power LED
- 6: hyper-bright LED (MOVPE, GaN)
- A: hyper bright LED (GaN-lower ESD level)
- 7: Multi TOPLED: cathodes on one side
- 9: low-current LED

## SMT LED type designation system

## Type

- A: SIDELED®
- C: Mini SIDELED®
- E: Power TOPLED®
- L: Smart LED
- M: Mini TOPLED®
- N: CHIPLED 1206
- Q: CHIPLED 0603
- R: CHIPLED 0805
- S: SMT-LED SOT-23
- T: TOPLED®
- T: Multi TOPLED®

## Color Tolerance Range

- 1: total color tolerance range delivery in single groups
- 2: subgroups of the total color tolerance range
- 3: subgroups of the total color tolerance range
- 4: subgroups of the total color tolerance range
- 5: subgroups of the total color tolerance range
- 6: subgroups of the total color tolerance range

Luminous  
Intensity Groups  
(family groups)  
delivery in single  
groups

## Luminous Intensity Groups

(single groups)

|                    |                   |
|--------------------|-------------------|
| C: 0.28 ... 0.45   | P: 45 ... 71      |
| D: 0.45 ... 0.71   | Q: 71 ... 112     |
| E: 0.71 ... 1.12   | R: 112 ... 180    |
| F: 1.12 ... 1.80   | S: 180 ... 280    |
| G: 1.80 ... 2.80   | T: 280 ... 450    |
| H: 2.80 ... 4.50   | U: 450 ... 710    |
| J: 4.50 ... 7.10   | V: 710 ... 1120   |
| K: 7.10 ... 11.20  | AW: 1120 ... 1800 |
| L: 11.20 ... 18.00 | BW: 1800 ... 2800 |
| M: 18.00 ... 28.00 | CW: 2800 ... 4500 |
| N: 28.00 ... 45.00 | DW: 4500 ... 7100 |
| O: open top        |                   |

(half groups)

|                     |                   |
|---------------------|-------------------|
| C1: 0.28 ... 0.36   | P1: 45 ... 56     |
| D1: 0.36 ... 0.45   | Q1: 56 ... 71     |
| E1: 0.45 ... 0.56   | R1: 71 ... 90     |
| F1: 0.56 ... 0.71   | S1: 90 ... 112    |
| G1: 0.71 ... 0.90   | T1: 112 ... 140   |
| H1: 0.90 ... 1.12   | U1: 140 ... 180   |
| J1: 1.12 ... 1.40   | S1: 180 ... 224   |
| K1: 1.40 ... 1.80   | S2: 224 ... 280   |
| L1: 1.80 ... 2.24   | T1: 280 ... 355   |
| M1: 2.24 ... 2.80   | T2: 355 ... 450   |
| N1: 2.80 ... 3.55   | U1: 450 ... 560   |
| H2: 3.55 ... 4.50   | U2: 560 ... 710   |
| J1: 4.50 ... 5.60   | V1: 710 ... 900   |
| J2: 5.60 ... 7.10   | V2: 900 ... 1120  |
| K1: 7.10 ... 9.00   | AA: 1120 ... 1400 |
| K2: 9.00 ... 11.20  | AB: 1400 ... 1800 |
| L1: 11.20 ... 14.00 | BA: 1800 ... 2240 |
| L2: 14.00 ... 18.00 | BB: 2240 ... 2800 |
| M1: 18.00 ... 22.40 | CA: 2800 ... 3550 |
| M2: 22.40 ... 28.00 | CB: 3550 ... 4500 |
| N1: 28.00 ... 35.50 | DA: 4500 ... 5600 |
| N2: 35.50 ... 45.00 | DB: 5600 ... 7100 |

Value of Standard and TOPLED® LEDs;  
in luminous intensity  $I_v$  in mcd

Luminous intensity is tested at a  
current pulse duration of 25 ms and an  
accuracy of  $\pm 11\%$ .

## Gurtung von Lumineszenzdiolen

Alle SMT-LED werden im 8- bzw. 12-mm Gurt geliefert.

## Taping of LEDs

All SMT LEDs are available in 8 mm resp. 12 mm tapes.

## LUMINESZENZDIODEN

## LIGHT EMITTING DIODES

### HINWEISE

#### Gurtung

|                                 |                                                                                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------|
| TOPLED,<br>Multi TOPLED:        | 8 mm Gurt, gegurtet auf 18 cm Spule, 2000 Stück/Spule,<br>mit Eintrag E7510 auf 33 cm Spule 8000 Stück/Spule     |
| Power TOPLED:                   | 8 mm Gurt, gegurtet auf 18 cm Spule, 2000 Stück/Spule,<br>mit Eintrag E7510 auf 33 cm Spule 8000 Stück/Spule.    |
| Power TOPLED<br>mit Linse:      | 12 mm Gurt, gegurtet auf 33 cm Spule, 2400 Stück/Spule.                                                          |
| TOPLED RG:                      | 12 mm Gurt, gegurtet auf 18 cm Spule, 2000 Stück/Spule,<br>Mit Eintrag E7510 auf 33 cm Spule, 8000 Stück/Spule.  |
| SIDELED,<br>Multi SIDELED:      | 12 mm Gurt, gegurtet auf 33 cm Spule, 2000 Stück/Spule.                                                          |
| Mini TOPLED:                    | 8 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück /Spule,<br>mit Eintrag E7510 auf 33 cm Spule, 12000 Stück/Spule. |
| Mini TOPLED RG<br>through-hole: | 12 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück/Spule,<br>mit Eintrag E7510 auf 33 cm Spule, 11 800 Stück/Spule |
| Mini TOPLED RG:                 | 12 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück/Spule,<br>mit Eintrag E7510 auf 33 cm Spule, 11 800 Stück/Spule |
| Mini SIDELED:                   | 12 mm Gurt, gegurtet auf 18 cm Spule, 2500 Stück/Spule,<br>mit Eintrag E7510 auf 33 cm Spule, 10000 Stück/Spule. |
| SOT 23:                         | 8 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück/Spule,<br>mit Eintrag E7510 auf 33 cm Spule, 12000 Stück/Spule.  |
| CHIPLELED 1206:                 | 8 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück/Spule                                                            |
| CHIPLELED 0805:                 | 8 mm Gurt, gegurtet auf 18 cm Spule, 4000 Stück/Spule                                                            |
| CHIPLELED 0603:                 | 8 mm Gurt, gegurtet auf 18 cm Spule, 4000 Stück/Spule                                                            |
| SmartLED:                       | 8 mm Gurt, gegurtet auf 18 cm Spule, 5000 Stück/Spule,<br>mit Eintrag E7510 auf 33 cm Spule, 20000 Stück/Spule.  |

### NOTES

#### Tape and Reel

|                                 |                                                                                                                     |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------|
| TOPLED,<br>Multi TOPLED:        | 8-mm tape, taped on 18-cm reel, 2000 pieces/reel,<br>with supplement E7510 on 33-cm reel, 8000 pieces/reel.         |
| Power TOPLED:                   | 8-mm tape, taped on 18-cm reel, 2000 pieces/reel,<br>with supplement E7510 on 33-cm reel, 8000 pieces/reel.         |
| Power TOPLED<br>with Lens:      | 12-mm tape, taped on 33-cm reel, 2400 pieces/reel.                                                                  |
| TOPLED RG:                      | 12-mm tape, taped on 18-cm reel, 2000 pieces/reel,<br>with supplement E7510 on 33-cm reel, 8000 pieces/reel.        |
| SIDELED,<br>Multi SIDELED:      | 12-mm tape, taped on 33 cm reel, 2000 pieces/reel.                                                                  |
| Mini TOPLED:                    | 8-mm tape, taped on 18-cm reel, 3000 pieces/reel,<br>with supplement E7510 on 33-cm reel, 12000 pieces/reel.        |
| Mini TOPLED RG<br>through-hole: | 12-mm tape, taped on 18-cm reel, 3000 pieces/reel,<br>with supplement E7510 on 33-cm reel, 11 800 pieces/reel       |
| Mini TOPLED RG:                 | 12-mm tape, taped on 18-cm reel, 3000 pieces/reel,<br>with supplement E7510 on 33-cm reel, 11 800 pieces/reel       |
| Mini SIDELED:                   | 12-mm tape, taped on 18-cm reel, 2500 pieces/reel,<br>with Supplement E7510 auf 33-cm Spule, 10000 pieces/<br>reel. |
| SOT 23:                         | 8 mm tape, taped on 18-cm reel, 3000 pieces/reel,<br>with supplement E7510 on 33-cm reel, 12000 pieces/reel.        |
| CHIPLELED 1206:                 | 8 mm tape, taped on 18-cm reel, 3000 pieces/reel                                                                    |
| CHIPLELED 0805:                 | 8 mm tape, taped on 18-cm reel, 4000 pieces/reel                                                                    |
| CHIPLELED 0603:                 | 8 mm tape, taped on 18-cm reel, 4000 pieces/reel                                                                    |
| SmartLED:                       | 8 mm tape, taped on 18-cm reel, 5000 pieces/reel,<br>with supplement E7510 on 33-cm reel, 20000 pieces/reel.        |

### Parameter des OSRAM LED Helligkeitsgruppen System für SMT LEDs

**SMT LEDs** werden in Zukunft ausschließlich in Halbgruppen gemessen. Die Helligkeitsstreuung in einer Gruppe beträgt somit maximal nur noch  $(I_{V \max} / I_{V \min}) \leq 1,6$ . Eine Verpackungseinheit beinhaltet jeweils eine Halbgruppe.

(Helligkeitsstreuung : halbe Helligkeit:  $\pm 23\%$ )

Helligkeitsgruppen und Werte siehe Seite 2 Typenbezeichnungsschema.

1. In einer Verpackungseinheit / Gurt ist immer nur eine Halbgruppe!
2. Die Standardlieferform von Serientypen beinhaltet eine untere bzw. eine obere Familiengruppe, die aus nur 3 bzw. 4 Halbgruppen besteht. Einzelgruppen sind nicht erhältlich
3. Eine Familiengruppe deckt etwa 60% der Gesamthelligkeits-Verteilung ab.

Beispiel für Gruppierungsschema:

LS T676-P1Q1-1: untere Familiengruppe  
LS T676-Q1R2-1: obere Familiengruppe

*Untere Familiengruppe:* Der mögliche Lieferumfang beinhaltet die Helligkeitsgruppen P1, P2, Q1

*Obere Familiengruppe:* Der mögliche Lieferumfang beinhaltet die Helligkeitsgruppen Q1, Q2, R1, R2

Die Gruppe Q1 liegt in der Hauptverteilung und ist somit bei beiden Familiengruppen enthalten

Lambda Code "-1" ist die Farbtoleranz (Dominante Wellenlänge). Auf Anfrage sind bei einigen Typen mit Aufpreis Farbselektionen (Wellenlängengruppen) möglich.

### Goldene Bestellregel für Einzelgruppen zur Sicherstellung einer kontinuierlichen LED-Belieferung:

In jeder LED-Bestellung muß neben der bestellten "Einzelgruppe" die freigegebene "Reservegruppe" deutlich aufgeführt werden.

### Helligkeitsgruppierung bei SMT MULTILED

Bei einigen Multi TOPLED / Multi SIDELED haben wir auf Grund von diversen Kundenwünschen ein neues Gruppierungsschema eingeführt.

#### Was ist neu?

Beide (oder mehrere) Farben werden nach dem Helligkeitsgruppierungsschema (siehe Typenbezeichnungsschema) in Lichtstärke (mcd) gruppiert.

Beispiel: LSY T676 - P + Q

Superrot (S) Gruppe P = 40 ... 80 mcd

Gelb (Y) Gruppe Q = 63 ... 125 mcd

#### Helligkeitsgruppen

Durch die Helligkeitsverteilung von den Einzelfarben ergeben sich 4 bis 6 Einzelgruppen bei Multi TOPLED / Multi SIDELED:

|                    |                          |
|--------------------|--------------------------|
| Beispiel: LSY T676 | Bestellgruppe            |
| - P + P            | } mögliche Liefergruppen |
| - P + Q            |                          |
| - P + R            |                          |
| - Q + Q            |                          |
| - Q + R            |                          |

In einer Verpackungseinheit ist immer nur eine Kombination enthalten.

### Max. Streubreite der Helligkeit innerhalb einer Verpackungseinheit

$I_{V \min} : I_{V \max}$  bzw.  $\Phi_{V \min} : \Phi_{V \max} = 1 : 2$

### Parameters for OSRAM LED Luminous Intensity Group System for SMT LEDs

In future, **SMT LEDs** will only be measured in half groups. Therefore the maximum luminous intensity variation in one group never exceeds  $(I_{V \max} / I_{V \min}) \leq 1,6$ . Each packing unit contains one half group.

(luminous intensity variation : half luminous intensity:  $\pm 23\%$ )

For luminous intensity groups and values see page 2 Type designation system.

1. No packing unit/tape ever contains more than one luminous intensity group!
2. The standard shipping format for serial types includes a lower or upper family group which contains of 3 or 4 groups. Individual groups are not available.
3. A family group covers approx. 60% of the overall luminous intensity.

Example of grouping scheme:

LS T676-P1Q1-1: lower family group  
LS T676-Q1R2-1: upper family group

*Lower family group:* Scope of delivery includes luminous intensity groups P1, P2, Q1

*Upper family group:* Scope of delivery includes luminous intensity groups Q1, Q2, R1, R2

Group Q1 is situated in the main distribution and is therefore part of both family groups.

The color tolerance (dominant wave length) is the lambda code "-1". On surcharge wave length selections are available for most types.

### Golden rule for ordering individual groups to ensure a continuous LED supply:

For any LED order please indicate clearly the released "reserve group" in addition to the "individual group" ordered.

### Luminous Intensity Groups for SMT MULTILED

For certain Multi TOPLED / Multi SIDELED we have introduced a new grouping system in response to customer demands.

#### What is new?

Two (or more) colors will be grouped according to luminous intensity (mcd) in line with the luminous intensity group system (see Type designation system).

Example: LSY T676 - P + Q

super-red (S) Group P = 40 ... 80 mcd

yellow (Y) Group Q = 63 ... 125 mcd

#### Luminous Intensity Groups

The luminosity distribution of the individual colors results in the following 4 to 6 individual groups for Multi TOPLED / Multi SIDELED:

|                   |                            |
|-------------------|----------------------------|
| Example: LSY T676 | Order group                |
| - P + P           | } possible shipment groups |
| - P + Q           |                            |
| - P + R           |                            |
| - Q + Q           |                            |
| - Q + R           |                            |

Only one combination is included in any packing unit.

### Matching Factor of Brightness within one packaging Unit

$I_{V \min} : I_{V \max}$  bzw.  $\Phi_{V \min} : \Phi_{V \max} = 1 : 2$

### Sicherheitshinweise

Osram LEDs erreichen aufgrund von neuen Chip-Technologien immer höhere optische Leistungen.

Wir empfehlen daher, schon bei der Entwicklung von Geräten, die zu diesem Zeitpunkt gültigen Normen IEC 825-1 bzw. EN 60825-1 zu beachten und insbesondere auf den Gebrauch von entsprechenden Schutzvorrichtungen in Ihren Labors hinzuweisen.

Alle Osram LED der Emissionsfarben Hyper-Rot, Super-Rot, Orange, Gelb, Grün und Pure Green entsprechen der DIN 40839 und sind somit störimpulsfest (Load Dump). Ausnahmen sind LC LED (Niedrigstrom) und Hyper-bright LED.

### Betriebsbereich

Der empfohlene Betriebsbereich gibt die Betriebsbedingungen an, die nicht überschritten werden sollten, um eine Lebensdauer von  $> 10^5$  Stunden zu erreichen.

### Safety Instructions

The use of new chip technologies means that Osram LEDs are delivering higher and higher levels of optical performance.

We therefore recommend that the current versions of the IEC 825-1 and EN 60825-1 standards are taken into account right from the outset, i.e. at the equipment development stage, and that suitable protection facilities are provided in your laboratories.

All Osram LEDs of the emission colors hyper-red, super-red, orange, yellow, green and pure green are in accordance with DIN 40839 and therefore resistant to inference pulses (Load Dump) with the exception of LC LEDs (Low Current) and Hyper-bright LEDs.

### Operating Range

In order to achieve a medium life of  $> 10^5$  hours, the conditions indicated by the recommended operating range should not be exceeded.

## SMT-LED

## SMT-LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_v$ )<br>[deg]. | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | $I_v$<br>[mcd] | $\Phi_v$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

## TOPLED®

## TOPLED®

|                                                                                   |                                  |            |     |                 |                                    |                             |    |     |                              |   |
|-----------------------------------------------------------------------------------|----------------------------------|------------|-----|-----------------|------------------------------------|-----------------------------|----|-----|------------------------------|---|
|  | LH T674-L2M2-1<br>LH T674-M2P1-1 | hyper-red  | 645 | colorless clear | 14.00 ... 28.00<br>22.40 ... 56.00 | 62.0 (typ.)<br>110.0 (typ.) | 10 | 120 | Q62703-Q5024<br>Q62703-Q5025 | 1 |
|                                                                                   | LS T670-H2J2-1<br>LS T670-J2L1-1 | super-red  | 628 | colorless clear | 3.55 ... 7.10<br>5.60 ... 14.00    | 15.0 (typ.)<br>28.0 (typ.)  | 10 | 120 | Q62703-Q5094<br>Q62703-Q5095 |   |
|                                                                                   | LO T670-J1K1-1<br>LO T670-K1L2-1 | orange     | 605 | colorless clear | 4.50 ... 9.00<br>7.10 ... 18.00    | 20.0 (typ.)<br>36.0 (typ.)  | 10 | 120 | Q62703-Q5046<br>Q62703-Q5047 |   |
|                                                                                   | LY T670-J1K1-1<br>LY T670-K1L2-1 | yellow     | 590 | colorless clear | 4.50 ... 9.00<br>7.10 ... 18.00    | 20.0 (typ.)<br>36.0 (typ.)  | 10 | 120 | Q62703-Q5132<br>Q62703-Q5133 |   |
|                                                                                   | LG T670-K1L1-1<br>LG T670-L1M2-1 | green      | 570 | colorless clear | 7.10 ... 14.00<br>11.20 ... 28.00  | 31.0 (typ.)<br>56.0 (typ.)  | 10 | 120 | Q62703-Q5010<br>Q62703-Q5011 |   |
|                                                                                   | LP T670-G1H1-1<br>LP T670-H1J2-1 | pure green | 560 | colorless clear | 1.80 ... 3.55<br>2.80 ... 7.10     | 7.1 (typ.)<br>14.0 (typ.)   | 10 | 120 | Q62703-Q5064<br>Q62703-Q5065 |   |
|                                                                                   | LG T671-K2L2-1<br>LG T671-L2N1-1 | green      | 570 | colorless clear | 9.00 ... 18.00<br>14.00 ... 35.50  | 40.0 (typ.)<br>70.0 (typ.)  | 10 | 120 | Q62703-Q5012<br>Q62703-Q5013 |   |

## Super TOPLED®

## Super TOPLED®

|                                                                                    |                                  |            |     |                 |                                 |                          |    |     |                              |   |
|------------------------------------------------------------------------------------|----------------------------------|------------|-----|-----------------|---------------------------------|--------------------------|----|-----|------------------------------|---|
|  | LG T672-P1Q1-1<br>LG T672-Q1R2-1 | green      | 570 | colorless clear | 45.0 ... 90.0<br>71.0 ... 180.0 | 190 (typ.)<br>350 (typ.) | 50 | 120 | Q62703-Q5014<br>Q62703-Q5015 | 1 |
|                                                                                    | LP T672-L2M2-1<br>LP T672-M2P1-1 | pure green | 560 | colorless clear | 14.0 ... 28.0<br>22.4 ... 56.0  | 62 (typ.)<br>110 (typ.)  | 50 | 120 | Q62703-Q5066<br>Q62703-Q5067 |   |

## TOPLED® RG (Reverse Gullwing)

## TOPLED® RG (Reverse Gullwing)

|                                                                                     |                                  |            |     |                 |                                    |                             |    |     |                              |   |
|-------------------------------------------------------------------------------------|----------------------------------|------------|-----|-----------------|------------------------------------|-----------------------------|----|-----|------------------------------|---|
|  | LH T774-L2M2-1<br>LH T774-M2P1-1 | hyper-red  | 645 | colorless clear | 14.00 ... 28.00<br>22.40 ... 56.00 | 62.0 (typ.)<br>110.0 (typ.) | 10 | 120 | Q62703-Q5028<br>Q62703-Q5029 | 2 |
|                                                                                     | LS T770-H2J2-1<br>LS T770-J2L1-1 | super-red  | 628 | colorless clear | 3.55 ... 7.10<br>5.60 ... 14.00    | 15.0 (typ.)<br>28.0 (typ.)  | 10 | 120 | Q62703-Q5101<br>Q62703-Q5102 |   |
|                                                                                     | LO T770-J1K1-1<br>LO T770-K1L2-1 | orange     | 605 | colorless clear | 4.50 ... 9.00<br>7.10 ... 18.00    | 20.0 (typ.)<br>36.0 (typ.)  | 10 | 120 | Q62703-Q5050<br>Q62703-Q5051 |   |
|                                                                                     | LY T770-J1K1-1<br>LY T770-K1L2-1 | yellow     | 590 | colorless clear | 4.50 ... 9.00<br>7.10 ... 18.00    | 20.0 (typ.)<br>36.0 (typ.)  | 10 | 120 | Q62703-Q5139<br>Q62703-Q5140 |   |
|                                                                                     | LG T770-K1L1-1<br>LG T770-L1M2-1 | green      | 570 | colorless clear | 7.10 ... 14.00<br>11.20 ... 28.00  | 31.0 (typ.)<br>56.0 (typ.)  | 10 | 120 | Q62703-Q5018<br>Q62703-Q5019 |   |
|                                                                                     | LP T770-G1H1-1<br>LP T770-H1J2-1 | pure green | 560 | colorless clear | 1.80 ... 3.55<br>2.80 ... 7.10     | 7.7 (typ.)<br>14.0 (typ.)   | 10 | 120 | Q62703-Q5068<br>Q62703-Q5069 |   |

■ Nicht für Neuentwicklungen / Not for new design

## SMT-LED

## SMT-LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

## Hyper TOPLED®

## Hyper TOPLED®

|                                                                                    |                                  |            |                  |                  |                                   |                          |    |     |                              |   |
|------------------------------------------------------------------------------------|----------------------------------|------------|------------------|------------------|-----------------------------------|--------------------------|----|-----|------------------------------|---|
|   | LH T676-P1Q1-1<br>LH T676-Q1R2-1 | hyper-red  | 645              | colorless clear  | 45.0 ... 90.0<br>71.0 ... 180.0   | 190 (typ.)<br>350 (typ.) | 20 | 120 | Q62703-Q5026<br>Q62703-Q5027 | 1 |
|                                                                                    | LS T676-P1Q1-1<br>LS T676-Q1R2-1 | super-red  | 632              | colorless clear  | 45.0 ... 90.0<br>71.0 ... 180.0   | 190 (typ.)<br>350 (typ.) | 20 | 120 | Q62703-Q5096<br>Q62703-Q5097 |   |
|                                                                                    | LA T676-Q1R1-1<br>LA T676-R1S2-1 | amber      | 615              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q4982<br>Q62703-Q4983 |   |
|                                                                                    | LO T676-Q2R2-1<br>LO T676-R2S2-1 | orange     | 605              | colorless clear  | 90.0 ... 180.0<br>140.0 ... 280.0 | 390 (typ.)<br>610 (typ.) | 20 | 120 | Q62703-Q5048<br>Q62703-Q5049 |   |
|                                                                                    | LY T676-Q1R1-1<br>LY T676-R1S2-1 | yellow     | 587              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q5134<br>Q62703-Q5135 |   |
|                                                                                    | LB T676-J2K2-1<br>LB T676-K2M1-1 | blue       | 465              | colorless clear  | 5.6 ... 11.2<br>9.0 ... 22.4      | 25 (typ.)<br>45 (typ.)   | 10 | 120 | Q62703-Q4994<br>Q62703-Q4995 |   |
|                                                                                    | LB T673-M2N2-1<br>LB T673-N2Q1-1 | blue       | 470              | colorless clear  | 22.4 ... 45.0<br>35.5 ... 90.0    | 100 (typ.)<br>180 (typ.) | 20 | 120 | Q62703-Q4838<br>Q62703-Q4887 |   |
|                                                                                    | LV T673-Q1R1-1<br>LV T673-R1S2-1 | verde      | 505              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q4845<br>Q62703-Q4891 |   |
|                                                                                    | LT T673-Q2R2-1<br>LT T673-R2T1-1 | true green | 528              | colorless clear  | 90.0 ... 180.0<br>140.0 ... 355.0 | 390 (typ.)<br>700 (typ.) | 20 | 120 | Q62703-Q4851<br>Q62703-Q4895 |   |
|  | LW T676-M1N1-1<br>LW T676-N1P2-1 | white      | x=0.30<br>y=0.32 | colored diffused | 18.0 ... 35.5<br>28.0 ... 71.0    | 77 (typ.)<br>140 (typ.)  | 10 | 120 | Q62703-Q5107<br>Q62703-Q5108 |   |
|                                                                                    | LW T673-Q2R2-1<br>LW T673-R2S2-1 | white      | x=0.32<br>y=0.31 | colored diffused | 90.0 ... 180.0<br>140.0 ... 280.0 | 390 (typ.)<br>610 (typ.) | 20 | 120 | Q62703-Q4836<br>Q62703-Q4686 |   |

## Power TOPLED®

## Power TOPLED®

|                                                                                     |                                  |            |                  |                  |                            |                           |    |     |                              |   |
|-------------------------------------------------------------------------------------|----------------------------------|------------|------------------|------------------|----------------------------|---------------------------|----|-----|------------------------------|---|
|  | LA E675-T2V1-11                  | amber      | 617              | colorless clear  | 255 ... 900                | 1900 (typ.)               | 50 | 120 | Q62703-Q4976                 | 3 |
|                                                                                     | LS E676-P2Q2-1<br>LS E676-Q2S1-1 | super-red  | 632              | colorless clear  | 56 ... 112<br>90 ... 224   | 240 (typ.)<br>440 (typ.)  | 30 | 120 | Q62703-Q5767<br>Q62703-Q5768 |   |
|                                                                                     | LO E676-R1S1-1<br>LO E676-S1T2-1 | orange     | 606              | colorless clear  | 112 ... 224<br>180 ... 450 | 490 (typ.)<br>880 (typ.)  | 30 | 120 | Q62703-Q5765<br>Q62703-Q5766 |   |
|                                                                                     | LY E676-R2S2-1<br>LY E676-S2U1-1 | yellow     | 589              | colorless clear  | 140 ... 280<br>224 ... 560 | 610 (typ.)<br>1100 (typ.) | 30 | 120 | Q62703-Q5119<br>Q62703-Q5120 |   |
|                                                                                     | LB E673-N1P1-1<br>LB E673-P1Q2-1 | blue       | 469              | colorless clear  | 28 ... 56<br>45 ... 112    | 120 (typ.)<br>220 (typ.)  | 30 | 120 | Q62703-Q4844<br>Q62703-Q4890 |   |
|                                                                                     | LV E673-Q2R2-1<br>LV E673-R2T1-1 | verde      | 503              | colorless clear  | 90 ... 180<br>140 ... 355  | 390 (typ.)<br>700 (typ.)  | 30 | 120 | Q62703-Q4848<br>Q62703-Q4894 |   |
|                                                                                     | LT E673-R1S1-1<br>LT E673-S1T2-1 | true green | 524              | colorless clear  | 112 ... 224<br>180 ... 450 | 490 (typ.)<br>880 (typ.)  | 30 | 120 | Q62703-Q4854<br>Q62703-Q4898 |   |
|                                                                                     | LY E675-T2V1-11                  | yellow     | 589              | colorless clear  | 355 ... 900                | 1900 (typ.)               | 50 | 120 | Q62703-Q5894                 |   |
|                                                                                     | LW E673-R2S2-1<br>LW E673-S2U1-1 | white      | x=0.32<br>y=0.31 | colored diffused | 140 ... 280<br>224 ... 560 | 610 (typ.)<br>1100 (typ.) | 30 | 120 | Q62703-Q4862<br>Q62703-Q4902 |   |

# LUMINESZENZDIODEN

# LIGHT EMITTING DIODES

## SMT-LED

## SMT-LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

### Hyper TOPLED® RG (Reverse Gullwing)

### Hyper TOPLED® RG (Reverse Gullwing)

|                                                                                   |                                  |            |                  |                  |                                   |                          |    |     |                              |   |
|-----------------------------------------------------------------------------------|----------------------------------|------------|------------------|------------------|-----------------------------------|--------------------------|----|-----|------------------------------|---|
|  | LS T776-P1Q1-1<br>LS T776-Q1R2-1 | super-red  | 632              | colorless clear  | 45.0 ... 90.0<br>71.0 ... 180.0   | 190 (typ.)<br>350 (typ.) | 20 | 120 | Q62703-Q5103<br>Q62703-Q5104 | 2 |
|                                                                                   | LA T776-Q1R1-1<br>LA T776-R1S2-1 | amber      | 615              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q4984<br>Q62703-Q4985 |   |
|                                                                                   | LO T776-Q2R2-1<br>LO T776-R2S2-1 | orange     | 605              | colorless clear  | 90.0 ... 180.0<br>140.0 ... 280.0 | 390 (typ.)<br>610 (typ.) | 20 | 120 | Q62703-Q5052<br>Q62703-Q5053 |   |
|                                                                                   | LY T776-Q1R1-1<br>LY T776-R1S2-1 | yellow     | 587              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q5141<br>Q62703-Q5142 |   |
|                                                                                   | LB T776-J2K2-1<br>LB T776-K2M1-1 | blue       | 465              | colorless clear  | 5.6 ... 11.2<br>9.0 ... 22.4      | 25 (typ.)<br>45 (typ.)   | 10 | 120 | Q62703-Q4996<br>Q62703-Q4997 |   |
|                                                                                   | LB T773-M2N2-1<br>LB T773-N2Q1-1 | blue       | 470              | colorless clear  | 22.4 ... 45.0<br>35.5 ... 90.0    | 100 (typ.)<br>180 (typ.) | 20 | 120 | on request<br>on request     |   |
|                                                                                   | LT T773-Q2R2-1<br>LT T773-R2T1-1 | true green | 528              | colorless clear  | 90.0 ... 180.0<br>140.0 ... 355.0 | 390 (typ.)<br>700 (typ.) | 20 | 120 | Q62703-Q4858<br>Q62703-Q4899 |   |
|  | LW T773-Q2R2-1<br>LW T773-R2S2-1 | white      | x=0.32<br>y=0.31 | colored diffused | 90.0 ... 180.0<br>140.0 ... 280.0 | 390 (typ.)<br>610 (typ.) | 20 | 120 | Q62703-Q4951<br>Q62703-Q4952 |   |

### LC TOPLED® (Niedrigstrom)

### LC TOPLED® (Low Current)

|                                                                                     |                                                    |           |     |                 |                                                 |                                        |   |     |                                              |   |
|-------------------------------------------------------------------------------------|----------------------------------------------------|-----------|-----|-----------------|-------------------------------------------------|----------------------------------------|---|-----|----------------------------------------------|---|
|  | LS T679-D2E2-1<br>LS T679-E2F2-1<br>LS T679-F2G2-1 | super-red | 628 | colorless clear | 0.56 ... 1.12<br>0.90 ... 1.80<br>1.40 ... 2.80 | 2.5 (typ.)<br>3.9 (typ.)<br>6.1 (typ.) | 2 | 120 | Q62703-Q5098<br>Q62703-Q5099<br>Q62703-Q5100 | 1 |
|                                                                                     | LY T679-D2E2-1<br>LY T679-E2F2-1<br>LY T679-F2G2-1 | yellow    | 590 | colorless clear | 0.56 ... 1.12<br>0.90 ... 1.80<br>1.40 ... 2.80 | 2.5 (typ.)<br>3.9 (typ.)<br>6.1 (typ.) | 2 | 120 | Q62703-Q5136<br>Q62703-Q5137<br>Q62703-Q5138 |   |
|                                                                                     | LG T679-E1F1-1<br>LG T679-F1G2-1                   | green     | 570 | colorless clear | 0.71 ... 1.40<br>1.12 ... 2.80                  | 3.1 (typ.)<br>5.5 (typ.)               | 2 | 120 | Q62703-Q5016<br>Q62703-Q5017                 |   |

### Mini TOPLED®

### Mini TOPLED®

|                                                                                     |                                  |            |     |                 |                                |                        |    |     |                              |   |
|-------------------------------------------------------------------------------------|----------------------------------|------------|-----|-----------------|--------------------------------|------------------------|----|-----|------------------------------|---|
|  | LS M670-H2J2-1<br>LS M670-J2L1-1 | super-red  | 628 | colorless clear | 3.55 ... 7.1<br>5.60 ... 14.0  | 15 (typ.)<br>28 (typ.) | 10 | 120 | Q62703-Q5083<br>Q62703-Q5084 | 4 |
|                                                                                     | LO M670-H2J2-1<br>LO M670-J2L1-1 | orange     | 605 | colorless clear | 3.55 ... 7.1<br>5.60 ... 14.0  | 15 (typ.)<br>28 (typ.) | 10 | 120 | Q62703-Q5038<br>Q62703-Q5039 |   |
|                                                                                     | LY M670-H2J2-1<br>LY M670-J2L1-1 | yellow     | 590 | colorless clear | 3.55 ... 7.1<br>5.60 ... 14.0  | 15 (typ.)<br>28 (typ.) | 10 | 120 | Q62703-Q5121<br>Q62703-Q5122 |   |
|                                                                                     | LG M670-J2K2-1<br>LG M670-K2M1-1 | green      | 570 | colorless clear | 5.60 ... 11.2<br>9.00 ... 22.4 | 25 (typ.)<br>45 (typ.) | 10 | 120 | Q62703-Q5006<br>Q62703-Q5007 |   |
|                                                                                     | LP M670-F2G2-1<br>LP M670-G2J1-1 | pure green | 560 | colorless clear | 1.40 ... 2.8<br>2.24 ... 5.6   | 6 (typ.)<br>11 (typ.)  | 10 | 120 | Q62703-Q5060<br>Q62703-Q5061 |   |



## SMT-LED

## SMT-LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

## Hyper Mini TOPLED®

## Hyper Mini TOPLED®

|                                                                                   |                                  |            |                  |                  |                                   |                          |    |     |                              |   |
|-----------------------------------------------------------------------------------|----------------------------------|------------|------------------|------------------|-----------------------------------|--------------------------|----|-----|------------------------------|---|
|  | LS M676-N2P2-1<br>LS M676-P2R1-1 | super-red  | 632              | colorless clear  | 35.5 ... 71.0<br>56.0 ... 140.0   | 150 (typ.)<br>280 (typ.) | 20 | 120 | Q62703-Q5085<br>Q62703-Q5086 | 4 |
|                                                                                   | LA M676-P2Q2-1<br>LA M676-Q2S1-1 | amber      | 615              | colorless clear  | 56.0 ... 112.0<br>90.0 ... 224.0  | 240 (typ.)<br>440 (typ.) | 20 | 120 | Q62703-Q4978<br>Q62703-Q4979 |   |
|                                                                                   | LO M676-Q1R1-1<br>LO M676-R1S2-1 | orange     | 605              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q5040<br>Q62703-Q5041 |   |
|                                                                                   | LY M676-P2Q2-1<br>LY M676-Q2S1-1 | yellow     | 587              | colorless clear  | 56.0 ... 112.0<br>90.0 ... 224.0  | 240 (typ.)<br>440 (typ.) | 20 | 120 | Q62703-Q5123<br>Q62703-Q5124 |   |
|                                                                                   | LB M676-J1K1<br>LB M676-K1L2     | blue       | 465              | colorless clear  | 4.5 ... 9.0<br>7.1 ... 18.0       | 20 (typ.)<br>36 (typ.)   | 10 | 120 | Q62703-Q4990<br>Q62703-Q4991 |   |
|                                                                                   | LB M673-M1N1-1<br>LB M673-N1P2-1 | blue       | 470              | colorless clear  | 18.0 ... 35.5<br>28.0 ... 71.0    | 77 (typ.)<br>140 (typ.)  | 20 | 120 | Q62703-Q4840<br>Q62703-Q4889 |   |
|                                                                                   | LT M673-Q1R1-1<br>LT M673-R1S2-1 | true green | 528              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q4853<br>Q62703-Q4897 |   |
|  | LW M673-Q1R1-1<br>LW M673-R1S1-1 | white      | x=0.32<br>y=0.31 | colored diffused | 71.0 ... 140.0<br>112.0 ... 224.0 | 310 (typ.)<br>490 (typ.) | 20 | 120 | Q62703-Q4861<br>Q62703-Q4901 |   |

## Mini TOPLED® RG (Reverse Gullwing)

## Mini TOPLED® RG (Reverse Gullwing)

|                                                                                     |                                  |            |     |                 |                                |                            |    |     |                              |   |
|-------------------------------------------------------------------------------------|----------------------------------|------------|-----|-----------------|--------------------------------|----------------------------|----|-----|------------------------------|---|
|  | LS M770-H2J2-1<br>LS M770-J2L1-1 | super-red  | 628 | colorless clear | 3.55 ... 7.1<br>5.60 ... 14.0  | 15.0 (typ.)<br>28.0 (typ.) | 10 | 120 | Q62703-Q5087<br>Q62703-Q5088 | 5 |
|                                                                                     | LO M770-H2J2-1<br>LO M770-J2L1-1 | orange     | 605 | colorless clear | 3.55 ... 7.1<br>5.60 ... 14.0  | 15.0 (typ.)<br>28.0 (typ.) | 10 | 120 | Q62703-Q5042<br>Q62703-Q5043 |   |
|                                                                                     | LY M770-J1K1-1<br>LY M770-K1L2-1 | yellow     | 590 | colorless clear | 4.50 ... 9.0<br>7.10 ... 18.0  | 20.0 (typ.)<br>36.0 (typ.) | 10 | 120 | Q62703-Q5125<br>Q62703-Q5126 |   |
|                                                                                     | LG M770-J2K2-1<br>LG M770-K2M1-1 | green      | 570 | colorless clear | 5.60 ... 11.2<br>9.00 ... 22.4 | 25.0 (typ.)<br>45.0 (typ.) | 10 | 120 | Q62703-Q5008<br>Q62703-Q5009 |   |
|                                                                                     | LP M770-F2G2-1<br>LP M770-G2J1-1 | pure green | 560 | colorless clear | 1.40 ... 2.8<br>2.24 ... 5.6   | 6.1 (typ.)<br>11.0 (typ.)  | 10 | 120 | Q62703-Q5062<br>Q62703-Q5063 |   |
|                                                                                     |                                  |            |     |                 |                                |                            |    |     |                              |   |

## LC Mini TOPLED® RG (Reverse Gullwing)

## LC Mini TOPLED® RG (Reverse Gullwing)

|                                                                                     |                                                    |           |     |                 |                                                 |                                        |   |     |                                              |   |
|-------------------------------------------------------------------------------------|----------------------------------------------------|-----------|-----|-----------------|-------------------------------------------------|----------------------------------------|---|-----|----------------------------------------------|---|
|  | LS M779-D1E1-1<br>LS M779-E1F1-1<br>LS M779-F1G2-1 | super-red | 628 | colorless clear | 0.45 ... 0.90<br>0.71 ... 1.40<br>1.12 ... 2.80 | 2.0 (typ.)<br>3.1 (typ.)<br>5.5 (typ.) | 2 | 120 | Q62703-Q5091<br>Q62703-Q5092<br>Q62703-Q5093 | 5 |
|                                                                                     | LY M779-D1E1-1<br>LY M779-E1F1-1<br>LY M779-F1G1-1 | yellow    | 590 | colorless clear | 0.45 ... 0.90<br>0.71 ... 1.40<br>1.12 ... 2.24 | 2.0 (typ.)<br>3.1 (typ.)<br>4.9 (typ.) | 2 | 120 | Q62703-Q5129<br>Q62703-Q5130<br>Q62703-Q5131 |   |
|                                                                                     | LG M779-CO                                         | green     | 570 | colorless clear | ≥ 0.28 (1.0 typ.)                               | ≥ 1.0 (typ.)                           | 2 | 120 | Q62703-Q3050                                 |   |

## Hyper Mini TOPLED® RG (Reverse Gullwing)

## Hyper Mini TOPLED® RG (Reverse Gullwing)

|                                                                                     |                                  |           |     |                 |                               |                          |    |     |                              |   |
|-------------------------------------------------------------------------------------|----------------------------------|-----------|-----|-----------------|-------------------------------|--------------------------|----|-----|------------------------------|---|
|  | LS M776-N2P2-1<br>LS M776-P2R1-1 | super-red | 632 | colorless clear | 35.5 ... 71<br>56.0 ... 140   | 150 (typ.)<br>280 (typ.) | 20 | 120 | Q62703-Q5089<br>Q62703-Q5090 | 5 |
|                                                                                     | LA M776-P2Q2-1<br>LA M776-Q2S1-1 | amber     | 615 | colorless clear | 56.0 ... 112<br>90.0 ... 224  | 240 (typ.)<br>440 (typ.) | 20 | 120 | Q62703-Q4980<br>Q62703-Q4981 |   |
|                                                                                     | LO M776-Q1R1-1<br>LO M776-R1S2-1 | orange    | 605 | colorless clear | 71.0 ... 140<br>112.0 ... 280 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q5044<br>Q62703-Q5045 |   |
|                                                                                     | LY M776-P2Q2-1<br>LY M776-Q2S1-1 | yellow    | 587 | colorless clear | 56.0 ... 112<br>90.0 ... 224  | 240 (typ.)<br>440 (typ.) | 20 | 120 | Q62703-Q5127<br>Q62703-Q5128 |   |

# LUMINESZENZDIODEN

# LIGHT EMITTING DIODES

## SMT-LED

## SMT-LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area |                         |                         |                              | 2φ (typ.)<br>(50% I <sub>V</sub> )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|-------------------------|-------------------------|------------------------------|----------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | I <sub>V</sub><br>[mcd] | Φ <sub>V</sub><br>[mlm] | at<br>I <sub>F</sub><br>[mA] |                                              |                                |      |

### SIDELED®

### SIDELED®

|                                                                                   |                                  |            |     |                 |                                    |                             |    |     |                              |   |
|-----------------------------------------------------------------------------------|----------------------------------|------------|-----|-----------------|------------------------------------|-----------------------------|----|-----|------------------------------|---|
|  | LH A674-L2M2-1<br>LH A674-M2P1-1 | hyper-red  | 645 | colorless clear | 14.00 ... 28.00<br>22.40 ... 56.00 | 62.0 (typ.)<br>110.0 (typ.) | 10 | 120 | Q62703-Q5022<br>Q62703-Q5023 | 6 |
|                                                                                   | LS A670-H2J2-1<br>LS A670-J2L1-1 | super-red  | 628 | colorless clear | 3.55 ... 7.10<br>5.60 ... 14.00    | 15.0 (typ.)<br>28.0 (typ.)  | 10 | 120 | Q62703-Q5072<br>Q62703-Q5073 |   |
|                                                                                   | LO A670-J1K1-1<br>LO A670-K1L2-1 | orange     | 605 | colorless clear | 4.50 ... 9.00<br>7.10 ... 18.00    | 20.0 (typ.)<br>36.0 (typ.)  | 10 | 120 | Q62703-Q5030<br>Q62703-Q5031 |   |
|                                                                                   | LY A670-J1K1-1<br>LY A670-K1L2-1 | yellow     | 590 | colorless clear | 4.50 ... 9.00<br>7.10 ... 18.00    | 20.0 (typ.)<br>36.0 (typ.)  | 10 | 120 | Q62703-Q5109<br>Q62703-Q5110 |   |
|                                                                                   | LG A670-K1L1-1<br>LG A670-L1M2-1 | green      | 570 | colorless clear | 7.10 ... 14.00<br>11.20 ... 28.00  | 31.0 (typ.)<br>56.0 (typ.)  | 10 | 120 | Q62703-Q4998<br>Q62703-Q4999 |   |
|                                                                                   | LP A670-G1H1-1<br>LP A670-H1J2-1 | pure green | 560 | colorless clear | 1.80 ... 3.55<br>2.80 ... 7.10     | 7.7 (typ.)<br>14.0 (typ.)   | 10 | 120 | Q62703-Q5054<br>Q62703-Q5055 |   |

### Super SIDELED®

### Super SIDELED®

|                                                                                   |                                  |            |     |                 |                                 |                          |    |     |                              |   |
|-----------------------------------------------------------------------------------|----------------------------------|------------|-----|-----------------|---------------------------------|--------------------------|----|-----|------------------------------|---|
|  | LG A672-P1Q1-1<br>LG A672-Q1R2-1 | green      | 570 | colorless clear | 45.0 ... 90.0<br>71.0 ... 180.0 | 190 (typ.)<br>350 (typ.) | 50 | 120 | Q62703-Q5000<br>Q62703-Q5001 | 6 |
|                                                                                   | LP A672-L2M2-1<br>LP A672-M2P1-1 | pure green | 560 | colorless clear | 14.0 ... 28.0<br>22.4 ... 56.0  | 62 (typ.)<br>110 (typ.)  | 50 | 120 | Q62703-Q5056<br>Q62703-Q5057 |   |

### LC SIDELED® (Niedrigstrom)

### LC SIDELED® (Low Current)

|                                                                                     |                                                    |           |     |                 |                                                 |                                        |   |     |                                              |   |
|-------------------------------------------------------------------------------------|----------------------------------------------------|-----------|-----|-----------------|-------------------------------------------------|----------------------------------------|---|-----|----------------------------------------------|---|
|  | LS A679-D2E2-1<br>LS A679-E2F2-1<br>LS A679-F2G2-1 | super-red | 628 | colorless clear | 0.56 ... 1.12<br>0.90 ... 1.80<br>1.40 ... 2.80 | 2.5 (typ.)<br>3.9 (typ.)<br>6.1 (typ.) | 2 | 120 | Q62703-Q5076<br>Q62703-Q5077<br>Q62703-Q5078 | 6 |
|                                                                                     | LY A679-D2E2-1<br>LY A679-E2G1-1                   | yellow    | 590 | colorless clear | 0.56 ... 1.12<br>0.90 ... 2.24                  | 2.5 (typ.)<br>4.4 (typ.)               | 2 | 120 | Q62703-Q5113<br>Q62703-Q5114                 |   |
|                                                                                     | LG A679-E1F1-1<br>LG A679-F1G2-1                   | green     | 570 | colorless clear | 0.71 ... 1.40<br>1.12 ... 2.80                  | 3.1 (typ.)<br>5.5 (typ.)               | 2 | 120 | Q62703-Q5002<br>Q62703-Q5003                 |   |

### Hyper SIDELED®

### Hyper SIDELED®

|                                                                                     |                                  |            |                  |                  |                                   |                          |    |     |                              |   |
|-------------------------------------------------------------------------------------|----------------------------------|------------|------------------|------------------|-----------------------------------|--------------------------|----|-----|------------------------------|---|
|  | LS A676-N2P2-1<br>LS A676-P2R1-1 | super-red  | 632              | colorless clear  | 35.5 ... 71.0<br>56.0 ... 140.0   | 150 (typ.)<br>280 (typ.) | 20 | 120 | Q62703-Q5074<br>Q62703-Q5075 | 6 |
|                                                                                     | LA A676-Q1R1-1<br>LA A676-R1S2-1 | amber      | 615              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q4972<br>Q62703-Q4973 |   |
|                                                                                     | LO A676-Q1R1-1<br>LO A676-R1S2-1 | orange     | 605              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q5032<br>Q62703-Q5033 |   |
|                                                                                     | LY A676-P2Q2-1<br>LY A676-Q2S1-1 | yellow     | 587              | colorless clear  | 56.0 ... 112.0<br>90.0 ... 224.0  | 240 (typ.)<br>440 (typ.) | 20 | 120 | Q62703-Q5111<br>Q62703-Q5112 |   |
|                                                                                     | LB A676-J2K2-1<br>LB A676-K2M1-1 | blue       | 465              | colorless clear  | 5.6 ... 11.2<br>9.0 ... 22.4      | 25 (typ.)<br>45 (typ.)   | 10 | 120 | Q62703-Q4986<br>Q62703-Q4987 |   |
|                                                                                     | LB A673-M2N2-1<br>LB A673-N2Q1-1 | blue       | 470              | colorless clear  | 22.4 ... 45.0<br>35.5 ... 90.0    | 100 (typ.)<br>180 (typ.) | 20 | 120 | Q62703-Q4839<br>Q62703-Q4888 |   |
|                                                                                     | LV A673-Q1R1-1<br>LV A673-R1S2-1 | verde      | 505              | colorless clear  | 71.0 ... 140.0<br>112.0 ... 280.0 | 310 (typ.)<br>560 (typ.) | 20 | 120 | Q62703-Q4846<br>Q62703-Q4892 |   |
|                                                                                     | LT A673-Q2R2-1<br>LT A673-R2T1-1 | true green | 528              | colorless clear  | 90.0 ... 180.0<br>140.0 ... 355.0 | 390 (typ.)<br>700 (typ.) | 20 | 120 | Q62703-Q4852<br>Q62703-Q4896 |   |
|  | LW A676-M1N1-1<br>LW A676-N1P2-1 | white      | x=0.30<br>y=0.32 | colored diffused | 18.0 ... 35.5<br>28.0 ... 71.0    | 77 (typ.)<br>140 (typ.)  | 10 | 120 | Q62703-Q5105<br>Q62703-Q5106 | 6 |
|                                                                                     | LW A673-Q2R2-1<br>LW A673-R2S2-1 | white      | x=0.32<br>y=0.31 | colored diffused | 90.0 ... 180.0<br>140.0 ... 280.0 | 390 (typ.)<br>610 (typ.) | 20 | 120 | Q62703-Q4860<br>Q62703-Q4900 |   |

■ Nicht für Neuentwicklungen / Not for new design

# LUMINESZENZDIODEN

# LIGHT EMITTING DIODES

## SMT-LED

## SMT-LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

### Mini SIDELED®

(nicht für Neuentwicklungen -- wird durch Micro SIDELED® ersetzt)

### Mini SIDELED®

(not for new design in -- will be replaced by Micro SIDELED®)

|                                                                                   |                                  |            |     |                 |                                |                            |    |     |                              |   |
|-----------------------------------------------------------------------------------|----------------------------------|------------|-----|-----------------|--------------------------------|----------------------------|----|-----|------------------------------|---|
|  | LS C870-H2J2-1<br>LS C870-J2L1-1 | super-red  | 628 | colorless clear | 3.55 ... 7.1<br>5.60 ... 14.0  | 15.0 (typ.)<br>28.0 (typ.) | 10 | 120 | Q62703-Q5079<br>Q62703-Q5080 | 7 |
|                                                                                   | LO C870-H2J2-1<br>LO C870-J2L1-1 | orange     | 605 | colorless clear | 3.55 ... 7.1<br>5.60 ... 14.0  | 15.0 (typ.)<br>28.0 (typ.) | 10 | 120 | Q62703-Q5034<br>Q62703-Q5035 |   |
|                                                                                   | LY C870-H2J2-1<br>LY C870-J2L1-1 | yellow     | 590 | colorless clear | 3.55 ... 7.1<br>5.60 ... 14.0  | 15.0 (typ.)<br>28.0 (typ.) | 10 | 120 | Q62703-Q5115<br>Q62703-Q5116 |   |
|                                                                                   | LG C870-J2K2-1<br>LG C870-K2M1-1 | green      | 570 | colorless clear | 5.60 ... 11.2<br>9.00 ... 22.4 | 25.0 (typ.)<br>45.0 (typ.) | 10 | 120 | Q62703-Q5004<br>Q62703-Q5005 |   |
|                                                                                   | LP C870-F2G2-1<br>LP C870-G2J1-1 | pure green | 560 | colorless clear | 1.40 ... 2.8<br>2.24 ... 5.6   | 6.1 (typ.)<br>11.0 (typ.)  | 10 | 120 | Q62703-Q5058<br>Q62703-Q5059 |   |

### Hyper Mini SIDELED®

(nicht für Neuentwicklungen -- wird durch Micro SIDELED® ersetzt)

### Hyper Mini SIDELED®

(not for new design in -- will be replaced by Micro SIDELED®)

|                                                                                    |                                  |           |     |                 |                                  |                          |    |     |                              |   |
|------------------------------------------------------------------------------------|----------------------------------|-----------|-----|-----------------|----------------------------------|--------------------------|----|-----|------------------------------|---|
|  | LS C876-N2P2-1<br>LS C876-P2R1-1 | super-red | 632 | colorless clear | 35.5 ... 71.0<br>56.0 ... 140.0  | 150 (typ.)<br>280 (typ.) | 20 | 120 | Q62703-Q5081<br>Q62703-Q5082 | 7 |
|                                                                                    | LA C876-P2Q2-1<br>LA C876-Q2S1-1 | amber     | 615 | colorless clear | 56.0 ... 112.0<br>90.0 ... 224.0 | 240 (typ.)<br>440 (typ.) | 20 | 120 | Q62703-Q4974<br>Q62703-Q4975 |   |
|                                                                                    | LO C876-P2Q2-1<br>LO C876-Q2S1-1 | orange    | 605 | colorless clear | 56.0 ... 112.0<br>90.0 ... 224.0 | 240 (typ.)<br>440 (typ.) | 20 | 120 | Q62703-Q5036<br>Q62703-Q5037 |   |
|                                                                                    | LY C876-P2Q2-1<br>LY C876-Q2S1-1 | yellow    | 587 | colorless clear | 56.0 ... 112.0<br>90.0 ... 224.0 | 240 (typ.)<br>440 (typ.) | 20 | 120 | Q62703-Q5117<br>Q62703-Q5118 |   |
|                                                                                    | LB C876-J1K1-1<br>LB C876-K1L2-1 | blue      | 465 | colorless clear | 4.5 ... 9.0<br>7.1 ... 18.0      | 20 (typ.)<br>36 (typ.)   | 10 | 120 | Q62703-Q4988<br>Q62703-Q4989 |   |

| Package | Type | $I_V$<br>mcd |     | $I_F$<br>mA | $\lambda_{\text{peak}}$<br>nm | $\lambda_{\text{dom}}$<br>nm | $\Delta\lambda$<br>nm | $V_F$<br>V |     | $I_F$<br>max<br>mA | $P_{\text{tot}}$<br>mW | $R_{\text{th JA}}$<br>K/W | Color<br>of package | Ordering code | Fig. |
|---------|------|--------------|-----|-------------|-------------------------------|------------------------------|-----------------------|------------|-----|--------------------|------------------------|---------------------------|---------------------|---------------|------|
|         |      | min          | typ |             |                               |                              |                       | typ        | max |                    |                        |                           |                     |               |      |

### Mini SIDELED RG (Reverse Gullwing) through-hole

### Mini SIDELED RG (Reverse Gullwing) through-hole

|                                                                                     |                                  |            |              |    |     |     |    |     |     |    |    |     |                 |            |    |
|-------------------------------------------------------------------------------------|----------------------------------|------------|--------------|----|-----|-----|----|-----|-----|----|----|-----|-----------------|------------|----|
|  | LG M470-J2K2-1<br>LG M470-K2M1-1 | 5.6<br>9.0 | 11.2<br>22.4 | 10 | 565 | 570 | 25 | 2.0 | 2.6 | 30 | 95 | 480 | colorless clear | on request | 37 |
|                                                                                     |                                  |            |              |    |     |     |    |     |     |    |    |     |                 |            |    |

## SMT-LED

## SMT-LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area | $I_V$ [mcd] |         |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg]. | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|-------------|---------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | color 1     | color 2 | at<br>$I_F$<br>[mA] |                                           |                                |      |

## Multi TOPLED®

## Multi TOPLED®

|                                                                                     |                                                                                                                                                          |                          |             |                 |                                                                                                                                                                     |                                                                                                                                                                      |    |     |              |   |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|--------------|---|
|  | LSG T670<br>LSG T670-J+J<br>LSG T670-J+K<br>LSG T670-J+L<br>LSG T670-K+J<br>LSG T670-K+K<br>LSG T670-K+L<br>LSG T670-L+J<br>LSG T670-L+K<br>LSG T670-L+L | super-red/<br>green      | 628/<br>570 | colorless clear | $\geq 4.0$ (8 typ.)<br>4.0 ... 8.0<br>4.0 ... 8.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>6.3 ... 12.5<br>6.3 ... 12.5<br>10.0 ... 20.0<br>10.0 ... 20.0<br>10.0 ... 20.0 | $\geq 4.0$ (10 typ.)<br>4.0 ... 8.0<br>6.3 ... 12.5<br>10.0 ... 20.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>10.0 ... 20.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>10.0 ... 20.0 | 10 | 120 | Q62703-Q4316 | 8 |
|                                                                                     | LSY T670<br>LSY T670-J+J<br>LSY T670-J+K<br>LSY T670-J+L<br>LSY T670-K+J<br>LSY T670-K+K<br>LSY T670-K+L<br>LSY T670-L+J<br>LSY T670-L+K<br>LSY T670-L+L | super-red/<br>yellow     | 628/<br>590 | colorless clear | $\geq 4.0$ (8 typ.)<br>4.0 ... 8.0<br>4.0 ... 8.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>6.3 ... 12.5<br>6.3 ... 12.5<br>10.0 ... 20.0<br>10.0 ... 20.0<br>10.0 ... 20.0 | $\geq 4.0$ (10 typ.)<br>4.0 ... 8.0<br>6.3 ... 12.5<br>10.0 ... 20.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>10.0 ... 20.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>10.0 ... 20.0 | 10 | 120 | Q62703-Q4317 |   |
|                                                                                     | LSP T670<br>LSP T670-H+G<br>LSP T670-H+H<br>LSP T670-J+G<br>LSP T670-J+H<br>LSP T670-J+J<br>LSP T670-K+G<br>LSP T670-K+H<br>LSP T670-K+J                 | super-red/<br>pure green | 628/<br>560 | colorless clear | $\geq 4.0$ (8 typ.)<br>2.5 ... 5.0<br>2.5 ... 5.0<br>4.0 ... 8.0<br>4.0 ... 8.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>6.3 ... 12.5<br>6.3 ... 12.5                      | $\geq 1.6$ (3 typ.)<br>1.6 ... 3.2<br>2.5 ... 5.0<br>1.6 ... 3.2<br>2.5 ... 5.0<br>4.0 ... 8.0<br>1.6 ... 3.2<br>2.5 ... 5.0<br>4.0 ... 8.0                          | 10 | 120 | Q62703-Q4318 |   |
|                                                                                     | LYG T670<br>LYG T670-J+J<br>LYG T670-J+K<br>LYG T670-J+L<br>LYG T670-K+J<br>LYG T670-K+K<br>LYG T670-K+L<br>LYG T670-L+J<br>LYG T670-L+K<br>LYG T670-L+L | yellow/<br>green         | 590/570     | colorless clear | $\geq 4.0$ (9 typ.)<br>4.0 ... 8.0<br>4.0 ... 8.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>6.3 ... 12.5<br>6.3 ... 12.5<br>10.0 ... 20.0<br>10.0 ... 20.0<br>10.0 ... 20.0 | $\geq 4.0$ (10 typ.)<br>4.0 ... 8.0<br>6.3 ... 12.5<br>10.0 ... 20.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>10.0 ... 20.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>10.0 ... 20.0 | 10 | 120 | Q62703-Q4502 |   |
|                                                                                     | LOP T670<br>LOP T670-J+G<br>LOP T670-J+H<br>LOP T670-J+J<br>LOP T670-K+G<br>LOP T670-K+H<br>LOP T670-K+J                                                 | orange/<br>pure green    | 605/<br>570 | colorless clear | $\geq 4.0$ (8 typ.)<br>4.0 ... 8.0<br>4.0 ... 8.0<br>4.0 ... 8.0<br>6.3 ... 12.5<br>6.3 ... 12.5<br>6.3 ... 12.5                                                    | $\geq 1.6$ (3 typ.)<br>1.6 ... 3.2<br>2.5 ... 5.0<br>4.0 ... 8.0<br>1.6 ... 3.2<br>2.5 ... 5.0<br>4.0 ... 8.0                                                        | 10 | 120 | Q62703-Q4319 |   |
|                                                                                     | LOG T671<br>LOG T671-J+K<br>LOG T671-J+L<br>LOG T671-J+M<br>LOG T671-K+K<br>LOG T671-K+L<br>LOG T671-K+M<br>LOG T671-L+M                                 | orange/<br>green         | 605/<br>570 | colorless clear | 4.5 ... 7.1<br>4.5 ... 7.1<br>4.5 ... 7.1<br>7.1 ... 11.2<br>7.1 ... 11.2<br>7.1 ... 11.2<br>11.2 ... 18.0                                                          | 7.1 ... 11.2<br>11.2 ... 18.0<br>18.0 ... 28.0<br>7.1 ... 11.2<br>11.2 ... 18.0<br>18.0 ... 28.0<br>18.0 ... 28.0                                                    | 10 | 120 | Q62703-Q4320 |   |
|                                                                                     | LSG T671<br>LSG T671-J+K<br>LSG T671-J+L<br>LSG T671-J+M<br>LSG T671-K+K<br>LSG T671-K+L<br>LSG T671-K+M<br>LSG T671-L+K<br>LSG T671-L+L<br>LSG T671-L+M | super-red/<br>green      | 628/<br>570 | colorless clear | 4.5 ... 7.1<br>4.5 ... 7.1<br>4.5 ... 7.1<br>7.1 ... 11.2<br>7.1 ... 11.2<br>7.1 ... 11.2<br>11.2 ... 18.0<br>11.2 ... 18.0<br>11.2 ... 18.0                        | 7.1 ... 11.2<br>11.2 ... 18.0<br>18.0 ... 28.0<br>7.1 ... 11.2<br>11.2 ... 18.0<br>18.0 ... 28.0<br>7.1 ... 11.2<br>11.2 ... 18.0<br>18.0 ... 28.0                   | 10 | 120 | Q62703-Q4321 |   |

## LUMINESZENZDIODEN

## LIGHT EMITTING DIODES

## SMT-LED

## SMT-LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area | I <sub>V</sub> [mcd] |         |                              | 2φ (typ.)<br>(50% I <sub>V</sub> )<br>[deg]. | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|----------------------|---------|------------------------------|----------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | color 1              | color 2 | at<br>I <sub>F</sub><br>[mA] |                                              |                                |      |

## Multi TOPLED® (Kathoden auf einer Seite)

## Multi TOPLED® (Cathodes on one side)

|                                                                                   |              |            |             |                 |               |               |    |     |              |   |
|-----------------------------------------------------------------------------------|--------------|------------|-------------|-----------------|---------------|---------------|----|-----|--------------|---|
|  | LSG T677     |            |             |                 | 4.5 ... 18.0  | 4.5 ... 18.0  |    |     |              |   |
|                                                                                   | LSG T677-J+J |            |             |                 | 4.5 ... 7.1   | 4.5 ... 7.1   |    |     |              |   |
|                                                                                   | LSG T677-J+K |            |             |                 | 4.5 ... 7.1   | 7.1 ... 11.2  |    |     |              |   |
|                                                                                   | LSG T677-J+L |            |             |                 | 4.5 ... 7.1   | 11.2 ... 18.0 |    |     |              |   |
|                                                                                   | LSG T677-K+J | super-red/ | 628/<br>570 | colorless clear | 7.1 ... 11.2  | 4.5 ... 7.1   | 10 | 120 | Q62703-Q4327 | 9 |
|                                                                                   | LSG T677-K+K | green      |             |                 | 7.1 ... 11.2  | 7.1 ... 11.2  |    |     |              |   |
|                                                                                   | LSG T677-K+L |            |             |                 | 7.1 ... 11.2  | 11.2 ... 18.0 |    |     |              |   |
|                                                                                   | LSG T677-L+J |            |             |                 | 11.2 ... 18.0 | 4.5 ... 7.1   |    |     |              |   |
|                                                                                   | LSG T677-L+K |            |             |                 | 11.2 ... 18.0 | 7.1 ... 11.2  |    |     |              |   |
|                                                                                   | LSG T677-L+L |            |             |                 | 11.2 ... 18.0 | 11.2 ... 18.0 |    |     |              |   |

## Hyper Multi TOPLED®

## Hyper Multi TOPLED®

|                                                                                   |              |            |             |                 |            |             |    |     |              |   |
|-----------------------------------------------------------------------------------|--------------|------------|-------------|-----------------|------------|-------------|----|-----|--------------|---|
|  | LSY T676     |            |             |                 | 45 ... 180 | 45 ... 180  |    |     |              |   |
|                                                                                   | LSY T676-P+P |            |             |                 | 45 ... 71  | 45 ... 71   |    |     |              |   |
|                                                                                   | LSY T676-P+Q | super-red/ | 632/<br>587 | colorless clear | 45 ... 71  | 71 ... 112  | 20 | 120 | Q62703-Q3428 | 8 |
|                                                                                   | LSY T676-P+R | yellow     |             |                 | 45 ... 71  | 112 ... 180 |    |     |              |   |
|                                                                                   | LSY T676-Q+Q |            |             |                 | 71 ... 112 | 71 ... 112  |    |     |              |   |
|                                                                                   | LSY T676-Q+R |            |             |                 | 71 ... 112 | 112 ... 180 |    |     |              |   |

|                                                                                     |           |             |                     |                                                         | color 1     | color 2       | color 3     |    |     |              |    |
|-------------------------------------------------------------------------------------|-----------|-------------|---------------------|---------------------------------------------------------|-------------|---------------|-------------|----|-----|--------------|----|
|  | LATB T686 |             |                     |                                                         | 71 ... 112  | 7.1 ... 11.2  | 71 ... 112  | 20 | 120 | Q62703-Q5779 | 10 |
|                                                                                     | -Q+Q+K    |             |                     |                                                         | 71 ... 112  | 11.2 ... 18.0 | 71 ... 112  |    |     |              |    |
|                                                                                     | -Q+Q+L    | amber/      | 615/<br>528/<br>465 | colorless clear<br>and black painted<br>package surface | 71 ... 112  | 7.1 ... 11.2  | 112 ... 180 |    |     |              |    |
|                                                                                     | -Q+R+K    | true green/ |                     |                                                         | 71 ... 112  | 11.2 ... 18.0 | 112 ... 180 |    |     |              |    |
|                                                                                     | -Q+R+L    | blue        |                     |                                                         | 112 ... 180 | 7.1 ... 11.2  | 71 ... 112  |    |     |              |    |
|                                                                                     | -R+Q+K    |             |                     |                                                         | 112 ... 180 | 11.2 ... 18.0 | 71 ... 112  |    |     |              |    |
|                                                                                     | -R+Q+L    |             |                     |                                                         | 112 ... 180 | 7.1 ... 11.2  | 112 ... 180 |    |     |              |    |
|                                                                                     | -R+R+K    |             |                     |                                                         | 112 ... 180 | 11.2 ... 18.0 | 112 ... 180 |    |     |              |    |
|                                                                                     | -R+R+L    |             |                     |                                                         | 112 ... 180 | 11.2 ... 18.0 | 112 ... 180 |    |     |              |    |

## Multi TOPLED® RG (Reverse Gullwing)

## Multi TOPLED® RG (Reverse Gullwing)

|                                                                                     |              |            |             |                 |               |               |    |     |              |    |
|-------------------------------------------------------------------------------------|--------------|------------|-------------|-----------------|---------------|---------------|----|-----|--------------|----|
|  | LSG T770     |            |             |                 | 4.5 ... 18.0  | 4.5 ... 18.0  |    |     |              |    |
|                                                                                     | LSG T770-J+J |            |             |                 | 4.5 ... 7.1   | 4.5 ... 7.1   |    |     |              |    |
|                                                                                     | LSG T770-J+K |            |             |                 | 4.5 ... 7.1   | 7.1 ... 11.2  |    |     |              |    |
|                                                                                     | LSG T770-J+L |            |             |                 | 4.5 ... 7.1   | 11.2 ... 18.0 |    |     |              |    |
|                                                                                     | LSG T770-K+J | super-red/ | 628/<br>570 | colorless clear | 7.1 ... 11.2  | 4.5 ... 7.1   | 10 | 120 | Q62703-Q4328 | 11 |
|                                                                                     | LSG T770-K+K | green      |             |                 | 7.1 ... 11.2  | 7.1 ... 11.2  |    |     |              |    |
|                                                                                     | LSG T770-K+L |            |             |                 | 7.1 ... 11.2  | 11.2 ... 18.0 |    |     |              |    |
|                                                                                     | LSG T770-L+J |            |             |                 | 11.2 ... 18.0 | 4.5 ... 7.1   |    |     |              |    |
|                                                                                     | LSG T770-L+K |            |             |                 | 11.2 ... 18.0 | 7.1 ... 11.2  |    |     |              |    |
|                                                                                     | LSG T770-L+L |            |             |                 | 11.2 ... 18.0 | 11.2 ... 18.0 |    |     |              |    |

## Multi SIDELED®

## Multi SIDELED®

|                                                                                     |              |            |             |                 |               |               |    |     |              |    |
|-------------------------------------------------------------------------------------|--------------|------------|-------------|-----------------|---------------|---------------|----|-----|--------------|----|
|  | LOG A671     |            | 605/<br>570 | colorless clear | 4.5 ... 7.1   | 7.1 ... 11.2  | 10 | 120 | Q62703-Q4322 | 12 |
|                                                                                     | LOG A671-J+K |            |             |                 | 4.5 ... 7.1   | 11.2 ... 18.0 |    |     |              |    |
|                                                                                     | LOG A671-J+L | orange/    |             |                 | 4.5 ... 7.1   | 18.0 ... 28.0 |    |     |              |    |
|                                                                                     | LOG A671-J+M |            |             |                 | 7.1 ... 11.2  | 7.1 ... 11.2  |    |     |              |    |
|                                                                                     | LOG A671-K+K | green      |             |                 | 7.1 ... 11.2  | 11.2 ... 18.0 |    |     |              |    |
|                                                                                     | LOG A671-K+L |            |             |                 | 7.1 ... 11.2  | 18.0 ... 28.0 |    |     |              |    |
|                                                                                     | LOG A671-K+M |            |             |                 | 11.2 ... 18.0 | 18.0 ... 28.0 |    |     |              |    |
|                                                                                     | LOG A671-L+M |            |             |                 | 11.2 ... 18.0 | 18.0 ... 28.0 |    |     |              |    |
|                                                                                     | LSG A671     |            | 628/<br>570 | colorless clear | 4.5 ... 7.1   | 18.0 ... 28.0 | 10 | 120 | Q62703-Q4323 |    |
|                                                                                     | LSG A671-J+K |            |             |                 | 4.5 ... 7.1   | 7.1 ... 11.2  |    |     |              |    |
|                                                                                     | LSG A671-J+L |            |             |                 | 4.5 ... 7.1   | 11.2 ... 18.0 |    |     |              |    |
|                                                                                     | LSG A671-J+M |            |             |                 | 4.5 ... 7.1   | 18.0 ... 28.0 |    |     |              |    |
|                                                                                     | LSG A671-K+K | super-red/ |             |                 | 7.1 ... 11.2  | 7.1 ... 11.2  |    |     |              |    |
|                                                                                     | LSG A671-K+L | green      |             |                 | 7.1 ... 11.2  | 11.2 ... 18.0 |    |     |              |    |
|                                                                                     | LSG A671-K+M |            |             |                 | 7.1 ... 11.2  | 18.0 ... 28.0 |    |     |              |    |
|                                                                                     | LSG A671-L+K |            |             |                 | 11.2 ... 18.0 | 7.1 ... 11.2  |    |     |              |    |
|                                                                                     | LSG A671-L+L |            |             |                 | 11.2 ... 18.0 | 11.2 ... 18.0 |    |     |              |    |
|                                                                                     | LSG A671-L+M |            |             |                 | 11.2 ... 18.0 | 18.0 ... 28.0 |    |     |              |    |

# LUMINESZENZDIODEN

# LIGHT EMITTING DIODES

## SMT-LED

## SMT-LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area | $I_V$ [mcd] |         |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg]. | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|-------------|---------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | color 1     | color 2 | at<br>$I_F$<br>[mA] |                                           |                                |      |

### Hyper Multi SIDELED®

### Hyper Multi SIDELED®

|                                                                                   |              |                      |             |                 |            |             |    |     |              |    |
|-----------------------------------------------------------------------------------|--------------|----------------------|-------------|-----------------|------------|-------------|----|-----|--------------|----|
|  | LSY A676     | super-red/<br>yellow | 632/<br>587 | colorless clear | 45 ... 180 | 45 ... 180  | 20 | 120 | Q62703-Q3374 | 12 |
|                                                                                   | LSY A676-P+P |                      |             |                 | 45 ... 71  | 45 ... 71   |    |     |              |    |
|                                                                                   | LSY A676-P+Q |                      |             |                 | 45 ... 71  | 71 ... 112  |    |     |              |    |
|                                                                                   | LSY A676-P+R |                      |             |                 | 45 ... 71  | 112 ... 180 |    |     |              |    |
|                                                                                   | LSY A676-Q+Q |                      |             |                 | 71 ... 112 | 71 ... 112  |    |     |              |    |
|                                                                                   | LSY A676-Q+R |                      |             |                 | 71 ... 112 | 112 ... 180 |    |     |              |    |

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Farbe der Licht-<br>austrittsfläche<br>Color of light<br>emitting area | $I_V$ [mcd]    |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg]. | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|------------------------------------------------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                                                        | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

### SMT SOT-23 LED

### SMT SOT-23 LEDs

|                                                                                   |            |           |     |                 |             |   |    |     |              |    |
|-----------------------------------------------------------------------------------|------------|-----------|-----|-----------------|-------------|---|----|-----|--------------|----|
|  | LS S260-DO | super-red | 628 | red diffused    | $\geq 0.45$ | — | 10 | 140 | Q62703-Q1640 | 35 |
|                                                                                   | LY S260-DO | yellow    | 590 | yellow diffused | $\geq 0.45$ | — | 10 | 140 | Q62703-Q1657 |    |
|                                                                                   | LG S260-DO | green     | 570 | green diffused  | $\geq 0.45$ | — | 10 | 140 | Q62703-Q1608 |    |

### SMT LC SOT-23 LED (Niedrigstrom)

### SMT LC SOT-23 LEDs (Low Current)

|                                                                                     |            |           |     |                 |             |   |   |     |              |    |
|-------------------------------------------------------------------------------------|------------|-----------|-----|-----------------|-------------|---|---|-----|--------------|----|
|  | LS S269-BO | super-red | 628 | red diffused    | $\geq 0.18$ | — | 2 | 140 | Q62703-Q1566 | 35 |
|                                                                                     | LY S269-BO | yellow    | 590 | yellow diffused | $\geq 0.18$ | — | 2 | 140 | Q62703-Q1568 |    |
|                                                                                     | LG S269-BO | green     | 570 | green diffused  | $\geq 0.18$ | — | 2 | 140 | Q62703-Q1570 |    |

■ Nicht für Neuentwicklungen / Not for new design

| Package | Type | $I_V$<br>mcd |     | $I_F$<br>mA | $\lambda_{\text{peak}}$<br>nm | $\lambda_{\text{dom}}$<br>nm | $\Delta\lambda$<br>nm | $V_F$<br>V |     | $I_F$<br>max<br>mA | $P_{\text{tot}}$<br>mW | $R_{\text{th JA}}$<br>K/W | Color<br>of package | Ordering code | Fig. |
|---------|------|--------------|-----|-------------|-------------------------------|------------------------------|-----------------------|------------|-----|--------------------|------------------------|---------------------------|---------------------|---------------|------|
|         |      | min          | typ |             |                               |                              |                       | typ        | max |                    |                        |                           |                     |               |      |

### SmartLED

### SmartLED

|                                                                                     |                |      |      |    |     |     |    |     |     |    |    |     |                 |            |    |
|-------------------------------------------------------------------------------------|----------------|------|------|----|-----|-----|----|-----|-----|----|----|-----|-----------------|------------|----|
|  | LG L890-K1L1-1 | 7.1  | 14.0 | 20 | 565 | 570 | 25 | 2.0 | 2.6 | 30 | 95 | 400 | colorless clear | on request | 36 |
|                                                                                     | LG L890-L1M2-1 | 11.2 | 28.0 |    |     |     |    |     |     |    |    |     |                 |            |    |

### Hyper SmartLED

### Hyper SmartLED

|                                                                                     |                                  |              |               |    |     |     |    |     |     |    |     |     |                 |            |    |
|-------------------------------------------------------------------------------------|----------------------------------|--------------|---------------|----|-----|-----|----|-----|-----|----|-----|-----|-----------------|------------|----|
|  | LS L896-M1N1-1<br>LS L896-N1P2-1 | 18.0<br>28.0 | 35.5<br>71.0  | 20 | 645 | 632 | 16 | 2.0 | 2.5 | 60 | 165 | 510 | colorless clear | on request | 36 |
|  | LY L896-N1P1-1<br>LY L896-P1Q2-1 | 28.0<br>45.0 | 56.0<br>112.0 | 20 | 591 | 587 | 15 | 2.0 | 2.5 | 60 | 165 | 510 | colorless clear | on request |    |
|  | LB L89S-K1L1-1<br>LB L89S-L1M2-1 | 7.1<br>11.2  | 14.0<br>28.0  | 10 | 465 | 470 | 25 | 3.4 | 3.9 | 15 | 60  | 450 | colorless clear | on request |    |

## LUMINESZENZDIODEN

## LIGHT EMITTING DIODES

## CHIPLED

 $I_F = 20 \text{ mA}$ ,  $T_A = 25^\circ \text{C}$ 

| Package | Type | $I_V$<br>mcd |     | $I_F$<br>mA | $\lambda_{\text{peak}}$<br>nm | $\lambda_{\text{dom}}$<br>nm | $\Delta\lambda$<br>nm | $V_F$<br>V |     | $I_F$<br>max<br>mA | $P_{\text{tot}}$<br>mW | $R_{\text{th JA}}$<br>K/W | Color of package | Ordering code | Fig. |
|---------|------|--------------|-----|-------------|-------------------------------|------------------------------|-----------------------|------------|-----|--------------------|------------------------|---------------------------|------------------|---------------|------|
|         |      | min          | typ |             |                               |                              |                       | typ        | max |                    |                        |                           |                  |               |      |

## CHIPLED 0603

|                                                                                   |         |     |     |    |     |     |    |     |     |    |    |     |                    |              |    |
|-----------------------------------------------------------------------------------|---------|-----|-----|----|-----|-----|----|-----|-----|----|----|-----|--------------------|--------------|----|
|  | LG Q971 | 7.1 | 10  | 20 | 568 | 570 | 30 | 2.2 | 2.6 | 25 | 65 | 800 | colorless diffused | Q62702-P5189 | 16 |
|                                                                                   | LY Q971 | 2.8 | 6.0 | 20 | 589 | 590 | 40 | 2.2 | 2.6 | 20 | 65 | 800 | colorless diffused | Q62703-P4699 |    |

## CHIPLED 0603

## Hyper CHIPLED 0603

|                                                                                    |         |      |     |    |         |         |    |     |     |    |    |     |                    |              |    |
|------------------------------------------------------------------------------------|---------|------|-----|----|---------|---------|----|-----|-----|----|----|-----|--------------------|--------------|----|
|   | LB Q99A | 1.6  | 6.0 | 10 | 428     | 466     | 60 | 3.5 | 4.2 | 15 | 70 | 700 | colorless clear    | Q62702-P5184 | 17 |
|                                                                                    | LB Q993 | 4.5  | 12  | 10 | 465     | 470     | 25 | 3.4 | 3.9 | 15 | 55 | 650 | colorless clear    | Q62702-P5290 |    |
|                                                                                    | LT Q993 | 28   | 70  | 10 | 523     | 528     | 33 | 3.2 | 3.9 | 15 | 55 | 650 | colorless clear    | Q62702-P5328 |    |
|   | LO Q996 | 28   | 70  | 20 | 610     | 605     | 16 | 2.0 | 2.5 | 25 | 65 | 900 | colorless clear    | Q62702-P5337 | 16 |
|                                                                                    | LY Q976 | 28   | 60  | 20 | 591     | 587     | 15 | 2.0 | 2.5 | 25 | 65 | 900 | colorless diffused | Q62702-P5186 | 16 |
|                                                                                    | LS Q976 | 18   | 50  | 20 | 645     | 632     | 16 | 2.0 | 2.5 | 25 | 65 | 900 | colorless diffused | Q62702-P5187 |    |
|  | LW Q98A | 7.1  | 15  | 10 | Cx=0.30 | Cy=0.30 | —  | 3.5 | 4.2 | 15 | 70 | 700 | colored diffused   | Q62702-P5185 | 17 |
|                                                                                    | LW Q983 | 11.2 | 20  | 10 | Cx=0.35 | Cy=0.34 | —  | 3.4 | 3.9 | 15 | 55 | 650 | colored diffused   | Q62702-P5225 |    |

## CHIPLED 0805

|                                                                                     |         |      |    |    |     |     |    |     |     |    |    |     |                    |              |    |
|-------------------------------------------------------------------------------------|---------|------|----|----|-----|-----|----|-----|-----|----|----|-----|--------------------|--------------|----|
|  | LG R971 | 7.1  | 10 | 20 | 568 | 570 | 30 | 2.2 | 2.6 | 25 | 65 | 800 | colorless diffused | Q62702-P5179 | 14 |
|                                                                                     | LO R971 | 2.8  | 6  | 20 | 610 | 605 | 35 | 2.1 | 2.6 | 25 | 65 | 800 | colorless diffused | Q62702-P5180 |    |
|                                                                                     | LY R971 | 2.8  | 6  | 20 | 589 | 590 | 40 | 2.2 | 2.6 | 20 | 65 | 800 | colorless diffused | Q62702-P5181 |    |
|                                                                                     | LH R974 | 11.2 | 15 | 20 | 660 | 645 | 20 | 1.8 | 2.6 | 30 | 80 | 800 | colorless diffused | Q62702-P5182 | 13 |

## CHIPLED 0805

## Hyper CHIPLED 0805

|                                                                                     |         |      |    |    |         |         |    |     |     |    |    |     |                    |              |    |
|-------------------------------------------------------------------------------------|---------|------|----|----|---------|---------|----|-----|-----|----|----|-----|--------------------|--------------|----|
|  | LB R99A | 2.8  | 10 | 20 | 428     | 465     | 60 | 3.8 | 4.5 | 20 | 90 | 680 | colorless clear    | Q62702-P5175 | 15 |
|                                                                                     | LO R976 | 28   | 70 | 20 | 610     | 605     | 16 | 2.0 | 2.5 | 25 | 65 | 800 | colorless diffused | Q62702-P5176 | 14 |
|                                                                                     | LY R976 | 28   | 60 | 20 | 591     | 587     | 15 | 2.0 | 2.5 | 25 | 65 | 800 | colorless diffused | Q62702-P5177 |    |
|  | LS R976 | 18   | 50 | 20 | 645     | 632     | 16 | 2.0 | 2.5 | 25 | 65 | 800 | colorless diffused | Q62702-P5178 |    |
|                                                                                     | LW R98A | 11.2 | 25 | 20 | Cx=0.32 | Cy=0.34 | —  | 3.8 | 4.5 | 20 | 90 | 680 | colored diffused   | Q62702-P5183 | 15 |

## CHIPLED 1206

|                                                                                     |         |     |    |    |     |     |    |     |     |    |    |     |                    |              |    |
|-------------------------------------------------------------------------------------|---------|-----|----|----|-----|-----|----|-----|-----|----|----|-----|--------------------|--------------|----|
|  | LG N971 | 7.1 | 10 | 20 | 568 | 570 | 30 | 2.2 | 2.6 | 25 | 65 | 750 | colorless diffused | Q62702-P5191 | 18 |
|                                                                                     | LY N971 | 2.8 | 6  | 20 | 589 | 590 | 40 | 2.2 | 2.6 | 20 | 65 | 750 | colorless diffused | Q62702-P5193 |    |
|                                                                                     | LH N974 | 7.1 | 15 | 20 | 660 | 645 | 20 | 1.8 | 2.6 | 30 | 80 | 750 | colorless diffused | Q62702-P5192 |    |

## CHIPLED 1206



## Radial-LED-Typenbezeichnungsschema

2<sup>nd</sup> and 3<sup>rd</sup> letter for the color of all MULTILED® package outlines  
(higher wavelength = first letter, lower wavelength = second and third letter)

|    | Wavelength<br>( $\lambda_{\text{dom typ.}}$ ) | Emission Color <sup>1)</sup> |
|----|-----------------------------------------------|------------------------------|
| H: | 645 nm                                        | hyper-red                    |
| R: | 645 nm                                        | red                          |
| S: | 632 nm                                        | super-red (hyper-bright LED) |
| S: | 628 nm                                        | super-red (standard LED)     |
| U: | 628 nm                                        | super-red                    |
|    | 570 nm                                        | green                        |
| A: | 615 nm                                        | amber                        |
| O: | 605 nm                                        | orange                       |
| Y: | 590 nm                                        | yellow (standard LED)        |
|    | 587 nm                                        | yellow (hyper-bright LED)    |
| G: | 570 nm                                        | green                        |
| P: | 560 nm                                        | pure green                   |
| T: | 525 nm                                        | true green (InGaN)           |
| V: | 505 nm                                        | verde (InGaN)                |
| B: | 470 nm                                        | blue (InGaN)                 |
| B: | 466 nm                                        | blue (GaN)                   |

Color coordinates according to CIE1931 / Emission color:  
W: x = 0.30  
y = 0.32

L: Light emitting diode

|   |   |  |  |  |   |   |   |   |   |   |   |    |
|---|---|--|--|--|---|---|---|---|---|---|---|----|
| L | S |  |  |  | 3 | 3 | 6 | 6 | - | N | R | -1 |
|---|---|--|--|--|---|---|---|---|---|---|---|----|

## Radial LED type designation system

## Type

|    |                          |      |
|----|--------------------------|------|
| 3: | round (standard version) | 3 mm |
| 5: | round (standard version) | 5 mm |
| K: | ARGUS®/Super ARGUS® LED  | 3 mm |
| U: | Mini-LED                 | 1 mm |
| Z: | Array LED (round)        | 2 mm |

## Color Tolerance Range

|     |                                                                           |
|-----|---------------------------------------------------------------------------|
| -1: | total color tolerance range delivery in single groups                     |
| -2: | subgroups of the total color tolerance range according to the data sheets |
| -3: |                                                                           |
| -4: |                                                                           |
| -5: |                                                                           |
| -6: |                                                                           |

**Luminous Intensity Groups**  
(family groups)  
delivery in single groups e.g. N, P, Q, R

## Lead Form

- 3: < 30 mm with stand-off  
4: < 30 mm without stand-off

| Package Color         | Viewing Angle (typ.) |
|-----------------------|----------------------|
| 1: colorless clear    | 15 ... 30 degrees    |
| 2: colored clear      | 15 ... 30 degrees    |
| 3: colorless clear    | 30 ... 70 degrees    |
| 4: colored clear      | 30 ... 70 degrees    |
| 5: colorless diffused | 40 ... 80 degrees    |
| 6: colored diffused   | 40 ... 80 degrees    |
| 7: colorless diffused | > 80 degrees         |
| 8: colored diffused   | > 80 degrees         |
| 9: colorless clear    | > 80 degrees         |

## Special Versions

- 0: standard LED  
1: aspherical lenses  
2: high-current LED  
3: hyper-bright LED (InGaN)  
4: GaAlAs double hetero LED  
5: high-optical Power LED  
6: hyper-bright LED (MOVPE, GaN)  
A: hyper-bright LED (GaN-lower ESD level)  
7: Multi TOPLED: cathodes on one side  
9: low-current LED  
For array versions (digit 4 = Z)  
Number of lamps per array

Luminous Intensity Groups  
(single groups)

|                    |                   |
|--------------------|-------------------|
| C: 0.28 ... 0.45   | P: 45 ... 71      |
| D: 0.45 ... 0.71   | Q: 71 ... 112     |
| E: 0.71 ... 1.12   | R: 112 ... 180    |
| F: 1.12 ... 1.80   | S: 180 ... 280    |
| G: 1.80 ... 2.80   | T: 280 ... 450    |
| H: 2.80 ... 4.50   | U: 450 ... 710    |
| J: 4.50 ... 7.10   | V: 710 ... 1120   |
| K: 7.10 ... 11.20  | AW: 1120 ... 1800 |
| L: 11.20 ... 18.00 | BW: 1800 ... 2800 |
| M: 18.00 ... 28.00 | CW: 2800 ... 4500 |
| N: 28.00 ... 45.00 | DW: 4500 ... 7100 |
| O: open top        |                   |

Value of Standard and LEDs in luminous intensity  $I_v$  in mcd.  
Value of ARGUS® in luminous flux  $\phi_v$  in mlm.

Luminous intensity is tested at a current pulse duration of 25 ms and an accuracy of  $\pm 11\%$ .

## Gurtung von Lumineszenzdiolen

Alle radialen LED können in verschiedenen Gurtvarianten, sowohl nach IEC-Norm 286.2 und 3 als auch nach speziellen Gurtspezifikationen geliefert werden (siehe Kapitel „Gurtung und Verpackung“).

<sup>1)</sup> U: gilt für nur 5 mm MULTILED

## Taping of LEDs

All unidirectional LEDs are available in various tape forms, including IEC publication 286.2 and 3 or special tape specifications (see also chapter “Tape and Reel”).

<sup>1)</sup> U: is valid only for 5 mm MULTILED



## HINWEISE

## Parameter des OSRAM LED-Helligkeitsgruppen-Schemas für radiale LEDs

Alle LEDs werden in Helligkeitsgruppen  $I_{V \max} / I_{V \min} \leq$  Faktor 2 gemessen bzw. maximale Helligkeitsstreuung:

ganze Helligkeit:  $\pm 33\%$   
halbe Helligkeit:  $\pm 23\%$  (auf Anfrage)

Helligkeitsgruppen und Werte siehe Seite 16 Typenbezeichnungsschema.

1. In einer Verpackungseinheit/Gurt ist immer nur eine Helligkeitsgruppe!  
**Max. Streubreite der Helligkeit innerhalb einer Verpackungseinheit**  
 $I_{V \min} : I_{V \max}$  bzw.  $\Phi_{V \min} : \Phi_{V \max} = 1 : 2$
2. Die Standardlieferform von Serientypen beinhaltet eine untere bzw. eine obere Familiengruppe oder 2 bis 4 Einzelgruppen.
3. Die 2 bis 4 Einzelgruppen decken 60 bis 80%, die beiden Familiengruppen 100% der Gesamthelligkeit ab.

Beispiel für Gruppierungsschema:

LS 3366 - NR untere Familiengruppe  
- P Einzelgruppe  
- Q Einzelgruppe  
- R Einzelgruppe  
- PS obere Familiengruppe

*Untere Familiengruppe:* Der mögliche Lieferumfang beinhaltet die Helligkeitsgruppen N, P, Q, R

*Obere Familiengruppe:* Der mögliche Lieferumfang beinhaltet die Helligkeitsgruppen P, Q, R, S

Einzelgruppen:

Die technologiebedingte Helligkeits-Streuung der heutigen LED-Herstellprozesse über einen längeren Fertigungszeitraum (Halbleitermaterial - Chipherstellung - Montageprozeß), erlaubt keine Zusage einer einzelnen Helligkeitsgruppe.

## Daher müssen mindestens 2 Helligkeitsgruppen vorgesehen werden!

Auf Grund von kontinuierlichen Verbesserungen unserer Chip- und LED-Herstellungsprozesse werden sich die LED-Helligkeiten nach oben entwickeln. Über dadurch notwendige Anpassungen der Helligkeitsgruppen werden wir Sie rechtzeitig informieren.

Wenn mehr als 2 Einzelgruppen angeboten werden, muß eine Abstimmung mit Ihrem Osram OS-Partner bezüglich der Hauptverteilung erfolgen.

Bei besonders kritischen Anwendungen besteht die Möglichkeit, eine noch engere Selektion (Helligkeits-Halbgruppen / Wellenlängengruppe) durchzuführen. Die Anzahl der Liefergruppen vervielfacht sich dadurch.

## Goldene Bestellregel für Einzelgruppen zur Sicherstellung einer kontinuierlichen LED-Belieferung:

In jeder LED-Bestellung muß neben der bestellten "Einzelgruppe" die freigegebene "Reservegruppe" deutlich aufgeführt werden.

## Sicherheitshinweise

OSRAM LEDs erreichen aufgrund von neuen Chip-Technologien immer höhere optische Leistungen. Wir empfehlen daher, schon bei der Entwicklung von Geräten, die zu diesem Zeitpunkt gültigen Normen IEC 825-1 bzw. EN 60825-1 zu beachten und insbesondere auf den Gebrauch von entsprechenden Schutzvorrichtungen in Ihren Labors hinzuweisen.

## Betriebsbereich

Der empfohlene Betriebsbereich gibt die Betriebsbedingungen an, die nicht überschritten werden sollten, um eine Lebensdauer von  $> 10^5$  Stunden zu erreichen.

## NOTES

## Parameters for OSRAM LED Luminous Intensity Group System for Radial LEDs

All LEDs are measured in luminous intensity groups  $I_{V \max} / I_{V \min} \leq$  Factor 2 or maximum luminous intensity variation:

entire luminous intensity:  $\pm 33\%$   
half luminous intensity:  $\pm 23\%$  (on request)

For luminous intensity groups and values see page 16 Type designation system.

1. No packing unit/tape ever contains more than one luminous intensity group!  
**Matching Factor of Brightness within one packaging Unit**  
 $I_{V \min} : I_{V \max}$  bzw.  $\Phi_{V \min} : \Phi_{V \max} = 1 : 2$
2. The standard shipping format for serial types includes a lower or upper family group or 2 to 4 individual groups.
3. These 2 to 4 individual groups cover 60 to 80%, and the two family groups cover 100% of the overall luminous intensity.

Example of grouping scheme:

LS 3366 - NR lower family group  
- P individual group  
- Q individual group  
- R individual group  
- PS upper family group

*Lower family group:* Scope of delivery includes luminous intensity groups N, P, Q, R

*Upper family group:* Scope of delivery includes luminous intensity groups P, Q, R, S

Individual groups:

Luminosity variations caused by the technology used in current LED manufacturing processes over a protracted manufacturing period (semiconductor material - chip fabrication - assembly process) mean that it is not possible to assign LEDs to a single luminous intensity group.

## For this reason at least two luminous intensity groups must be provided.

Owing to continuous improvements in our chip and LED manufacturing processes, LED luminous intensity values are set to increase. We will inform you in good time of any necessary changes to the luminous intensity groups.

If more than 2 individual groups are available, agreement should be reached with your Osram OS partner regarding the main distribution.

For especially critical applications there is the option of making a narrower selection (luminosity half groups / wavelength group). This multiplies the number of shipment groups.

## Golden rule for ordering individual groups to ensure a continuous LED supply:

For any LED order please indicate clearly the released "reserve group" in addition to the "individual group" ordered.

## Safety Instructions

The use of new chip technologies means that OSRAM LEDs are delivering higher and higher levels of optical performance. We therefore recommend that the current versions of the IEC 825-1 and EN 60825-1 standards are taken into account right from the outset, i.e. at the equipment development stage, and that suitable protection facilities are provided in your laboratories.

## Operating Range

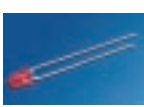
In order to achieve a medium life of  $> 10^5$  hours, the conditions indicated by the recommended operating range should not be exceeded.

# LUMINESZENZDIODEN

# LIGHT EMITTING DIODES

## RADIALE LED

## RADIAL LEDs

| Package                                                                             | Type                                                                                | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                         |                         |                              | 2φ (typ.)<br>(50% I <sub>V</sub> )<br>[deg]. | Bestellnummer<br>Ordering code | Fig. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------|------------------------------------------|--------------------------------|-------------------------|-------------------------|------------------------------|----------------------------------------------|--------------------------------|------|
|                                                                                     |                                                                                     |                                  |                                          |                                | I <sub>V</sub><br>[mcd] | Φ <sub>V</sub><br>[mlm] | at<br>I <sub>F</sub><br>[mA] |                                              |                                |      |
| 3 mm LED                                                                            |                                                                                     |                                  |                                          |                                |                         |                         |                              |                                              |                                |      |
| 3 mm LEDs                                                                           |                                                                                     |                                  |                                          |                                |                         |                         |                              |                                              |                                |      |
|    | LH 3344-QT                                                                          | hyper-red                        | 645                                      | red clear                      | 71.0 ... 450.0          | 80 (typ.)               | 10                           | 25                                           | Q62703-Q2231                   | 19   |
|                                                                                     | LH 3344-R                                                                           |                                  |                                          |                                | 112.0 ... 180.0         | 40 (typ.)               |                              |                                              | Q62703-Q3198                   |      |
|                                                                                     | LH 3344-S                                                                           |                                  |                                          |                                | 180.0 ... 280.0         | 70 (typ.)               |                              |                                              | Q62703-Q3199                   |      |
|                                                                                     | LH 3344-T                                                                           |                                  |                                          |                                | 280.0 ... 450.0         | 110 (typ.)              |                              |                                              | Q62703-Q3817                   |      |
|                                                                                     | LH 3344-RU                                                                          |                                  |                                          |                                | 112.0 ... 710.0         | 130 (typ.)              |                              |                                              | Q62703-Q3200                   |      |
|  | LS 3341-LP                                                                          | super-red                        | 628                                      | red clear                      | 11.20 ... 71.0          | 35 (typ.)               | 10                           | 40                                           | Q62703-Q3911                   | 20   |
|                                                                                     | LS 3341-M                                                                           |                                  |                                          |                                | 18.00 ... 28.0          | 20 (typ.)               |                              |                                              | Q62703-Q2146                   |      |
|                                                                                     | LS 3341-N                                                                           |                                  |                                          |                                | 28.00 ... 45.0          | 30 (typ.)               |                              |                                              | Q62703-Q2147                   |      |
|                                                                                     | LS 3341-P                                                                           |                                  |                                          |                                | 45.00 ... 71.0          | 50 (typ.)               |                              |                                              | Q62703-Q3445                   |      |
|                                                                                     | LS 3341-MQ                                                                          |                                  |                                          |                                | 18.00 ... 112.0         | 55 (typ.)               |                              |                                              | Q62703-Q2148                   |      |
|                                                                                     | LY 3341-LP                                                                          | yellow                           | 590                                      | yellow clear                   | 11.20 ... 71.0          | 35 (typ.)               | 10                           | 40                                           | Q62703-Q2152                   |      |
|                                                                                     | LY 3341-M                                                                           |                                  |                                          |                                | 18.00 ... 28.0          | 20 (typ.)               |                              |                                              | Q62703-Q2151                   |      |
|                                                                                     | LY 3341-N                                                                           |                                  |                                          |                                | 28.00 ... 45.0          | 30 (typ.)               |                              |                                              | Q62703-Q2398                   |      |
|                                                                                     | LY 3341-P                                                                           |                                  |                                          |                                | 45.00 ... 71.0          | 50 (typ.)               |                              |                                              | Q62703-Q3234                   |      |
|                                                                                     | LY 3341-MQ                                                                          |                                  |                                          |                                | 18.00 ... 112.0         | 55 (typ.)               |                              |                                              | Q62703-Q2149                   |      |
|                                                                                     | LG 3341-KN                                                                          | green                            | 570                                      | green clear                    | 7.10 ... 45.0           | 25 (typ.)               | 10                           | 40                                           | Q62703-Q2153                   |      |
|                                                                                     | LG 3341-M                                                                           |                                  |                                          |                                | 18.00 ... 28.0          | 20 (typ.)               |                              |                                              | Q62703-Q2155                   |      |
|                                                                                     | LG 3341-N                                                                           |                                  |                                          |                                | 28.00 ... 45.0          | 30 (typ.)               |                              |                                              | Q62703-Q3187                   |      |
|                                                                                     | LG 3341-MQ                                                                          |                                  |                                          |                                | 18.00 ... 112.0         | 60 (typ.)               |                              |                                              | Q62703-Q2156                   |      |
|                                                                                     | LP 3341-JM                                                                          | pure green                       | 560                                      | green clear                    | 4.50 ... 28.0           | 14 (typ.)               | 10                           | 40                                           | Q62703-Q3815                   |      |
|                                                                                     | LP 3341-K                                                                           |                                  |                                          |                                | 7.10 ... 11.2           | 7 (typ.)                |                              |                                              | Q62703-Q3816                   |      |
|                                                                                     | LP 3341-L                                                                           |                                  |                                          |                                | 11.20 ... 18.0          | 12 (typ.)               |                              |                                              | Q62703-Q2986                   |      |
|                                                                                     | LP 3341-M                                                                           |                                  |                                          |                                | 18.00 ... 28.0          | 20 (typ.)               |                              |                                              | Q62703-Q2919                   |      |
|                                                                                     | LP 3341-KN                                                                          |                                  |                                          |                                | 7.10 ... 45.0           | 22 (typ.)               |                              |                                              | Q62703-Q2750                   |      |
|                                                                                     |  | LS 3340-KN                       | super-red                                | 628                            | red clear               | 7.10 ... 45.0           | 35 (typ.)                    | 10                                           | 50                             |      |
| LS 3340-L                                                                           |                                                                                     | 11.20 ... 18.0                   |                                          |                                |                         | 20 (typ.)               | Q62703-Q1702                 |                                              |                                |      |
| LS 3340-M                                                                           |                                                                                     | 18.00 ... 28.0                   |                                          |                                |                         | 30 (typ.)               | Q62703-Q1704                 |                                              |                                |      |
| LS 3340-N                                                                           |                                                                                     | 28.00 ... 45.0                   |                                          |                                |                         | 45 (typ.)               | Q62703-Q2320                 |                                              |                                |      |
| LS 3340-LP                                                                          |                                                                                     | 11.20 ... 71.0                   |                                          |                                |                         | 55 (typ.)               | Q62703-Q3223                 |                                              |                                |      |
| LO 3340-KN                                                                          |                                                                                     | orange                           | 605                                      | orange clear                   | 7.10 ... 45.0           | 35 (typ.)               | 10                           | 50                                           | Q62703-Q1886                   |      |
| LO 3340-L                                                                           |                                                                                     |                                  |                                          |                                | 11.20 ... 18.0          | 20 (typ.)               |                              |                                              | Q62703-Q2256                   |      |
| LO 3340-M                                                                           |                                                                                     |                                  |                                          |                                | 18.00 ... 28.0          | 30 (typ.)               |                              |                                              | Q62703-Q2255                   |      |
| LO 3340-N                                                                           |                                                                                     |                                  |                                          |                                | 28.00 ... 45.0          | 45 (typ.)               |                              |                                              | Q62703-Q2473                   |      |
| LO 3340-LP                                                                          |                                                                                     |                                  |                                          |                                | 11.20 ... 71.0          | 55 (typ.)               |                              |                                              | Q62703-Q2628                   |      |
| LY 3340-JM                                                                          |                                                                                     | yellow                           | 590                                      | yellow clear                   | 4.50 ... 28.0           | 20 (typ.)               | 10                           | 50                                           | Q62703-Q1789                   |      |
| LY 3340-L                                                                           |                                                                                     |                                  |                                          |                                | 11.20 ... 18.0          | 20 (typ.)               |                              |                                              | Q62703-Q1791                   |      |
| LY 3340-M                                                                           |                                                                                     |                                  |                                          |                                | 18.00 ... 28.0          | 30 (typ.)               |                              |                                              | Q62703-Q1999                   |      |
| LY 3340-N                                                                           |                                                                                     |                                  |                                          |                                | 28.00 ... 45.0          | 45 (typ.)               |                              |                                              | Q62703-Q2652                   |      |
| LY 3340-LP                                                                          |                                                                                     |                                  |                                          |                                | 11.20 ... 71.0          | 55 (typ.)               |                              |                                              | Q62703-Q1792                   |      |
| LG 3330-KN                                                                          | green                                                                               | 570                              | colorless clear                          | 7.10 ... 45.0                  | 35 (typ.)               | 10                      | 50                           | Q62703-Q1698                                 |                                |      |
| LG 3330-L                                                                           |                                                                                     |                                  |                                          | 11.20 ... 18.0                 | 20 (typ.)               |                         |                              | Q62703-Q1699                                 |                                |      |
| LG 3330-M                                                                           |                                                                                     |                                  |                                          | 18.00 ... 28.0                 | 30 (typ.)               |                         |                              | Q62703-Q1700                                 |                                |      |
| LG 3330-N                                                                           |                                                                                     |                                  |                                          | 28.00 ... 45.0                 | 45 (typ.)               |                         |                              | Q62703-Q2010                                 |                                |      |
| LG 3330-LP                                                                          |                                                                                     |                                  |                                          | 11.20 ... 71.0                 | 55 (typ.)               |                         |                              | Q62703-Q2011                                 |                                |      |
| LP 3340-JL                                                                          | pure green                                                                          | 560                              | green clear                              | 4.50 ... 18.0                  | 10 (typ.)               | 10                      | 50                           | Q62703-Q2749                                 |                                |      |
| LP 3340-K                                                                           |                                                                                     |                                  |                                          | 7.10 ... 11.2                  | 9 (typ.)                |                         |                              | Q62703-Q2982                                 |                                |      |
| LP 3340-L                                                                           |                                                                                     |                                  |                                          | 11.20 ... 18.0                 | 14 (typ.)               |                         |                              | Q62703-Q2980                                 |                                |      |
| LP 3340-KM                                                                          |                                                                                     |                                  |                                          | 7.10 ... 28.0                  | 17 (typ.)               |                         |                              | Q62703-Q3211                                 |                                |      |
|                                                                                     |                                                                                     |                                  |                                          |                                |                         |                         |                              |                                              |                                |      |
|  | LH 3364-LP                                                                          | hyper-red                        | 645                                      | red diffused                   | 11.20 ... 71.0          | 80 (typ.)               | 10                           | 45                                           | Q62703-Q3202                   | 19   |
|                                                                                     | LH 3364-M                                                                           |                                  |                                          |                                | 18.00 ... 28.0          | 40 (typ.)               |                              |                                              | Q62703-Q3203                   |      |
|                                                                                     | LH 3364-N                                                                           |                                  |                                          |                                | 28.00 ... 45.0          | 70 (typ.)               |                              |                                              | Q62703-Q2798                   |      |
|                                                                                     | LH 3364-MQ                                                                          |                                  |                                          |                                | 18.00 ... 112.0         | 130 (typ.)              |                              |                                              | Q62703-Q3201                   |      |

## RADIALE LED

## RADIAL LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|--------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

## 3 mm LED (Forts.)

## 3 mm LEDs (cont'd)

|                                                                                   |                                                                 |            |     |                 |                                                                                   |                                                               |    |    |                                                                              |    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------|------------|-----|-----------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------|----|----|------------------------------------------------------------------------------|----|
|  | LR 3360-DG<br>LR 3360-F<br>LR 3360-G<br>LR 3360-FJ              | red        | 645 | red diffused    | 0.45 ... 2.8<br>1.12 ... 1.8<br>1.80 ... 2.8<br>1.12 ... 7.1                      | 6 (typ.)<br>5 (typ.)<br>8 (typ.)<br>14 (typ.)                 | 10 | 70 | Q62703-Q1316<br>Q62703-Q1317<br>Q62703-Q1318<br>Q62703-Q1319                 | 22 |
|                                                                                   | LS 3360-HL<br>LS 3360-K<br>LS 3360-L<br>LS 3360-KN              | super-red  | 628 | red diffused    | 2.80 ... 18.0<br>7.10 ... 11.2<br>11.20 ... 18.0<br>7.10 ... 45.0                 | 26 (typ.)<br>20 (typ.)<br>35 (typ.)<br>65 (typ.)              | 10 | 70 | Q62703-Q1320<br>Q62703-Q1321<br>Q62703-Q1322<br>Q62703-Q1323                 |    |
|                                                                                   | LO 3360-HL<br>LO 3360-K<br>LO 3360-L<br>LO 3360-JM              | orange     | 605 | orange diffused | 2.80 ... 18.0<br>7.10 ... 11.2<br>11.20 ... 18.0<br>4.50 ... 28.0                 | 26 (typ.)<br>20 (typ.)<br>35 (typ.)<br>40 (typ.)              | 10 | 70 | Q62703-Q1887<br>Q62703-Q2400<br>Q62703-Q2596<br>Q62703-Q2410                 |    |
|                                                                                   | LY 3360-HL<br>LY 3360-K<br>LY 3360-L<br>LY 3360-KN              | yellow     | 590 | yellow diffused | 2.80 ... 18.0<br>7.10 ... 11.2<br>11.20 ... 18.0<br>7.10 ... 45.0                 | 26 (typ.)<br>20 (typ.)<br>35 (typ.)<br>65 (typ.)              | 10 | 70 | Q62703-Q1324<br>Q62703-Q1325<br>Q62703-Q1326<br>Q62703-Q1998                 |    |
|                                                                                   | LG 3360-HL<br>LG 3360-J<br>LG 3360-K<br>LG 3360-L<br>LG 3360-KN | green      | 570 | green diffused  | 2.80 ... 18.0<br>4.50 ... 7.1<br>7.10 ... 11.2<br>11.20 ... 18.0<br>7.10 ... 45.0 | 26 (typ.)<br>15 (typ.)<br>20 (typ.)<br>35 (typ.)<br>65 (typ.) | 10 | 70 | Q62703-Q3818<br>Q62703-Q1865<br>Q62703-Q2008<br>Q62703-Q3507<br>Q62703-Q3819 |    |
|                                                                                   | LP 3360-GK<br>LP 3360-H<br>LP 3360-J<br>LP 3360-HL              | pure green | 560 | green diffused  | 1.80 ... 11.2<br>2.80 ... 4.5<br>4.50 ... 7.1<br>2.80 ... 18.0                    | 16 (typ.)<br>9 (typ.)<br>14 (typ.)<br>26 (typ.)               | 10 | 70 | Q62703-Q2467<br>Q62703-Q2914<br>Q62703-Q2915<br>Q62703-Q3213                 |    |

## Hyper 3 mm LED

## Hyper 3 mm LEDs

|                                                                                     |                                                                 |           |     |                 |                                                                                              |                                                                    |    |    |                                                                              |    |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|-----|-----------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----|----|------------------------------------------------------------------------------|----|
|  | LS 3336-QT<br>LS 3336-R<br>LS 3336-S<br>LS 3336-T<br>LS 3336-RU | super-red | 632 | colorless clear | 71.0 ... 450.0<br>112.0 ... 180.0<br>180.0 ... 280.0<br>280.0 ... 450.0<br>112.0 ... 710.0   | 390 (typ.)<br>210 (typ.)<br>330 (typ.)<br>520 (typ.)<br>620 (typ.) | 20 | 50 | Q62703-Q3482<br>Q62703-Q3484<br>Q62703-Q3485<br>Q62703-Q3813<br>Q62703-Q3486 | 22 |
|                                                                                     | LA 3336-RU<br>LA 3336-S<br>LA 3336-T<br>LA 3336-U<br>LA 3336-SV | amber     | 615 | colorless clear | 112.0 ... 710.0<br>180.0 ... 280.0<br>280.0 ... 450.0<br>450.0 ... 710.0<br>180.0 ... 1120.0 | 600 (typ.)<br>320 (typ.)<br>500 (typ.)<br>800 (typ.)<br>940 (typ.) | 20 | 50 | Q62703-Q3554<br>Q62703-Q3551<br>Q62703-Q3552<br>Q62703-Q3553<br>Q62703-Q3555 |    |
|                                                                                     | LO 3336-RU<br>LO 3336-S<br>LO 3336-T<br>LO 3336-U<br>LO 3336-SV | orange    | 605 | colorless clear | 112.0 ... 710.0<br>180.0 ... 280.0<br>280.0 ... 450.0<br>450.0 ... 710.0<br>180.0 ... 1120.0 | 600 (typ.)<br>320 (typ.)<br>500 (typ.)<br>800 (typ.)<br>940 (typ.) | 20 | 50 | Q62703-Q3144<br>Q62703-Q3176<br>Q62703-Q3170<br>Q62703-Q3307<br>Q62703-Q3177 |    |
|                                                                                     | LY 3336-RU<br>LY 3336-S<br>LY 3336-T<br>LY 3336-U<br>LY 3336-SV | yellow    | 587 | colorless clear | 112.0 ... 710.0<br>180.0 ... 280.0<br>280.0 ... 450.0<br>450.0 ... 710.0<br>180.0 ... 1120.0 | 600 (typ.)<br>320 (typ.)<br>500 (typ.)<br>800 (typ.)<br>940 (typ.) | 20 | 50 | Q62703-Q3487<br>Q62703-Q3489<br>Q62703-Q3490<br>Q62703-Q3814<br>Q62703-Q3491 |    |
|                                                                                     | LB 3336<br>LB 3336-M<br>LB 3336-N<br>LB 3336-P<br>LB 3336-Q     | blue      | 465 | colorless clear | 18.0 ... 28.0<br>28.0 ... 45.0<br>45.0 ... 71.0<br>71.0 ... 112.0                            | 15 (typ.)<br>23 (typ.)<br>36 (typ.)<br>56 (typ.)                   | 10 | 50 | Q62703-Q4068                                                                 |    |

Nicht für Neuentwicklungen / Not for new design

# LUMINESZENZDIODEN

# LIGHT EMITTING DIODES

## RADIALE LED

## RADIAL LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                         |                         |                              | 2φ (typ.)<br>(50% I <sub>V</sub> )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|--------------------------------|-------------------------|-------------------------|------------------------------|----------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                | I <sub>V</sub><br>[mcd] | Φ <sub>V</sub><br>[mlm] | at<br>I <sub>F</sub><br>[mA] |                                              |                                |      |

### Hyper 3 mm LED (Forts.)

### Hyper 3 mm LEDs (cont'd)

|                                                                                     |                                                                 |            |     |                    |                                                                                          |                                                                    |    |    |                                                                              |    |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|------------|-----|--------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----|----|------------------------------------------------------------------------------|----|
|    | LS 3366-NR<br>LS 3366-P<br>LS 3366-Q<br>LS 3366-R<br>LS 3366-PS | super-red  | 632 | red<br>diffused    | 28.0 ... 180.0<br>45.0 ... 71.0<br>71.0 ... 112.0<br>112.0 ... 180.0<br>45.0 ... 280.0   | 360 (typ.)<br>190 (typ.)<br>300 (typ.)<br>480 (typ.)<br>580 (typ.) | 20 | 70 | Q62703-Q3457<br>Q62703-Q3458<br>Q62703-Q3459<br>Q62703-Q3460<br>Q62703-Q3461 | 22 |
|                                                                                     | LA 3366-PS<br>LA 3366-Q<br>LA 3366-R<br>LA 3366-S<br>LA 3366-QT | amber      | 615 | orange diffused    | 45.0 ... 280.0<br>71.0 ... 112.0<br>112.0 ... 180.0<br>180.0 ... 280.0<br>71.0 ... 450.0 | 540 (typ.)<br>280 (typ.)<br>450 (typ.)<br>720 (typ.)<br>840 (typ.) | 20 | 70 | Q62703-Q3881<br>Q62703-Q3882<br>Q62703-Q3883<br>Q62703-Q3884<br>Q62703-Q3885 |    |
|                                                                                     | LO 3366-PS<br>LO 3366-Q<br>LO 3366-R<br>LO 3366-S<br>LO 3366-QT | orange     | 605 | orange diffused    | 45.0 ... 280.0<br>71.0 ... 112.0<br>112.0 ... 180.0<br>180.0 ... 280.0<br>71.0 ... 450.0 | 540 (typ.)<br>280 (typ.)<br>450 (typ.)<br>720 (typ.)<br>840 (typ.) | 20 | 70 | Q62703-Q3127<br>Q62703-Q3172<br>Q62703-Q3173<br>Q62703-Q3174<br>Q62703-Q3175 |    |
|                                                                                     | LY 3366-PS<br>LY 3366-Q<br>LY 3366-R<br>LY 3366-S<br>LY 3366-QT | yellow     | 587 | yellow<br>diffused | 45.0 ... 280.0<br>71.0 ... 112.0<br>112.0 ... 180.0<br>180.0 ... 280.0<br>71.0 ... 450.0 | 540 (typ.)<br>280 (typ.)<br>450 (typ.)<br>720 (typ.)<br>840 (typ.) | 20 | 70 | Q62703-Q3462<br>Q62703-Q3464<br>Q62703-Q3465<br>Q62703-Q3466                 |    |
|   | LB 3356<br>LB 3356-J<br>LB 3356-K<br>LB 3356-L                  | blue       | 465 | colorless diffused | 4.5 ... 7.1<br>7.1 ... 11.2<br>11.2 ... 18.0                                             | 20 (typ.)<br>30 (typ.)<br>45 (typ.)                                | 10 | 70 | Q62703-Q4192                                                                 | 22 |
|  | LB 3333-PR<br>LB 3333-RT                                        | blue       | 470 | colorless clear    | 45.0 ... 180.0<br>112.0 ... 450.0                                                        | 120 (typ.)<br>300 (typ.)                                           | 20 | 30 | Q62703-Q4841                                                                 |    |
|  | LV 3333-SU<br>LV 3333-UAW                                       | verde      | 505 | colorless clear    | 180.0 ... 710.0<br>450.0 ... 1800.0                                                      | 480 (typ.)<br>1200 (typ.)                                          | 20 | 30 | on request                                                                   |    |
|  | LT 3333-SU<br>LT 3333-UAW                                       | true green | 528 | colorless clear    | 180.0 ... 710.0<br>450.0 ... 1800.0                                                      | 480 (typ.)<br>1200 (typ.)                                          | 20 | 30 | Q62703-Q4855                                                                 |    |

### 3 mm LED

### 3 mm LEDs

|                                                                                     |                                                                 |           |     |                 |                                                                            |                                                               |    |     |                                                                              |    |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|-----|-----------------|----------------------------------------------------------------------------|---------------------------------------------------------------|----|-----|------------------------------------------------------------------------------|----|
|  | LS 3380-GK<br>LS 3380-H<br>LS 3380-J<br>LS 3380-K<br>LS 3380-HL | super-red | 628 | red diffused    | 1.8 ... 11.2<br>2.8 ... 4.5<br>4.5 ... 7.1<br>7.1 ... 11.2<br>2.8 ... 18.0 | 35 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.) | 10 | 100 | Q62703-Q2629<br>Q62703-Q1726<br>Q62703-Q1349<br>Q62703-Q3824<br>Q62703-Q2630 | 22 |
|                                                                                     | LY 3380-GK<br>LY 3380-H<br>LY 3380-J<br>LY 3380-K<br>LY 3380-HL | yellow    | 590 | yellow diffused | 1.8 ... 11.2<br>2.8 ... 4.5<br>4.5 ... 7.1<br>7.1 ... 11.2<br>2.8 ... 18.0 | 35 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.) | 10 | 100 | Q62703-Q1352<br>Q62703-Q1353<br>Q62703-Q1354<br>Q62703-Q2317<br>Q62703-Q1355 |    |
|                                                                                     | LG 3380-GK<br>LG 3380-J<br>LG 3380-K<br>LG 3380-JL              | green     | 570 | green diffused  | 1.8 ... 11.2<br>4.5 ... 7.1<br>7.1 ... 11.2<br>4.5 ... 18.0                | 45 (typ.)<br>20 (typ.)<br>30 (typ.)<br>40 (typ.)              | 10 | 100 | Q62703-Q1356<br>Q62703-Q2318<br>Q62703-Q2631<br>Q62703-Q3910                 |    |
|                                                                                     |                                                                 |           |     |                 |                                                                            |                                                               |    |     |                                                                              |    |
|                                                                                     |                                                                 |           |     |                 |                                                                            |                                                               |    |     |                                                                              |    |
|                                                                                     |                                                                 |           |     |                 |                                                                            |                                                               |    |     |                                                                              |    |
|                                                                                     |                                                                 |           |     |                 |                                                                            |                                                               |    |     |                                                                              |    |
|                                                                                     |                                                                 |           |     |                 |                                                                            |                                                               |    |     |                                                                              |    |
|                                                                                     |                                                                 |           |     |                 |                                                                            |                                                               |    |     |                                                                              |    |

## RADIALE LED

## RADIAL LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|--------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

## Hyper 3 mm LED

## Hyper 3 mm LEDs

|                                                                                   |                                                                 |           |     |                 |                                                                                      |                                                                    |    |     |                                                                              |    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|-----|-----------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------|----|-----|------------------------------------------------------------------------------|----|
|  | LS 3386-LP<br>LS 3386-M<br>LS 3386-N<br>LS 3386-P<br>LS 3386-MQ | super-red | 632 | red diffused    | 11.2 ... 71.0<br>18.0 ... 28.0<br>28.0 ... 45.0<br>45.0 ... 71.0<br>18.0 ... 112.0   | 360 (typ.)<br>190 (typ.)<br>300 (typ.)<br>480 (typ.)<br>560 (typ.) | 20 | 100 | Q62703-Q3579<br>Q62703-Q3581<br>Q62703-Q3582<br>Q62703-Q3709<br>Q62703-Q3580 | 22 |
|                                                                                   | LA 3386-MQ<br>LA 3386-N<br>LA 3386-P<br>LA 3386-Q<br>LA 3386-NR | amber     | 615 | orange diffused | 18.0 ... 112.0<br>28.0 ... 45.0<br>45.0 ... 71.0<br>71.0 ... 112.0<br>28.0 ... 180.0 | 530 (typ.)<br>280 (typ.)<br>450 (typ.)<br>700 (typ.)<br>840 (typ.) | 20 | 100 | Q62703-Q3886<br>Q62703-Q3887<br>Q62703-Q3888<br>Q62703-Q3889<br>Q62703-Q3890 |    |
|                                                                                   | LO 3386-MQ<br>LO 3386-N<br>LO 3386-P<br>LO 3386-Q<br>LO 3386-NR | orange    | 605 | orange diffused | 18.0 ... 112.0<br>28.0 ... 45.0<br>45.0 ... 71.0<br>71.0 ... 112.0<br>28.0 ... 180.0 | 530 (typ.)<br>280 (typ.)<br>450 (typ.)<br>700 (typ.)<br>840 (typ.) | 20 | 100 | Q62703-Q3891<br>Q62703-Q3892<br>Q62703-Q3893<br>Q62703-Q3894<br>Q62703-Q3895 |    |
|                                                                                   | LY 3386-MQ<br>LY 3386-N<br>LY 3386-P<br>LY 3386-Q<br>LY 3386-NR | yellow    | 587 | yellow diffused | 18.0 ... 112.0<br>28.0 ... 45.0<br>45.0 ... 71.0<br>71.0 ... 112.0<br>28.0 ... 180.0 | 530 (typ.)<br>280 (typ.)<br>450 (typ.)<br>700 (typ.)<br>840 (typ.) | 20 | 100 | Q62703-Q3896<br>Q62703-Q3897<br>Q62703-Q3898<br>Q62703-Q3899<br>Q62703-Q3900 |    |

## LC (Niedrigstrom) 3 mm LED

## LC (Low Current) 3 mm LEDs

|                                                                                     |                                                                 |           |     |                 |                                                                              |                       |   |    |                                                                              |    |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|-----|-----------------|------------------------------------------------------------------------------|-----------------------|---|----|------------------------------------------------------------------------------|----|
|  | LS 3369-EH<br>LS 3369-G<br>LS 3369-H<br>LS 3369-GK              | super-red | 628 | red diffused    | 0.71 ... 4.5<br>1.80 ... 2.8<br>2.80 ... 4.5<br>1.80 ... 11.2                | —<br>—<br>—<br>—      | 2 | 60 | Q62703-Q1748<br>Q62703-Q2068<br>Q62703-Q3820<br>Q62703-Q3821                 | 22 |
|                                                                                     | LY 3369-EH<br>LY 3369-F<br>LY 3369-G<br>LY 3369-H<br>LY 3369-FJ | yellow    | 590 | yellow diffused | 0.71 ... 4.5<br>1.12 ... 1.8<br>1.80 ... 2.8<br>2.80 ... 4.5<br>1.12 ... 7.1 | —<br>—<br>—<br>—<br>— | 2 | 60 | Q62703-Q1749<br>Q62703-Q2030<br>Q62703-Q2029<br>Q62703-Q1906<br>Q62703-Q3822 |    |
|                                                                                     | LG 3369-EH<br>LG 3369-F<br>LG 3369-G<br>LG 3369-FJ              | green     | 570 | green diffused  | 0.71 ... 4.5<br>1.12 ... 1.8<br>1.80 ... 2.8<br>1.12 ... 7.1                 | —<br>—<br>—<br>—      | 2 | 60 | Q62703-Q1750<br>Q62703-Q2069<br>Q62703-Q2070<br>Q62703-Q3823                 |    |

3 mm MULTILED®<sup>1)</sup>3 mm MULTILED®<sup>1)</sup>

|                                                                                     |             |                     |             |                    |                 |   |    |    |              |    |
|-------------------------------------------------------------------------------------|-------------|---------------------|-------------|--------------------|-----------------|---|----|----|--------------|----|
|  | LSG 3331-JO | super-red/<br>green | 628/<br>570 | colorless clear    | ≥ 4.5 (18 typ.) | — | 10 | 40 | Q62703-Q2296 | 23 |
|                                                                                     |             |                     |             |                    |                 |   |    |    |              |    |
|                                                                                     | LSG 3351-HO | super-red/<br>green | 628/<br>570 | colorless diffused | ≥ 2.8 (10 typ.) | — | 10 | 50 | Q62703-Q2297 |    |
|                                                                                     |             |                     |             |                    |                 |   |    |    |              |    |

<sup>1)</sup> weitere Chipkombinationen auf Anfrage<sup>1)</sup> other chip combinations on request.
 Nicht für Neuentwicklungen / Not for new design

## LUMINESZENZDIODEN

## LIGHT EMITTING DIODES

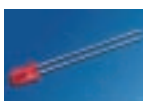
## RADIALE LED

## RADIAL LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|--------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

## 5 mm LED

## 5 mm LEDs

|                                                                                   |                                                                 |           |                 |                                                                      |                                                                        |                                                               |    |                                                                              |                                                                              |    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|-----------------|----------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------|----|------------------------------------------------------------------------------|------------------------------------------------------------------------------|----|
|  | LH 5424-QT<br>LH 5424-S<br>LH 5424-T<br>LH 5424-SU              | hyper-red | 645             | red clear                                                            | 71 ... 450<br>180 ... 280<br>280 ... 450<br>180 ... 710                | 60 (typ.)<br>50 (typ.)<br>80 (typ.)<br>100 (typ.)             | 10 | 16                                                                           | Q62703-Q2242<br>Q62703-Q3826<br>Q62703-Q3827<br>Q62703-Q3828                 | 24 |
|                                                                                   | LS 5421-NR<br>LS 5421-Q<br>LS 5421-R<br>LS 5421-S<br>LS 5421-QT | super-red | 628             | red clear                                                            | 28 ... 180<br>71 ... 112<br>112 ... 180<br>180 ... 280<br>71 ... 450   | 20 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.) | 10 | 20                                                                           | Q62703-Q1994<br>Q62703-Q1442<br>Q62703-Q1738<br>Q62703-Q2405<br>Q62703-Q1995 | 25 |
|                                                                                   | LO 5411-QT<br>LO 5411-R<br>LO 5411-S<br>LO 5411-T<br>LO 5411-RU | orange    | 605             | colorless clear                                                      | 71 ... 450<br>112 ... 180<br>180 ... 280<br>280 ... 450<br>112 ... 710 | 70 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.) | 10 | 20                                                                           | Q62703-Q3928<br>Q62703-Q3929<br>Q62703-Q3930<br>Q62703-Q3931<br>Q62703-Q3932 |    |
|                                                                                   | LY 5421-NR<br>LY 5421-Q<br>LY 5421-R<br>LY 5421-S<br>LY 5421-QT | yellow    | 590             | yellow clear                                                         | 28 ... 180<br>71 ... 112<br>112 ... 180<br>180 ... 280<br>71 ... 450   | 20 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.) | 10 | 20                                                                           | Q62703-Q1444<br>Q62703-Q1446<br>Q62703-Q2005<br>Q62703-Q2632<br>Q62703-Q1447 |    |
| LG 5411-NR<br>LG 5411-Q<br>LG 5411-R<br>LG 5411-S<br>LG 5411-QT                   | green                                                           | 570       | colorless clear | 28 ... 180<br>71 ... 112<br>112 ... 180<br>180 ... 280<br>71 ... 450 | 20 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.)          | 10                                                            | 20 | Q62703-Q2023<br>Q62703-Q1739<br>Q62703-Q1451<br>Q62703-Q2321<br>Q62703-Q2024 |                                                                              |    |
| LS 5420-MQ<br>LS 5420-P<br>LS 5420-Q<br>LS 5420-R<br>LS 5420-PT                   | super-red                                                       | 628       | red clear       | 18 ... 112<br>45 ... 71<br>71 ... 112<br>112 ... 180<br>45 ... 450   | 20 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>90 (typ.)          | 10                                                            | 24 | Q62703-Q1428<br>Q62703-Q1430<br>Q62703-Q1993<br>Q62703-Q1429<br>Q62703-Q1431 |                                                                              |    |
| LY 5420-MQ<br>LY 5420-P<br>LY 5420-Q<br>LY 5420-R<br>LY 5420-PS                   | yellow                                                          | 590       | yellow clear    | 18 ... 112<br>45 ... 71<br>71 ... 112<br>112 ... 180<br>45 ... 280   | 20 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>90 (typ.)          | 10                                                            | 24 | Q62703-Q1432<br>Q62703-Q1434<br>Q62703-Q2004<br>Q62703-Q3235<br>Q62703-Q1435 |                                                                              |    |
| LG 5410-MQ<br>LG 5410-P<br>LG 5410-Q<br>LG 5410-R<br>LG 5410-PS                   | green                                                           | 570       | colorless clear | 18 ... 112<br>45 ... 71<br>71 ... 112<br>112 ... 180<br>45 ... 280   | 20 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.)          | 10                                                            | 24 | Q62703-Q1439<br>Q62703-Q1868<br>Q62703-Q2020<br>Q62703-Q2021<br>Q62703-Q2022 |                                                                              |    |

## Hyper 5 mm LED

## Hyper 5 mm LEDs

|                                                                                     |                             |           |     |                 |                               |                          |    |    |                          |    |
|-------------------------------------------------------------------------------------|-----------------------------|-----------|-----|-----------------|-------------------------------|--------------------------|----|----|--------------------------|----|
|  | LS 5426-TV<br>LS 5426-VBW   | super-red | 632 | red clear       | 280 ... 1120<br>710 ... 2800  | 240 (typ.)<br>380 (typ.) | 20 | 16 | on request<br>on request | 25 |
|                                                                                     | LO 5426-VAW<br>LO 5426-AWCW | orange    | 605 | orange clear    | 710 ... 1800<br>1120 ... 4500 | 380 (typ.)<br>580 (typ.) | 20 | 16 | on request<br>on request |    |
|                                                                                     | LY 5426-VAW<br>LY 5426-AWCW | yellow    | 587 | yellow clear    | 710 ... 1800<br>1120 ... 4500 | 380 (typ.)<br>580 (typ.) | 20 | 16 | on request<br>on request |    |
|                                                                                     | LA 5416-VAW<br>LA 5416-AWCW | amber     | 615 | colorless clear | 710 ... 1800<br>1120 ... 4500 | 380 (typ.)<br>580 (typ.) | 20 | 16 | on request<br>on request |    |
|                                                                                     | LS D446                     | super-red | 632 | red clear       | 250 (typ.)                    | —                        | 20 | 40 | on request               | 26 |
|                                                                                     | LO D446                     | orange    | 605 | orange clear    | 400 (typ.)                    | —                        | 20 | 40 | on request               |    |
|                                                                                     | LY D446                     | yellow    | 587 | yellow clear    | 380 (typ.)                    | —                        | 20 | 40 | on request               |    |

Nicht für Neuentwicklungen / Not for new design



## LUMINESZENZDIODEN

## LIGHT EMITTING DIODES

## RADIALE LED

## RADIAL LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|--------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                | $I_V$<br>[mcd] | $\Phi_V$<br>[mim] | at<br>$I_F$<br>[mA] |                                           |                                |      |

## Hyper 5 mm LED (Forts.)

## Hyper 5 mm LEDs (cont'd)

|                                                                                     |                                                |            |     |                    |                                              |                                     |    |    |              |    |
|-------------------------------------------------------------------------------------|------------------------------------------------|------------|-----|--------------------|----------------------------------------------|-------------------------------------|----|----|--------------|----|
|    | LB 5416<br>LB 5416-P<br>LB 5416-Q<br>LB 5416-R | blue       | 465 | colorless clear    | 45 ... 71<br>71 ... 112<br>112 ... 180       | 26 (typ.)<br>41 (typ.)<br>66 (typ.) | 10 | 14 | Q62703-Q4256 | 25 |
|                                                                                     | LS 5436-SO                                     | super-red  | 632 | colorless clear    | $\geq 180$<br>(500 typ.)                     | —                                   | 20 | 40 | Q62703-Q3626 |    |
|                                                                                     | LA 5436-TO                                     | amber      | 615 | colorless clear    | $\geq 280$<br>(700 typ.)                     | —                                   | 20 | 40 | Q62703-Q3919 |    |
|                                                                                     | LO 5436-TO                                     | orange     | 605 | colorless clear    | $\geq 280$<br>(700 typ.)                     | —                                   | 20 | 40 | Q62703-Q3628 |    |
|                                                                                     | LY 5436-TO                                     | yellow     | 587 | colorless clear    | $\geq 280$<br>(700 typ.)                     | —                                   | 20 | 40 | Q62703-Q3630 |    |
|                                                                                     | LB 5436<br>LB 5436-N<br>LB 5436-P<br>LB 5436-Q | blue       | 465 | colorless clear    | 28 ... 45<br>45 ... 71<br>71 ... 112         | 20 (typ.)<br>30 (typ.)<br>45 (typ.) | 10 | 35 | Q62703-Q4028 |    |
|                                                                                     | LB 5413-TV<br>LB 5413-VBW                      | blue       | 470 | colorless clear    | 280 ... 1120<br>710 ... 2800                 | 120 (typ.)<br>300 (typ.)            | 20 | 15 | Q62703-Q4842 |    |
|                                                                                     | LV 5413-VBW<br>LV 5413-BWDW                    | verde      | 505 | colorless clear    | 710 ... 2800<br>1800 ... 7100                | 470 (typ.)<br>1200 (typ.)           | 20 | 15 | Q62703-Q4849 |    |
|                                                                                     | LT 5413-VBW<br>LT 5413-BWDW                    | true green | 528 | colorless clear    | 710 ... 2800<br>1800 ... 7100                | 470 (typ.)<br>1200 (typ.)           | 20 | 15 | Q62703-Q4856 |    |
|                                                                                     | LB 5433-QS<br>LB 5433-SU                       | blue       | 470 | colorless clear    | 71 ... 280<br>180 ... 710                    | 120 (typ.)<br>300 (typ.)            | 20 | 40 | Q62703-Q4843 |    |
|                                                                                     | LV 5433-TV<br>LV 5433-VBW                      | verde      | 505 | colorless clear    | 280 ... 1120<br>710 ... 2800                 | 470 (typ.)<br>1000 (typ.)           | 20 | 40 | Q62703-Q4850 |    |
|                                                                                     | LT 5433-TV<br>LT 5433-VBW                      | true green | 528 | colorless clear    | 280 ... 1120<br>710 ... 2800                 | 470 (typ.)<br>1000 (typ.)           | 20 | 40 | Q62703-Q4857 |    |
|                                                                                     | LB D433-RT<br>LB D433-TV                       | blue       | 470 | colorless clear    | 112 ... 450<br>280 ... 1120                  | 190 (typ.)<br>470 (typ.)            | 20 | 40 | on request   |    |
|                                                                                     | LT D433-TV<br>LT D433-VBW                      | true green | 528 | colorless clear    | 280 ... 1120<br>710 ... 2800                 | 470 (typ.)<br>1000 (typ.)           | 20 | 40 | on request   |    |
|  | LB 5456<br>LB 5456-J<br>LB 5456-K<br>LB 5456-L | blue       | 465 | colorless diffused | 4.5 ... 7.1<br>7.1 ... 11.2<br>11.2 ... 18.0 | 20 (typ.)<br>30 (typ.)<br>45 (typ.) | 10 | 50 | Q62703-Q4244 | 25 |

## 5 mm LED

## 5 mm LEDs

|                                                                                     |                                                                 |           |     |                 |                                                                                        |                                                               |    |    |                                                                              |    |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|-----|-----------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------|----|----|------------------------------------------------------------------------------|----|
|  | LR 5360-DG<br>LR 5360-F<br>LR 5360-G<br>LR 5360-FJ              | red       | 645 | red diffused    | 0.45 ... 2.80<br>1.12 ... 1.80<br>1.80 ... 2.80<br>1.12 ... 7.10                       | 4 (typ.)<br>3 (typ.)<br>5 (typ.)<br>6 (typ.)                  | 10 | 50 | Q62703-Q1376<br>Q62703-Q1377<br>Q62703-Q1378<br>Q62703-Q1379                 | 27 |
|                                                                                     | LS 5360-HL<br>LS 5360-J<br>LS 5360-K<br>LS 5360-L<br>LS 5360-JM | super-red | 628 | red diffused    | 2.80 ... 18.00<br>4.50 ... 7.10<br>7.10 ... 11.20<br>11.20 ... 18.00<br>4.50 ... 28.00 | 35 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.) | 10 | 50 | Q62703-Q1380<br>Q62703-Q1744<br>Q62703-Q1381<br>Q62703-Q2001<br>Q62703-Q3224 |    |
|                                                                                     | LY 5360-HL<br>LY 5360-J<br>LY 5360-K<br>LY 5360-L<br>LY 5360-JM | yellow    | 590 | yellow diffused | 2.80 ... 18.00<br>4.50 ... 7.10<br>7.10 ... 11.20<br>11.20 ... 18.00<br>4.50 ... 28.00 | 35 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.) | 10 | 50 | Q62703-Q2000<br>Q62703-Q1386<br>Q62703-Q2001<br>Q62702-Q2404<br>Q62703-Q1387 |    |
|                                                                                     | LG 5360-GK<br>LG 5360-H<br>LG 5360-J<br>LG 5360-K<br>LG 5360-HL | green     | 570 | green diffused  | 1.80 ... 11.20<br>2.80 ... 4.50<br>4.50 ... 7.10<br>7.10 ... 11.20<br>2.80 ... 18.00   | 20 (typ.)<br>12 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.) | 10 | 50 | Q62703-Q1391<br>Q62703-Q1390<br>Q62703-Q1866<br>Q62703-Q2012<br>Q62703-Q3188 |    |
|                                                                                     |                                                                 |           |     |                 |                                                                                        |                                                               |    |    |                                                                              |    |

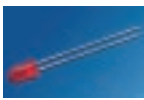
## RADIALE LED

## RADIAL LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|--------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

## 5 mm LED (Forts.)

## 5 mm LEDs (cont'd)

|                                                                                   |                                                                 |           |                 |                                                                                        |                                                                                                |                                                               |     |                                                                              |                                                                                     |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|-----------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  | LH 5464-MQ<br>LH 5464-N<br>LH 5464-P<br>LH 5464-Q<br>LH 5464-NR | hyper-red | 645             | red diffused                                                                           | 18.00 ... 112.00<br>28.00 ... 45.00<br>45.00 ... 71.00<br>71.00 ... 112.00<br>28.00 ... 180.00 | 55 (typ.)<br>30 (typ.)<br>50 (typ.)<br>80 (typ.)<br>90 (typ.) | 10  | 35                                                                           | Q62703-Q3829<br>Q62703-Q3830<br>Q62703-Q2753<br>Q62703-Q3831<br>Q62703-Q3832        | 24                                                                                  |
|                                                                                   | LR 5460-DG<br>LR 5460-F<br>LR 5460-G<br>LR 5460-FJ              | red       | 645             | red diffused                                                                           | 0.45 ... 2.80<br>1.12 ... 1.80<br>1.80 ... 2.80<br>1.12 ... 7.10                               | 4 (typ.)<br>3 (typ.)<br>5 (typ.)<br>6 (typ.)                  | 10  | 50                                                                           | Q62703-Q1392<br>Q62703-Q1393<br>Q62703-Q1394<br>Q62703-Q1395                        |   |
|                                                                                   | LS 5460-HL<br>LS 5460-J<br>LS 5460-K<br>LS 5460-L<br>LS 5460-JM | super-red | 628             | red diffused                                                                           | 2.80 ... 18.00<br>4.50 ... 7.10<br>7.10 ... 11.20<br>11.20 ... 18.00<br>4.50 ... 28.00         | 35 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.) | 10  | 50                                                                           | Q62703-Q1396<br>Q62703-Q1746<br>Q62703-Q1397<br>Q62703-Q1398<br>Q62703-Q3225        |                                                                                     |
|                                                                                   | LY 5460-HL<br>LY 5460-J<br>LY 5460-K<br>LY 5460-L<br>LY 5460-JM | yellow    | 590             | yellow diffused                                                                        | 2.80 ... 18.00<br>4.50 ... 7.10<br>7.10 ... 11.20<br>11.20 ... 18.00<br>4.50 ... 28.00         | 35 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.) | 10  | 50                                                                           | Q62703-Q1400<br>Q62703-Q1401<br>Q62703-Q1402<br>Q62703-Q2403<br>Q62703-Q1403        |                                                                                     |
|                                                                                   | LG 5460-GK<br>LG 5460-H<br>LG 5460-J<br>LG 5460-K<br>LG 5460-HL | green     | 570             | green diffused                                                                         | 1.80 ... 11.20<br>2.80 ... 4.50<br>4.50 ... 7.10<br>7.10 ... 11.20<br>2.80 ... 18.00           | 20 (typ.)<br>12 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.) | 10  | 50                                                                           | Q62703-Q1407<br>Q62703-Q1406<br>Q62703-Q1867<br>Q62703-Q2014<br>Q62703-Q3190        |                                                                                     |
| LR 5480-CF<br>LR 5480-E<br>LR 5480-F<br>LR 5480-DG                                | red                                                             | 645       | red diffused    | 0.28 ... 1.80<br>0.71 ... 1.12<br>1.12 ... 1.80<br>0.45 ... 2.80                       | 4 (typ.)<br>3 (typ.)<br>5 (typ.)<br>6 (typ.)                                                   | 10                                                            | 80  | Q62703-Q1986<br>Q62703-Q1734<br>Q62703-Q1987<br>Q62703-Q1408                 |  |                                                                                     |
| LS 5480-GL<br>LS 5480-J<br>LS 5480-K<br>LS 5480-L<br>LS 5480-JM                   | super-red                                                       | 628       | red diffused    | 1.80 ... 18.00<br>4.50 ... 7.10<br>7.10 ... 11.20<br>11.20 ... 18.00<br>4.50 ... 28.00 | 35 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.)                                  | 10                                                            | 80  | Q62703-Q1989<br>Q62703-Q1414<br>Q62703-Q1990<br>Q62703-Q1991<br>Q62703-Q1992 |                                                                                     |                                                                                     |
| LY 5480-HL<br>LY 5480-J<br>LY 5480-K<br>LY 5480-L<br>LY 5480-JM                   | yellow                                                          | 590       | yellow diffused | 2.80 ... 18.00<br>4.50 ... 7.10<br>7.10 ... 11.20<br>11.20 ... 18.00<br>4.50 ... 28.00 | 35 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)<br>60 (typ.)                                  | 10                                                            | 80  | Q62703-Q1416<br>Q62703-Q3236<br>Q62703-Q1418<br>Q62703-Q2402<br>Q62703-Q1419 |                                                                                     |                                                                                     |
| LG 5480-GK<br>LG 5480-H<br>LG 5480-J<br>LG 5480-K<br>LG 5480-HL                   | green                                                           | 570       | green diffused  | 1.80 ... 11.20<br>2.80 ... 4.50<br>4.50 ... 7.10<br>7.10 ... 11.20<br>2.80 ... 18.00   | 20 (typ.)<br>12 (typ.)<br>20 (typ.)<br>30 (typ.)<br>50 (typ.)                                  | 10                                                            | 80  | Q62703-Q1423<br>Q62703-Q1422<br>Q62703-Q1869<br>Q62703-Q2018<br>Q62703-Q3191 |                                                                                     |                                                                                     |
| LS 5380-FJ<br>LS 5380-G<br>LS 5380-H<br>LS 5380-J<br>LS 5380-HL                   | super-red                                                       | 628       | red diffused    | 1.12 ... 7.1<br>1.80 ... 2.8<br>2.80 ... 4.5<br>4.50 ... 7.1<br>2.80 ... 18.0          | 22 (typ.)<br>12 (typ.)<br>20 (typ.)<br>30 (typ.)<br>55 (typ.)                                  | 10                                                            | 140 | Q62703-Q1452<br>Q62703-Q1740<br>Q62703-Q1453<br>Q62703-Q1454<br>Q62703-Q1455 |                                                                                     |  |
| LY 5380-GK<br>LY 5380-H<br>LY 5380-J<br>LY 5380-K<br>LY 5380-HL                   | yellow                                                          | 590       | yellow diffused | 1.80 ... 11.20<br>2.80 ... 4.50<br>4.50 ... 7.10<br>7.10 ... 11.20<br>2.80 ... 18.00   | 35 (typ.)<br>18 (typ.)<br>30 (typ.)<br>45 (typ.)<br>55 (typ.)                                  | 10                                                            | 140 | Q62703-Q2002<br>Q62703-Q1457<br>Q62703-Q2319<br>Q62703-Q3909<br>Q62703-Q2003 |                                                                                     |                                                                                     |
| LG 5380-GK<br>LG 5380-H<br>LG 5380-J<br>LG 5380-K<br>LG 5380-HL                   | green                                                           | 570       | green diffused  | 1.80 ... 11.20<br>2.80 ... 4.50<br>4.50 ... 7.10<br>7.10 ... 11.20<br>2.80 ... 18.00   | 35 (typ.)<br>18 (typ.)<br>30 (typ.)<br>45 (typ.)<br>55 (typ.)                                  | 10                                                            | 140 | Q62703-Q1463<br>Q62703-Q2032<br>Q62703-Q2016<br>Q62703-Q3189<br>Q62703-Q3825 |                                                                                     |                                                                                     |

Nicht für Neuentwicklungen / Not for new design



## LUMINESZENZDIODEN

## LIGHT EMITTING DIODES

## RADIALE LED

## RADIAL LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg.] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|--------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

## LC 5 mm LED (Niedrigstrom)

## LC 5 mm LEDs (Low Current)

|                                                                                   |                                                                 |           |     |                 |                                                                              |                                                                      |   |    |                                                                              |    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|-----|-----------------|------------------------------------------------------------------------------|----------------------------------------------------------------------|---|----|------------------------------------------------------------------------------|----|
|  | LS 5469-EH<br>LS 5469-G<br>LS 5469-H<br>LS 5469-GK              | super-red | 628 | red diffused    | 0.71 ... 4.5<br>1.80 ... 2.8<br>2.80 ... 4.5<br>1.80 ... 11.2                | 7.8 (typ.)<br>6.9 (typ.)<br>11.0 (typ.)<br>19.5 (typ.)               | 2 | 50 | Q62703-Q1751<br>Q62703-Q2344<br>Q62703-Q2345<br>Q62703-Q3833                 | 25 |
|                                                                                   | LY 5469-EH<br>LY 5469-F<br>LY 5469-G<br>LY 5469-H<br>LY 5469-FJ | yellow    | 590 | yellow diffused | 0.71 ... 4.5<br>1.12 ... 1.8<br>1.80 ... 2.8<br>2.80 ... 4.5<br>1.12 ... 7.1 | 7.8 (typ.)<br>4.4 (typ.)<br>6.9 (typ.)<br>11.0 (typ.)<br>12.3 (typ.) | 2 | 50 | Q62703-Q1752<br>Q62703-Q3834<br>Q62703-Q3835<br>Q62703-Q3836<br>Q62703-Q3837 |    |
|                                                                                   | LG 5469-EH<br>LG 5469-F<br>LG 5469-G<br>LG 5469-FJ              | green     | 570 | green diffused  | 0.71 ... 4.5<br>1.12 ... 1.8<br>1.80 ... 2.8<br>1.12 ... 7.1                 | 7.8 (typ.)<br>4.4 (typ.)<br>6.9 (typ.)<br>12.3 (typ.)                | 2 | 50 | Q62703-Q1753<br>Q62703-Q3856<br>Q62703-Q3857<br>Q62703-Q3858                 |    |

## 5 mm MULTILED® (2.54 mm Raster)

## 5 mm MULTILED® (2.54 mm Spacing)

|                                                                                   |            |                     |             |                    |              |   |    |    |              |    |
|-----------------------------------------------------------------------------------|------------|---------------------|-------------|--------------------|--------------|---|----|----|--------------|----|
|  | LU 5351-GL | super-red/<br>green | 628/<br>570 | colorless diffused | 1.8 ... 18.0 | — | 10 | 50 | Q62703-Q2046 | 29 |
|                                                                                   | LU 5351-JM | super-red/<br>green | 628/<br>570 | colorless diffused | 4.5 ... 28.0 | — | 10 | 50 | Q62703-Q2047 |    |

## ARGUS® LED

## ARGUS® LEDs

|                                                                                     |                                                                 |            |     |                 |                       |                                                                                     |    |                       |                                                                              |    |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|------------|-----|-----------------|-----------------------|-------------------------------------------------------------------------------------|----|-----------------------|------------------------------------------------------------------------------|----|
|  | LS K380-LP<br>LS K380-N<br>LS K380-P<br>LS K380-Q<br>LS K380-NR | super-red  | 628 | red clear       | —<br>—<br>—<br>—<br>— | 11.2 ... 71.0<br>28.0 ... 45.0<br>45.0 ... 71.0<br>71.0 ... 112.0<br>28.0 ... 180.0 | 15 | —<br>—<br>—<br>—<br>— | Q62703-Q1768<br>Q62703-Q0760<br>Q62703-Q1003<br>Q62703-Q1004<br>Q62703-Q2223 | 30 |
|                                                                                     | LO K380-LP<br>LO K380-N<br>LO K380-P<br>LO K380-Q<br>LO K380-NR | orange     | 605 | orange clear    | —<br>—<br>—<br>—<br>— | 11.2 ... 71.0<br>28.0 ... 45.0<br>45.0 ... 71.0<br>71.0 ... 112.0<br>28.0 ... 180.0 | 15 | —<br>—<br>—<br>—<br>— | Q62703-Q1888<br>Q62703-Q2227<br>Q62703-Q2228<br>Q62703-Q2229<br>Q62703-Q2201 |    |
|                                                                                     | LY K380-LP<br>LY K380-N<br>LY K380-P<br>LY K380-Q<br>LY K380-NR | yellow     | 590 | yellow clear    | —<br>—<br>—<br>—<br>— | 11.2 ... 71.0<br>28.0 ... 45.0<br>45.0 ... 71.0<br>71.0 ... 112.0<br>28.0 ... 180.0 | 15 | —<br>—<br>—<br>—<br>— | Q62703-Q1769<br>Q62703-Q0575<br>Q62703-Q0576<br>Q62703-Q3844<br>Q62703-Q2224 |    |
|                                                                                     | LG K380-LP<br>LG K380-N<br>LG K380-P<br>LG K380-Q<br>LG K380-NR | green      | 570 | green clear     | —<br>—<br>—<br>—<br>— | 11.2 ... 71.0<br>28.0 ... 45.0<br>45.0 ... 71.0<br>71.0 ... 112.0<br>28.0 ... 180.0 | 15 | —<br>—<br>—<br>—<br>— | Q62703-Q1770<br>Q62703-Q0759<br>Q62703-Q1034<br>Q62703-Q3193<br>Q62703-Q2225 |    |
|                                                                                     | LP K380-KN<br>LP K380-L<br>LP K380-M<br>LP K380-N<br>LP K380-LP | pure green | 560 | colorless clear | —<br>—<br>—<br>—<br>— | 7.1 ... 45.0<br>11.2 ... 18.0<br>18.0 ... 28.0<br>28.0 ... 45.0<br>11.2 ... 71.0    | 15 | —<br>—<br>—<br>—<br>— | Q62703-Q2506<br>Q62703-Q3215<br>Q62703-Q2610<br>Q62703-Q2605<br>Q62703-Q3217 |    |

■ Nicht für Neuentwicklungen / Not for new design

## RADIALE LED

## RADIAL LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg] | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|--------------------------------|----------------|-------------------|---------------------|------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                          |                                |      |

## Super ARGUS® LED

## Super ARGUS® LEDs

|                                                                                   |            |            |     |                 |   |             |    |   |              |    |
|-----------------------------------------------------------------------------------|------------|------------|-----|-----------------|---|-------------|----|---|--------------|----|
|  | LG K382-QT | green      | 570 | green clear     | — | 71 ... 450  | 50 | — | Q62703-Q2642 | 30 |
|                                                                                   | LG K382-R  |            |     |                 | — | 112 ... 180 |    |   | Q62703-Q2643 |    |
|                                                                                   | LG K382-S  |            |     |                 | — | 180 ... 280 |    |   | Q62703-Q2644 |    |
|                                                                                   | LG K382-T  |            |     |                 | — | 280 ... 450 |    |   | Q62703-Q2645 |    |
|                                                                                   | LG K382-RU |            |     |                 | — | 112 ... 710 |    |   | Q62703-Q1959 |    |
|                                                                                   | LP K382-NR | pure green | 560 | colorless clear | — | 28 ... 180  | 50 | — | Q62703-Q2646 |    |
|                                                                                   | LP K382-P  |            |     |                 | — | 45 ... 71   |    |   | Q62703-Q2339 |    |
|                                                                                   | LP K382-Q  |            |     |                 | — | 71 ... 112  |    |   | Q62703-Q2338 |    |
|                                                                                   | LP K382-R  |            |     |                 | — | 112 ... 180 |    |   | Q62703-Q2337 |    |
|                                                                                   | LP K382-PS |            |     |                 | — | 45 ... 280  |    |   | Q62703-Q2123 |    |

## Hyper ARGUS® 3 mm LED

## Hyper ARGUS® 3 mm LEDs

|                                                                                     |                                                                               |           |     |                 |                            |                                                                                              |    |   |                                                                              |    |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------|-----|-----------------|----------------------------|----------------------------------------------------------------------------------------------|----|---|------------------------------------------------------------------------------|----|
|  | LH K376-QS<br>LH K376-R<br>LH K376-S<br>LH K376-RT                            | hyper-red | 645 | colorless clear | —<br>—<br>—<br>—           | 71.0 ... 280.0<br>112.0 ... 180.0<br>180.0 ... 280.0<br>112.0 ... 450.0                      | 20 | — | Q62703-Q3492<br>Q62703-Q3304<br>Q62703-Q3305<br>Q62703-Q3493                 | 30 |
|                                                                                     | LS K376-QT<br>LS K376-R<br>LS K376-S<br>LS K376-T<br>LS K376-RU               | super-red | 632 | colorless clear | —<br>—<br>—<br>—<br>—      | 71.0 ... 450.0<br>112.0 ... 180.0<br>180.0 ... 280.0<br>280.0 ... 450.0<br>112.0 ... 710.0   | 20 | — | Q62703-Q3467<br>Q62703-Q3468<br>Q62703-Q3469<br>Q62703-Q3470<br>Q62703-Q3471 |    |
|                                                                                     | LA K376-RU<br>LA K376-S<br>LA K376-T<br>LA K376-U<br>LA K376-SV               | amber     | 615 | colorless clear | —<br>—<br>—<br>—<br>—      | 112.0 ... 710.0<br>180.0 ... 280.0<br>280.0 ... 450.0<br>450.0 ... 710.0<br>180.0 ... 1120.0 | 20 | — | Q62703-Q3735<br>Q62703-Q3737<br>Q62703-Q3738<br>Q62703-Q3739<br>Q62703-Q3736 |    |
|                                                                                     | LO K376-RU<br>LO K376-S<br>LO K376-T<br>LO K376-U<br>LO K376-SV               | orange    | 605 | colorless clear | —<br>—<br>—<br>—<br>—      | 112.0 ... 710.0<br>180.0 ... 280.0<br>280.0 ... 450.0<br>450.0 ... 710.0<br>180.0 ... 1120.0 | 20 | — | Q62703-Q3472<br>Q62703-Q3473<br>Q62703-Q3474<br>Q62703-Q3475<br>Q62703-Q3476 |    |
|                                                                                     | LY K376-RU<br>LY K376-S<br>LY K376-T<br>LY K376-U<br>LY K376-SV               | yellow    | 587 | colorless clear | —<br>—<br>—<br>—<br>—      | 112.0 ... 710.0<br>180.0 ... 280.0<br>280.0 ... 450.0<br>450.0 ... 710.0<br>180.0 ... 1120.0 | 20 | — | Q62703-Q3477<br>Q62703-Q3478<br>Q62703-Q3479<br>Q62703-Q3480<br>Q62703-Q3481 |    |
|                                                                                     | LB K376<br>LB K376-L1<br>LB K376-L2<br>LB K376-M1<br>LB K376-M2<br>LB K376-N1 | blue      | 465 | colorless clear | —<br>—<br>—<br>—<br>—<br>— | 11.2 ... 14.0<br>14.0 ... 18.0<br>18.0 ... 22.4<br>22.4 ... 28.0<br>28.0 ... 35.5            | 10 | — | Q62703-Q4069                                                                 |    |

■ Nicht für Neuentwicklungen / Not for new design

## RADIALE LED

## RADIAL LEDs

| Package | Type | Emissionsfarbe<br>Emission color | $\lambda_{\text{dom}}$<br>(typ.)<br>[nm] | Gehäusefarbe<br>Emission Color |                |                   |                     | 2 $\phi$ (typ.)<br>(50% $I_V$ )<br>[deg]. | Bestellnummer<br>Ordering code | Fig. |
|---------|------|----------------------------------|------------------------------------------|--------------------------------|----------------|-------------------|---------------------|-------------------------------------------|--------------------------------|------|
|         |      |                                  |                                          |                                | $I_V$<br>[mcd] | $\Phi_V$<br>[mlm] | at<br>$I_F$<br>[mA] |                                           |                                |      |

Zeilen LED 2 mm  $\varnothing$ 

## Array LEDs 2 mm Dia

|                                                                                   |                                                                                                              |        |     |                 |             |   |    |     |                                                                                                                              |    |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------|-----|-----------------|-------------|---|----|-----|------------------------------------------------------------------------------------------------------------------------------|----|
|  | LR Z181-CO<br>LR Z182-CO<br>LR Z183-CO<br>LR Z184-CO<br>LR Z185-CO<br>LR Z186-CO<br>LR Z187-CO<br>LR Z188-CO | red    | 645 | red diffused    | $\geq 0.25$ | — | 10 | 100 | Q62703-Q1495<br>Q62703-Q1496<br>Q62703-Q1497<br>Q62703-Q1498<br>Q62703-Q1499<br>Q62703-Q1500<br>Q62703-Q1501<br>Q62703-Q1502 | 31 |
|                                                                                   | LY Z181-CO                                                                                                   | yellow | 590 | yellow diffused | $\geq 0.25$ | — | 10 | 100 | Q62703-Q1505                                                                                                                 |    |
|                                                                                   | LG Z181-CO<br>LG Z182-CO<br>LG Z183-CO<br>LG Z184-CO<br>LG Z185-CO<br>LG Z186-CO<br>LG Z188-CO               | green  | 570 | green diffused  | $\geq 0.25$ | — | 10 | 100 | Q62703-Q1506<br>Q62703-Q1507<br>Q62703-Q1508<br>Q62703-Q1509<br>Q62703-Q1510<br>Q62703-Q1511<br>Q62703-Q1513                 |    |

Mini LED 1 mm  $\varnothing$ 

## Miniature LEDs 1 mm Dia

|                                                                                    |            |           |     |                    |             |   |    |    |              |    |
|------------------------------------------------------------------------------------|------------|-----------|-----|--------------------|-------------|---|----|----|--------------|----|
|  | LS U260-EO | super-red | 628 | red diffused       | $\geq 0.71$ | — | 10 | 60 | Q62703-Q1492 | 32 |
|                                                                                    | LY U260-EO | yellow    | 590 | yellow diffused    | $\geq 0.71$ | — | 10 | 60 | Q62703-Q1493 |    |
|                                                                                    | LG U260-EO | green     | 570 | colorless diffused | $\geq 0.71$ | — | 10 | 60 | Q62703-Q1494 |    |

## Mini LED mit axialen Anschlüssen

## Miniature LEDs, Axial-Leaded

|                                                                                     |       |        |     |                 |            |   |    |    |              |    |
|-------------------------------------------------------------------------------------|-------|--------|-----|-----------------|------------|---|----|----|--------------|----|
|  | RL 50 | red    | 645 | colorless clear | $\geq 0.5$ | — | 20 | 90 | Q68000-A5954 | 33 |
|                                                                                     | RL 54 | red    | 645 | red diffused    | $\geq 0.4$ | — | 20 | 90 | Q68000-A5958 |    |
|                                                                                     | RL 55 | red    | 645 | red diffused    | $\geq 2.0$ | — | 10 | 50 | Q68000-A5959 | 34 |
|                                                                                     | YL 56 | yellow | 590 | yellow diffused | $\geq 2.0$ | — | 10 | 40 | Q68000-A5961 |    |
|                                                                                     | GL 56 | green  | 570 | green diffused  | $\geq 1.0$ | — | 10 | 40 | Q68000-A5962 |    |

■ Nicht für Neuentwicklungen / Not for new design

## LUMINESZENZDIODEN

## LIGHT EMITTING DIODES

### Lötbedingungen für LED

Beim Einlöten ist darauf zu achten, daß das Bauelement thermisch nicht überlastet wird. Die maximale Sperrschichttemperatur darf nur kurzzeitig (max. 1 min) überschritten werden.

Zulässige Lötverfahren und Vorbehandlung siehe Tabelle:

### Soldering conditions for LEDs

When soldering the component into position, make sure that it is not thermally overloaded. The maximum junction temperature may only be exceeded briefly (for no more than 1 min.).

Permissible soldering methods and preconditioning are:

| Package          | IR<br>Reflow Soldering | TTW<br>Soldering | Preconditioning acc. to<br>Jedec Level |
|------------------|------------------------|------------------|----------------------------------------|
| 5mm (T1 3/4) LED | —                      | X                | n.a.                                   |
| 3mm (T1) LED     | —                      | X                | n.a.                                   |
| Mini SIDELED®    | X                      | —                | 2                                      |
| Mini TOPLED®     | X                      | X                | 2                                      |
| TOPLED®          | X                      | X                | 2                                      |
| SIDELED®         | X                      | X                | 2                                      |
| Multi TOPLED®    | X                      | X                | 2                                      |
| Multi SIDELED®   | X                      | —                | 2                                      |
| CHIPLED          | X                      | —                | 2                                      |
| Power TOPLED®    | X                      | X                | 2                                      |
| SMT Radial       | X                      | —                | 3                                      |
| ARGUS®           | —                      | X                | n.a.                                   |
| SOT-23 LED       | X                      | —                | 1                                      |
| SmartLED         | X                      | —                | —                                      |

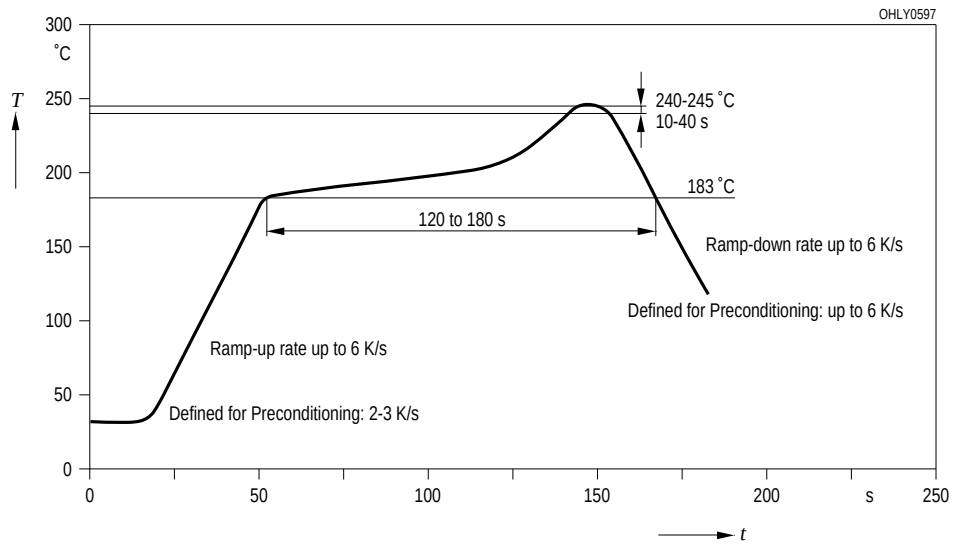
### Lösungsmittel zum Reinigen von eingelöteten LED

Zum Reinigen der eingelöteten LED sind organische Lösungsmittel geeignet, die aus Alkoholen oder bestimmten Fluorkohlenwasserstoffen oder aus einer Mischung von beiden Gruppen bestehen. Keinesfalls sollte man Lösungsmittel oder Lösungsmittelgemische verwenden, die chlorierte Kohlenwasserstoffe oder Ketone enthalten. Lösungsmittel dieser Art können den Verguß angreifen oder auflösen.

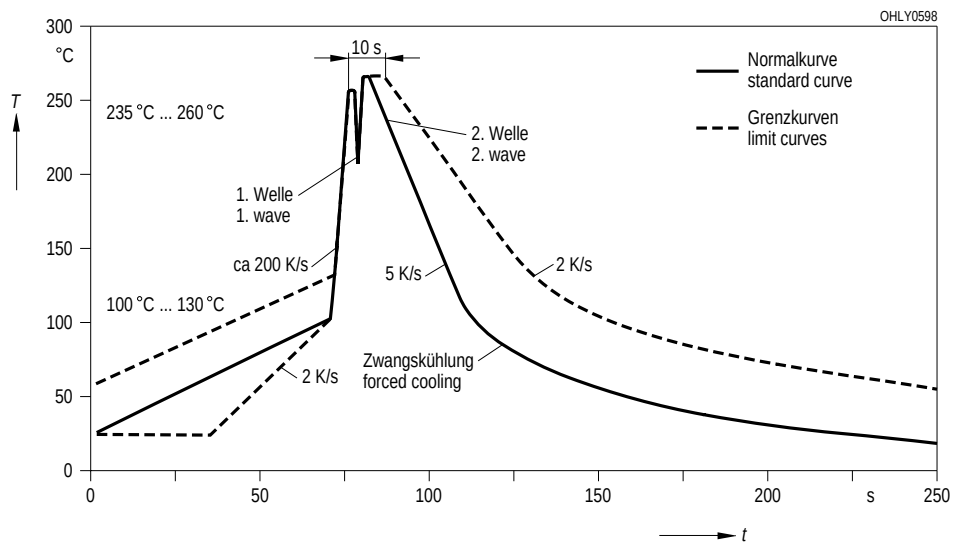
### Cleaning solvents for soldered-in LEDs

Organic solvents consisting of alcohols or hydrocarbon-fluorides or a mixture of both groups are suitable for cleaning soldered-in LEDs. In no way should solvents or solvent mixtures be used which contain chlorinated hydrocarbons or ketones. This type of solvents may attack or corrode the display housing or casing.

## IR-reflow-soldering-profile acc. to IPC 9501



## Wave soldering (dual wave) soldering profile acc. to CECC 00802



## Grenzwerte

## Absolute maximum ratings

|                      |               | Betriebstemperatur/<br>Operating temperature | Lagertemperatur/<br>Storage temperature | Sperrschichttemperatur/<br>Junction temperature | Stoßstrom<br>Surge current<br>( $T_A = 25\text{ °C}/t_p < 10\text{ }\mu\text{s}$ ) | Sperrspannung<br>Reverse voltage<br>( $T_A = 25\text{ °C}$ ) | Durchlaßstrom<br>Forward current<br>( $T_A = 25\text{ °C}$ ) | Verlustleistung<br>Power dissipation<br>( $T_A = 25\text{ °C}$ ) | Wärmewiderstand<br>Sperrschicht/Luft<br>Thermal resistance<br>Junction/Air |
|----------------------|---------------|----------------------------------------------|-----------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------|
|                      | Color*        | $T_{op}$<br>°C                               | $T_{stg}$<br>°C                         | $T_j$<br>°C                                     | $I_{FM}$<br>A                                                                      | $V_R$<br>V                                                   | $I_F$<br>mA                                                  | $P_{tot}$<br>mW                                                  | $R_{thJA}$<br>K/W                                                          |
| TOPLED®              | S, O, Y, G    | -40 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 25                                                           | 30                                                           | 100                                                              | 400                                                                        |
|                      | P             | -40 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 5                                                            | 30                                                           | 100                                                              |                                                                            |
|                      | H             | -40 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 3                                                            | 30                                                           | 90                                                               |                                                                            |
| Super TOPLED®        | S, O, Y, G    | -40 ... +100                                 |                                         | +100                                            | 1                                                                                  | 25                                                           | 50                                                           | 190                                                              | 300                                                                        |
|                      | P             | -40 ... +100                                 |                                         | +100                                            | 1                                                                                  | 5                                                            | 50                                                           | 190                                                              |                                                                            |
| Hyper TOPLED®        | S, A, O       | -40 ... +100                                 |                                         | +125                                            | 1                                                                                  | 3                                                            | 30                                                           | 80                                                               | 500                                                                        |
|                      | Y             | -40 ... +100                                 |                                         | +125                                            | 0.2                                                                                | 3                                                            | 20                                                           | 55                                                               | 500                                                                        |
|                      | B             | -40 ... +100                                 |                                         | +100                                            | –                                                                                  | 5                                                            | 20                                                           | 100                                                              | 500                                                                        |
| Power TOPLED®        | A             | -40 ... +100                                 |                                         | +125                                            | –                                                                                  | 3                                                            | 70                                                           | 130                                                              | 300                                                                        |
|                      | Y             | -40 ... +100                                 |                                         | +125                                            | –                                                                                  | 3                                                            | 50                                                           | 130                                                              | 300                                                                        |
| Low-current TOPLED®  | S, Y, G       | -40 ... +100                                 |                                         | +100                                            | 0.15                                                                               | 5                                                            | 7.5                                                          | 20                                                               | 500                                                                        |
| SIDELED®             | H             | -40 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 3                                                            | 30                                                           | 90                                                               | 430                                                                        |
|                      | S, O, Y, G, P | -40 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 5                                                            | 30                                                           | 100                                                              | 430                                                                        |
| Super SIDELED®       | S, O, Y, G, P | -40 ... +100                                 |                                         | +100                                            | 1                                                                                  | 5                                                            | 50                                                           | 190                                                              | 330                                                                        |
| Hyper SIDELED®       | S, A, O       | -40 ... +100                                 |                                         | +100                                            | 1                                                                                  | 3                                                            | 30                                                           | 80                                                               | 530                                                                        |
|                      | Y             | -40 ... +100                                 |                                         | +100                                            | 0.2                                                                                | 3                                                            | 20                                                           | 55                                                               | 530                                                                        |
|                      | B             | -40 ... +100                                 |                                         | +100                                            | –                                                                                  | 5                                                            | 20                                                           | 100                                                              | 530                                                                        |
| Low-current SIDELED® | S, Y, G       | -40 ... +100                                 |                                         | +100                                            | 0.15                                                                               | 5                                                            | 7.5                                                          | 20                                                               | 430                                                                        |
| Mini SIDELED®        | S, O, Y, G, P | -40 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 5                                                            | 30                                                           | 100                                                              | 530                                                                        |
| Hyper Mini SIDELED®  | S, A, O       | -40 ... +100                                 |                                         | +125                                            | 0.8                                                                                | 3                                                            | 30                                                           | 80                                                               | 630                                                                        |
|                      | Y             | -40 ... +100                                 |                                         | +125                                            | 0.2                                                                                | 3                                                            | 20                                                           | 55                                                               | 630                                                                        |
|                      | B             | -40 ... +100                                 |                                         | +125                                            | –                                                                                  | 5                                                            | 20                                                           | 100                                                              | 630                                                                        |
| Mini TOPLED®         | S, O, Y, G, P | -40 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 5                                                            | 30                                                           | 100                                                              | 480                                                                        |
| Hyper Mini TOPLED®   | S, A, O       | -40 ... +100                                 |                                         | +125                                            | 0.8                                                                                | 3                                                            | 30                                                           | 80                                                               | 580                                                                        |
|                      | Y             | -40 ... +100                                 |                                         | +125                                            | 0.2                                                                                | 3                                                            | 20                                                           | 55                                                               | 580                                                                        |
|                      | B             | -40 ... +100                                 |                                         | +125                                            | –                                                                                  | 5                                                            | 20                                                           | 100                                                              | 580                                                                        |
| CHIPLED 0603         | –             | -30 ... +85                                  | -40 ... +85                             | +95                                             | –                                                                                  | 5                                                            | 25                                                           | 70                                                               | –                                                                          |
| CHIPLED 0805         | –             | -30 ... +85                                  | -40 ... +85                             | +95                                             | –                                                                                  | 5                                                            | 25                                                           | 70                                                               | –                                                                          |
| CHIPLED 1206         | –             | -30 ... +85                                  | -40 ... +85                             | +95                                             | –                                                                                  | 5                                                            | 25                                                           | 70                                                               | –                                                                          |
| Hyper CHIPLED 0603   | –             | -30 ... +85                                  | -40 ... +85                             | +95                                             | –                                                                                  | 5                                                            | 25                                                           | 70                                                               | –                                                                          |
| Hyper CHIPLED 0805   | –             | -30 ... +85                                  | -40 ... +85                             | +95                                             | –                                                                                  | 5                                                            | 25                                                           | 70                                                               | –                                                                          |
| Multi CHIPLED        | –             | -30 ... +85                                  | -40 ... +85                             | +95                                             | –                                                                                  | 5                                                            | 25                                                           | 70                                                               | –                                                                          |

\* R ≡ rot, H ≡ Hyper-rot, S ≡ Super-rot, O ≡ Orange, Y ≡ Gelb, G ≡ Grün, P ≡ Pure green, B ≡ Blau

\* R ≡ red, H ≡ hyper-red, S ≡ super-red, O ≡ orange, Y ≡ yellow, G ≡ green, P ≡ pure green, B ≡ blue

<sup>1)</sup> Gilt nicht für Zweifarben-LED mit antiparallel geschalteten Systemen<sup>1)</sup> Not valid for two-color LED with antiparallel dies

Diese Daten gelten nicht für RL 50, 54, 55, YL 56, GL 56.

These data do not apply to RL 50, 54, 55, YL 56, GL 56.

## Grenzwerte (Forts.)

## Absolute maximum ratings (cont')

|                                       |            | Betriebstemperatur/<br>Operating temperature | Lagertemperatur/<br>Storage temperature | Sperrschichttemperatur/<br>Junction temperature | Stoßstrom<br>Surge current<br>( $T_A = 25\text{ °C}/t_p < 10\text{ }\mu\text{s}$ ) | Sperrspannung<br>Reverse voltage<br>( $T_A = 25\text{ °C}$ ) | Durchlaßstrom<br>Forward current<br>( $T_A = 25\text{ °C}$ ) | Verlustleistung<br>Power dissipation<br>( $T_A = 25\text{ °C}$ ) | Wärmewiderstand<br>Sperrschicht/Luft<br>Thermal resistance<br>Junction/Air |
|---------------------------------------|------------|----------------------------------------------|-----------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------|
|                                       | Color*     | $T_{op}$<br>°C                               | $T_{stg}$<br>°C                         | $T_j$<br>°C                                     | $I_{FM}$<br>A                                                                      | $V_R$<br>V                                                   | $I_F$<br>mA                                                  | $P_{tot}$<br>mW                                                  | $R_{thJA}$<br>K/W                                                          |
| SOT 23                                | S, Y, G    | -55 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 25                                                           | 30                                                           | 100                                                              | 750                                                                        |
| Low-current SOT 23                    | S, Y, G    | -55 ... +100                                 |                                         | +100                                            | 0.15                                                                               | 25                                                           | 7.5                                                          | 20                                                               | 750                                                                        |
| Hyper LED<br>(3 + 5 mm)               | S, A, O    | -55 ... +100                                 |                                         | +100                                            | 1                                                                                  | 3                                                            | 30                                                           | 80                                                               | 500                                                                        |
|                                       | Y          | -55 ... +100                                 |                                         | +100                                            | 0.2                                                                                | 3                                                            | 20                                                           | 55                                                               | 500                                                                        |
|                                       | B          | -40 ... +100                                 |                                         | +100                                            | –                                                                                  | 5                                                            | 20                                                           | 100                                                              | 500                                                                        |
| LED (3 + 5 mm)<br>ARGUS®              | R          | -55 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 25                                                           | 45                                                           | 100                                                              | 400                                                                        |
|                                       | S, O, Y, G | -55 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 25                                                           | 40 <sup>1)</sup>                                             | 140                                                              |                                                                            |
|                                       | P          | -55 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 5                                                            | 30 <sup>1)</sup>                                             | 100                                                              |                                                                            |
|                                       | H          | -55 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 3                                                            | 40                                                           | 120                                                              |                                                                            |
| Super ARGUS®                          | S, O, Y, G | -55 ... +100                                 |                                         | +100                                            | 1                                                                                  | 25                                                           | 75                                                           | 240                                                              | 250                                                                        |
|                                       | P          | -55 ... +100                                 |                                         | +100                                            | 1                                                                                  | 5                                                            | 75                                                           | 240                                                              |                                                                            |
| Hyper ARGUS®                          | S, A, O    | -55 ... +100                                 |                                         | +100                                            | 1                                                                                  | 3                                                            | 30                                                           | 80                                                               | 500                                                                        |
|                                       | Y          | -55 ... +100                                 |                                         | +100                                            | 0.2                                                                                | 3                                                            | 20                                                           | 55                                                               | 500                                                                        |
|                                       | H          | -55 ... +100                                 |                                         | +100                                            | 0.5                                                                                | 3                                                            | 50                                                           | 130                                                              | 500                                                                        |
|                                       | B          | -40 ... +100                                 |                                         | +100                                            | –                                                                                  | 5                                                            | 20                                                           | 100                                                              | 500                                                                        |
| Low-current LED<br>Low-current ARGUS® | S, Y, G    | -55 ... +100                                 |                                         | +100                                            | 0.15                                                                               | 25                                                           | 7.5                                                          | 20                                                               | 500                                                                        |
| Mini-LED                              | S, Y, G    | -40 ... +80                                  |                                         | +100                                            | 0.35                                                                               | 25                                                           | 15                                                           | 50                                                               | 1100                                                                       |
| ARRAY LED                             | R, Y, G    | -40 ... +80                                  |                                         | +100                                            | 0.5                                                                                | 25                                                           | 30                                                           | 90                                                               | 750                                                                        |

\* R ≡ rot, H ≡ Hyper-rot, S ≡ Super-rot, O ≡ Orange, Y ≡ Gelb, G ≡ Grün, P ≡ Pure green, B ≡ Blau

\* R ≡ red, H ≡ hyper-red, S ≡ super-red, O ≡ orange, Y ≡ yellow, G ≡ green, P ≡ pure green, B ≡ blue

<sup>1)</sup> Gilt nicht für Zweifarben-LED mit antiparallel geschalteten Systemen

<sup>1)</sup> Not valid for two-color LED with antiparallel dies

Diese Daten gelten nicht für RL 50, 54, 55, YL 56, GL 56.

These data do not apply to RL 50, 54, 55, YL 56, GL 56.

Für Details siehe Datenblatt.

For details see data sheet.



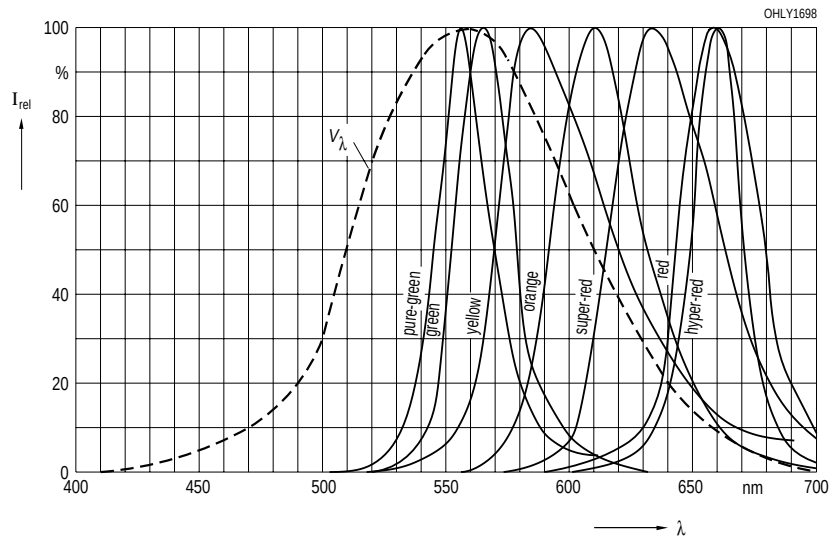
Kenndaten ( $T_A = 25\text{ °C}$ )Typical values ( $T_A = 25\text{ °C}$ )

| Standard-current-LED                                               |                      |                         | red                   | hyper-red              | super-red             | orange                | yellow                | green                 | pure green            |    |
|--------------------------------------------------------------------|----------------------|-------------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|
| Wellenlänge des emittierten Lichts/<br>Wavelength at peak emission | $I_F = 10\text{ mA}$ | $\lambda_{\text{peak}}$ | 660                   | 660                    | 635                   | 610                   | 586                   | 565                   | 557                   | nm |
| Dominantwellenlänge/<br>Dominant wavelength                        | $I_F = 10\text{ mA}$ | $\lambda_{\text{dom}}$  | 645                   | 645                    | 628                   | 605                   | 590                   | 570                   | 560                   | nm |
| Durchlassspannung/<br>Forward Voltage                              | $I_F = 10\text{ mA}$ | $V_F$                   | 1.6<br>( $\leq 2.0$ ) | 1.75<br>( $\leq 2.6$ ) | 2.0<br>( $\leq 2.6$ ) | 2.0<br>( $\leq 2.6$ ) | 2.0<br>( $\leq 2.6$ ) | 2.0<br>( $\leq 2.6$ ) | 2.0<br>( $\leq 2.6$ ) | V  |

| Low-current LED                                                |                       |                         | super-red          | yellow             | green              |    |
|----------------------------------------------------------------|-----------------------|-------------------------|--------------------|--------------------|--------------------|----|
| Wellenlänge des emittierten Lichts/Wavelength at peak emission | $I_F = 7.5\text{ mA}$ | $\lambda_{\text{peak}}$ | 635                | 586                | 565                | nm |
| Dominantwellenlänge/Dominant wavelength                        | $I_F = 7.5\text{ mA}$ | $\lambda_{\text{dom}}$  | 628                | 590                | 570                | nm |
| Durchlassspannung/Forward Voltage                              | $I_F = 2\text{ mA}$   | $V_F$                   | 1.8 ( $\leq 2.6$ ) | 2.0 ( $\leq 2.7$ ) | 1.9 ( $\leq 2.6$ ) | V  |

| High-current LED                                               |                      |                         | super-red          | orange             | yellow             | green              | pure green         |    |
|----------------------------------------------------------------|----------------------|-------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----|
| Wellenlänge des emittierten Lichts/Wavelength at peak emission | $I_F = 20\text{ mA}$ | $\lambda_{\text{peak}}$ | 635                | 610                | 586                | 565                | 557                | nm |
| Dominantwellenlänge/Dominant wavelength                        | $I_F = 20\text{ mA}$ | $\lambda_{\text{dom}}$  | 628                | 605                | 590                | 570                | 560                | nm |
| Durchlassspannung/Forward Voltage                              | $I_F = 50\text{ mA}$ | $V_F$                   | 2.0 ( $\leq 3.8$ ) | 2.4 ( $\leq 3.8$ ) | 2.4 ( $\leq 3.8$ ) | 2.6 ( $\leq 3.8$ ) | 2.6 ( $\leq 3.8$ ) | V  |

Standard-current LED, Low-current LED, High-current LED

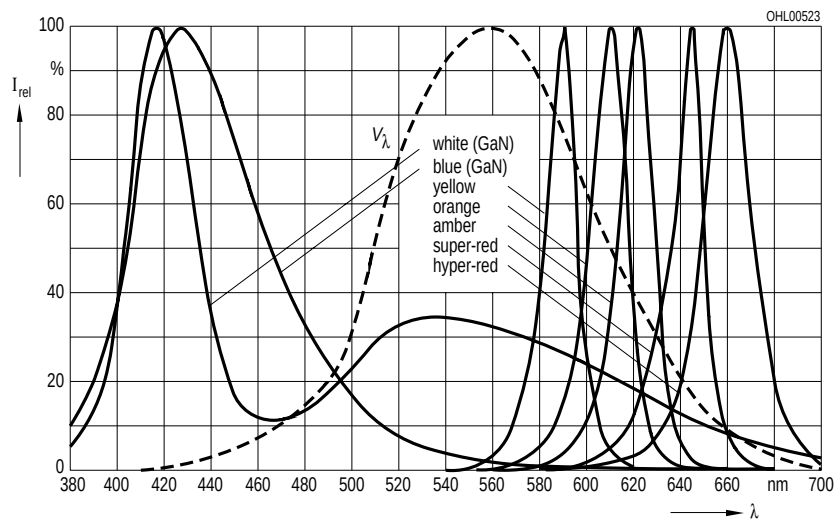


Kenndaten ( $T_A = 25\text{ °C}$ )Typical values ( $T_A = 25\text{ °C}$ )

| Hyper-Bright-LED                                                                        |                         | hyper-red             | super-red             | amber                 | orange                | yellow                | blue                                |    |
|-----------------------------------------------------------------------------------------|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------------|----|
| Wellenlänge des emittierten Lichts/<br>Wavelength at peak emission $I_F = 20\text{ mA}$ | $\lambda_{\text{peak}}$ | 660                   | 645                   | 622                   | 610                   | 586                   | 428                                 | nm |
| Dominantwellenlänge/<br>Dominant wavelength $I_F = 20\text{ mA}$                        | $\lambda_{\text{dom}}$  | 645                   | 632                   | 615                   | 605                   | 590                   | 466                                 | nm |
| Durchlassspannung/<br>Forward Voltage $I_F = 20\text{ mA}$                              | $V_F$                   | 2.0<br>( $\leq 2.6$ ) | 2.0<br>( $\leq 2.6$ ) | 2.0<br>( $\leq 2.6$ ) | 2.0<br>( $\leq 2.6$ ) | 2.0<br>( $\leq 2.6$ ) | 3.5 <sup>1)</sup><br>( $\leq 4.2$ ) | V  |

<sup>1)</sup> $I_F = 10\text{ mA}$ 

## Hyper-Bright LED



## LUMINESZENZDIODEN

## LIGHT EMITTING DIODES

**Kenndaten** ( $T_A = 25\text{ °C}$ )

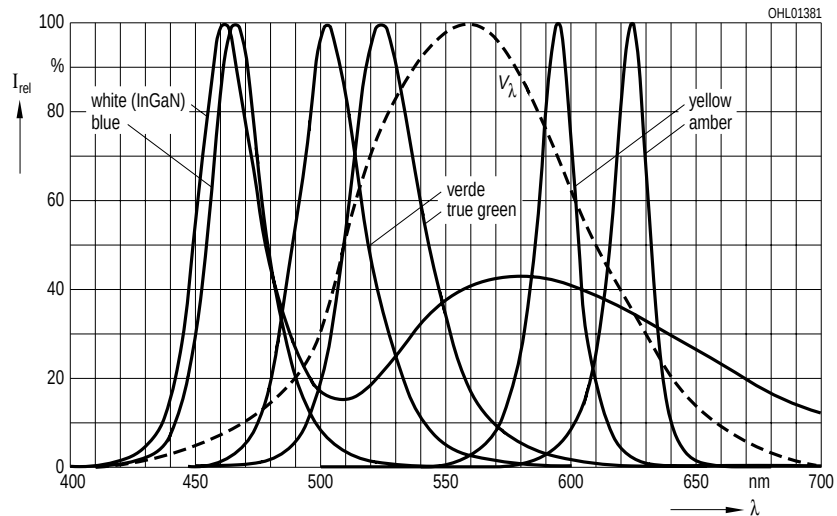
**Typical values** ( $T_A = 25\text{ °C}$ )

| Single Chip White LED                                                |       | LW T676 (GaN)<br>$I_F = 10\text{ mA}$ | LW T673 (InGaN)<br>$I_F = 20\text{ mA}$ |   |
|----------------------------------------------------------------------|-------|---------------------------------------|-----------------------------------------|---|
| Farbort des emittierten Lichts/<br>Color coordinate at peak emission |       | $x = 0.30$<br>$y = 0.32$              | $x = 0.32$<br>$y = 0.31$                |   |
| Durchlassspannung/<br>Forward voltage                                | $V_F$ | 4.5                                   | 4.3                                     | V |

| Standard-InGaN LED                                                                      |                         | blue | verde | true green |    |
|-----------------------------------------------------------------------------------------|-------------------------|------|-------|------------|----|
| Wellenlänge des emittierten Lichts/<br>Wavelength at peak emission $I_F = 20\text{ mA}$ | $\lambda_{\text{peak}}$ | 465  | 503   | 523        | nm |
| Dominantwellenlänge/<br>Dominant wavelength $I_F = 20\text{ mA}$                        | $\lambda_{\text{dom}}$  | 470  | 505   | 528        | nm |
| Durchlassspannung/<br>Forward Voltage $I_F = 20\text{ mA}$                              | $V_F$                   | 3.5  | 3.3   | 3.3        | V  |

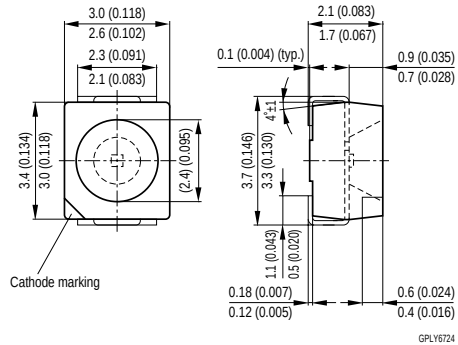
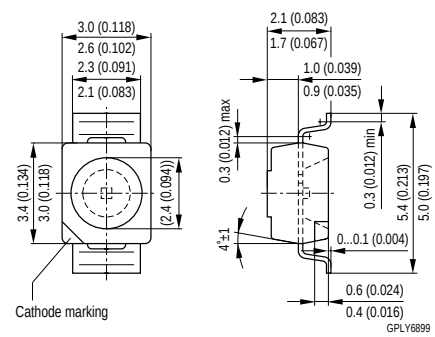
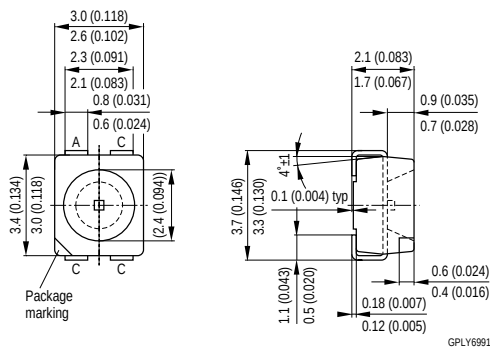
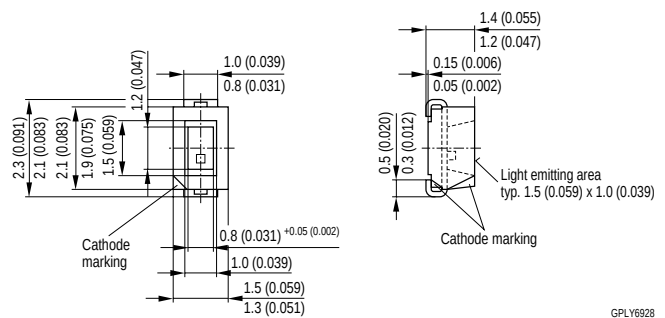
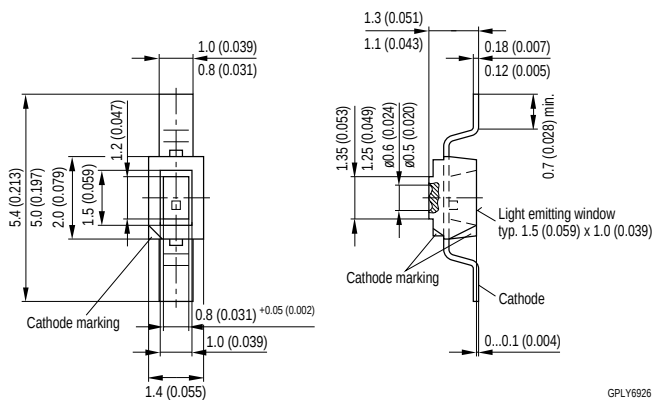
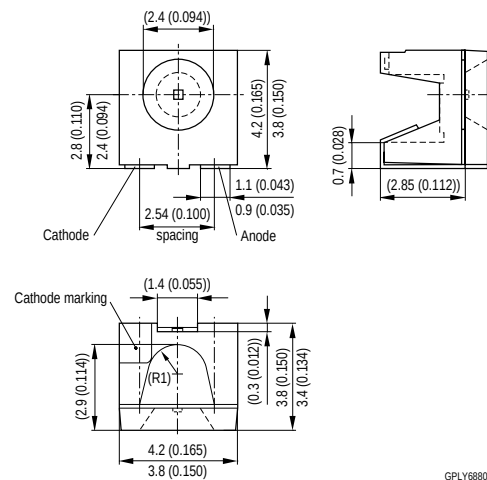
| HOP (High Optical Power)                                                                |                         | amber | yellow |    |
|-----------------------------------------------------------------------------------------|-------------------------|-------|--------|----|
| Wellenlänge des emittierten Lichts/<br>Wavelength at peak emission $I_F = 50\text{ mA}$ | $\lambda_{\text{peak}}$ | 624   | 594    | nm |
| Dominantwellenlänge/<br>Dominant wavelength $I_F = 50\text{ mA}$                        | $\lambda_{\text{dom}}$  | 617   | 590    | nm |
| Durchlassspannung/<br>Forward Voltage $I_F = 50\text{ mA}$                              | $V_F$                   | 2.0   | 1.9    | V  |

Single Chip White LED, Standard-InGaN LED, HOP LED



Maßbilder in mm (inch)

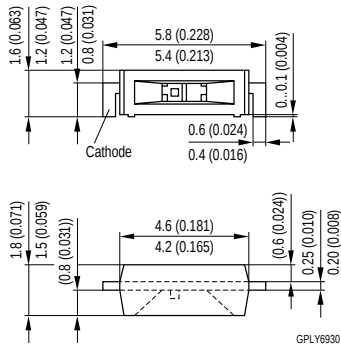
Outline Drawings dimensions in mm (inch)

**Figure 1** L\* T670, L\* T672, LH T674, L\* T679,  
L\* T676, LG T671, L\* T673**Figure 2** LH T774, L\* T770  
L\* T776, L\* T773**Figure 3** L\* E676, L\* E675, L\* E673**Figure 4** L\* M670, L\* M676, L\* M673**Figure 5** L\* M770, L\* M776, L\* M779**Figure 6** LH A674, L\* A670, L\* A676,  
L\* A672, L\* A679, L\* A673

Maßbilder in mm (inch)

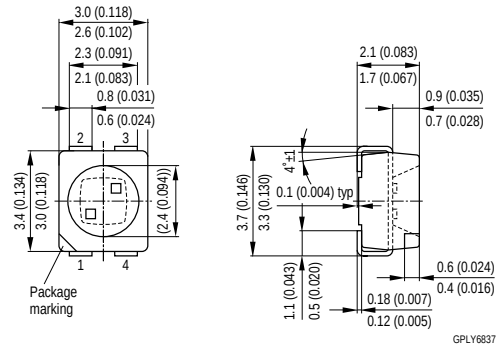
Outline Drawings dimensions in mm (inch)

Figure 7 L\* C870, L\* C876, L\* C873



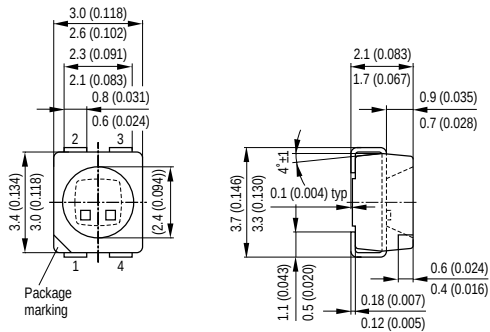
GPLY6930

Figure 8 L\*\* T671, L\*\* T676, L\*\* T670



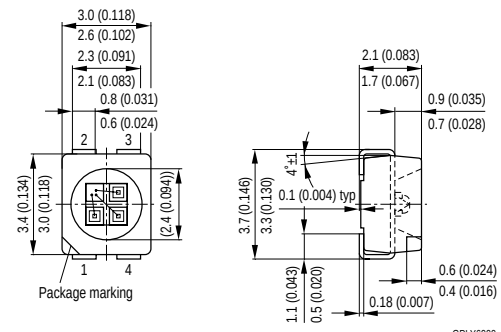
GPLY6837

Figure 9 LSG T677



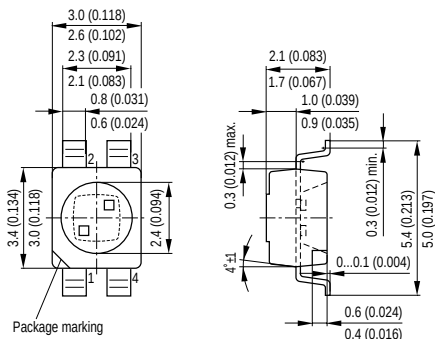
GPLY6925

Figure 10 LATB T686



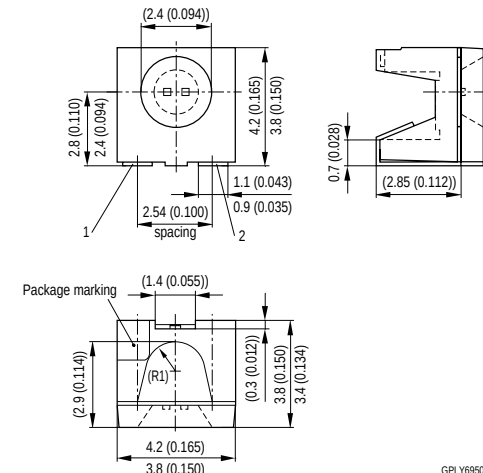
GPLY6900

Figure 11 L\*\* T770



GPLY6908

Figure 12 L\*\* A676, L\*\* A671



GPLY6950

Maßbilder in mm (inch)

Outline Drawings dimensions in mm (inch)

Figure 13 LH R974

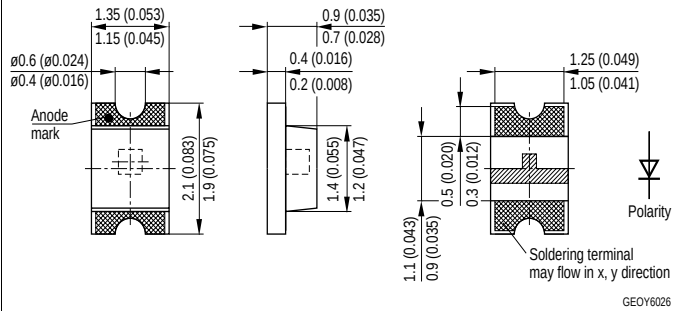


Figure 14 L\* R971, L\* R976

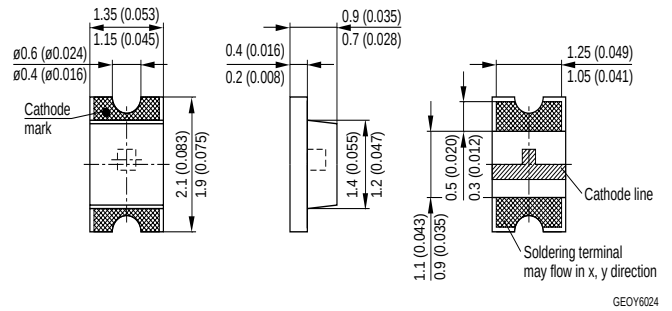


Figure 15 LB R99A, LW R98A

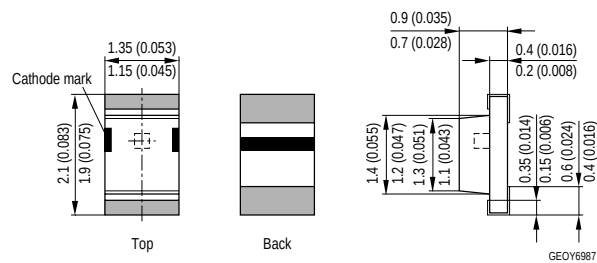


Figure 16 L\* Q971, L\* Q976

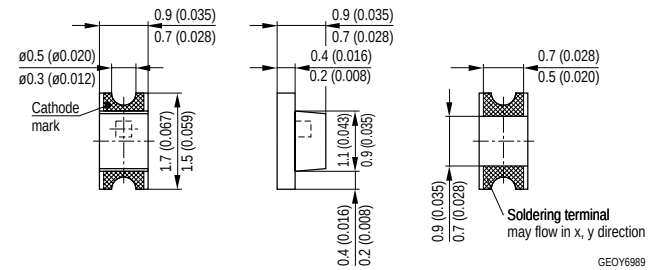


Figure 17 LB Q99A, L\* Q993, LW Q98A, LW Q983

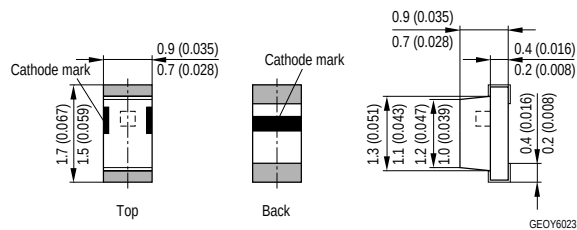
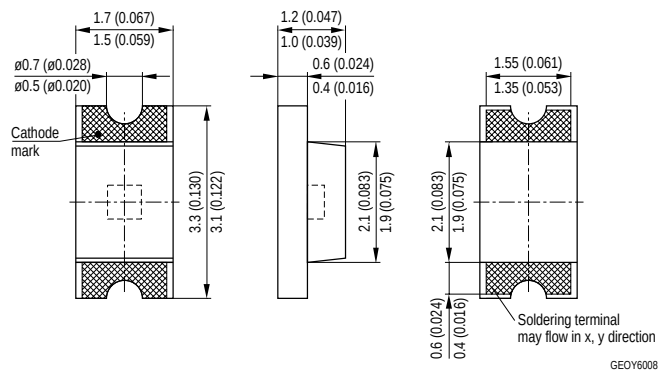


Figure 18 L\* N971, LH N974



Maßbilder in mm (inch)

Outline Drawings dimensions in mm (inch)

Figure 19 LH 3344, LH 3364

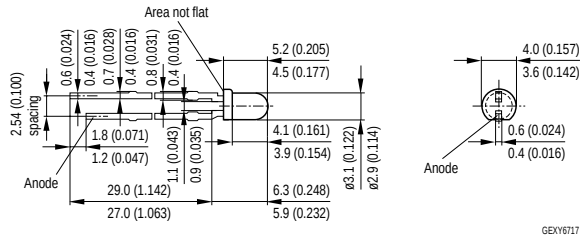


Figure 20 L\* 3341

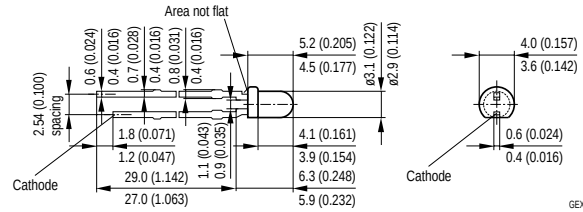


Figure 21 L\* 3340, L\* 3330

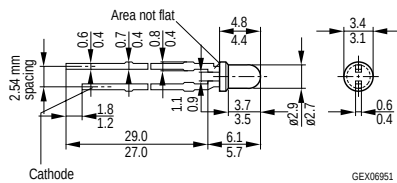


Figure 22 L\* 3360, L\* 3336, LB 3356, L\* 3333, L\* 3366  
L\* 3380, L\* 3386, L\* 3369

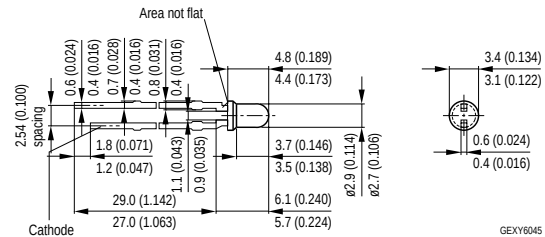


Figure 23 LSG 3331, LSG 3351

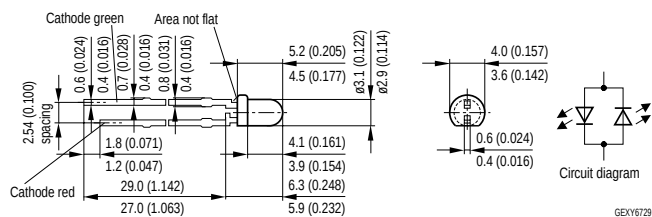
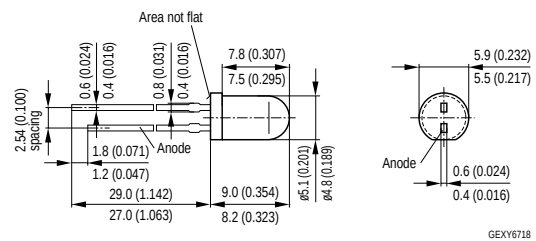
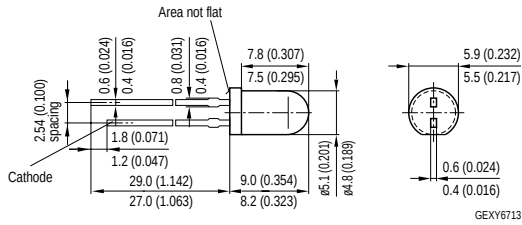
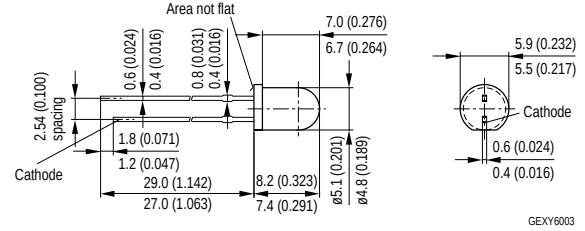
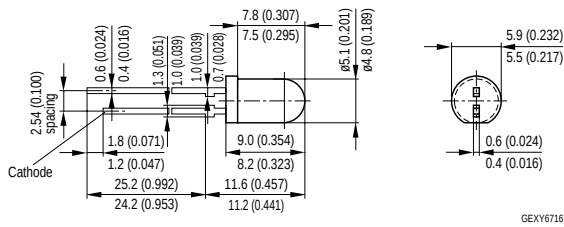
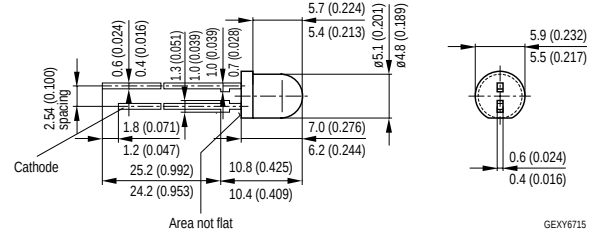
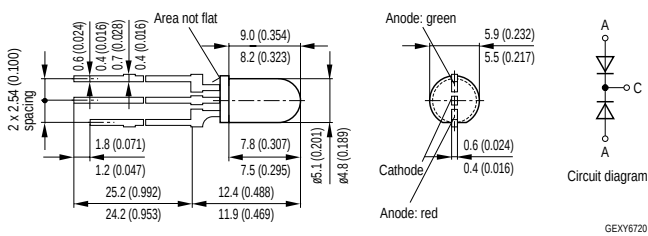
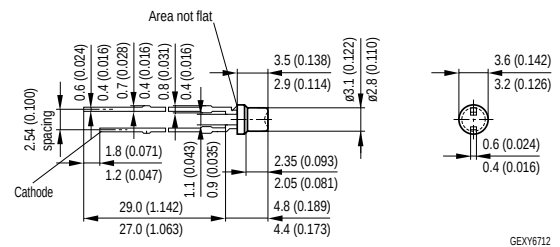


Figure 24 LH 5424, LH 5464



Maßbilder in mm (inch)

Outline Drawings dimensions in mm (inch)

**Figure 25** L\* 5421, L\* 5411, L\* 5420, L\* 5410, L\* 5426,  
L\* 5416, L\* 5436, L\* 5413, L\* 5433, L\* 5456,  
L\* 5460, L\* 5480, L\* 5469**Figure 26** L\* D446, L\* D443**Figure 27** L\* 5360**Figure 28** L\* 5380**Figure 29** LU 5351**Figure 30** L\* K380, L\* K382, L\* K376



## Maßbilder in mm (inch)

## Outline Drawings dimensions in mm (inch)

Figure 31 L\* Z18\*

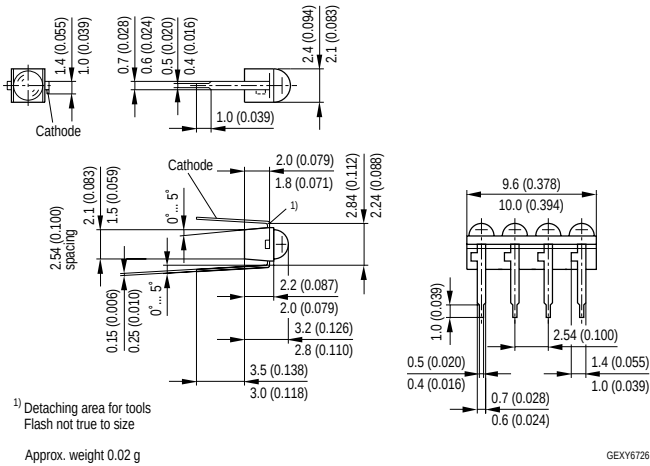


Figure 32 L\* U260

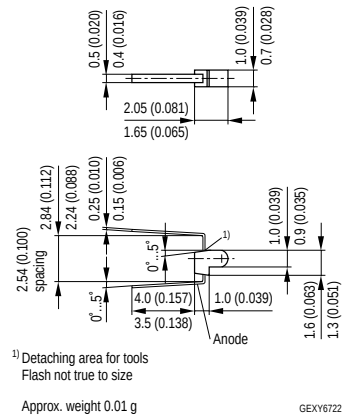


Figure 33 RL 50, RL 54

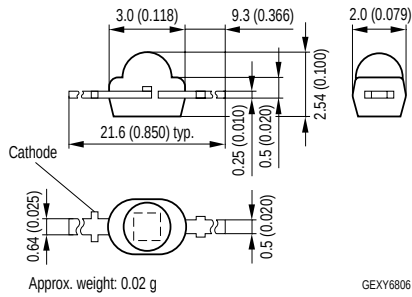


Figure 34 RL 55, YL 56, GL 56

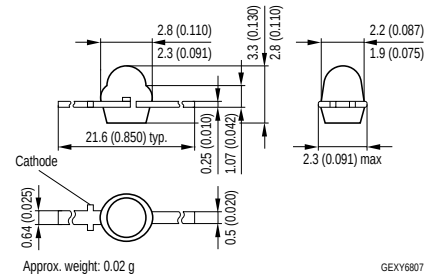


Figure 35 L\* S260, L\* S269

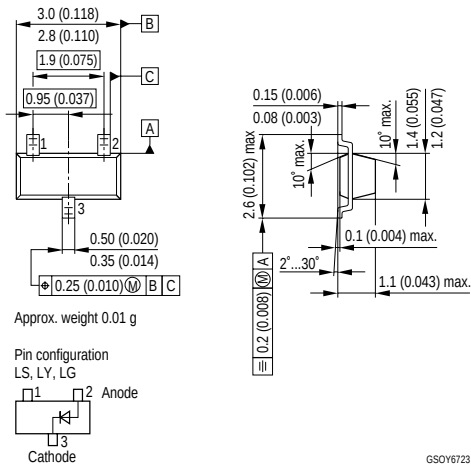
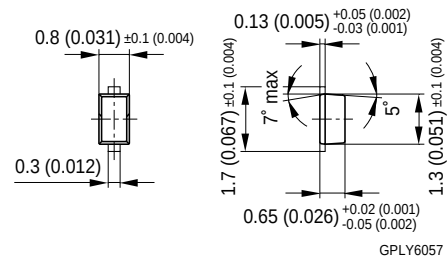


Figure 36 L\* L890, L\* L896, L\* L895



**Outline Drawings** dimensions in mm (inch)

**Figure 37**      **LG M470**



**Figure 38**      **Hülse und Ring, 3 mm LED**  
**Sleeves and ring, 3 mm LED:**  
**Q62901-B61 (glass clear)**  
**Q62901-B62 (black)**



Ø Bohrung/bore = 4.3-4.4 mm \*)  
 Stärke der Montageplatte = 1.0-1.5 mm \*)  
 Thickness of mounting board = 1.0-1.5 mm \*)

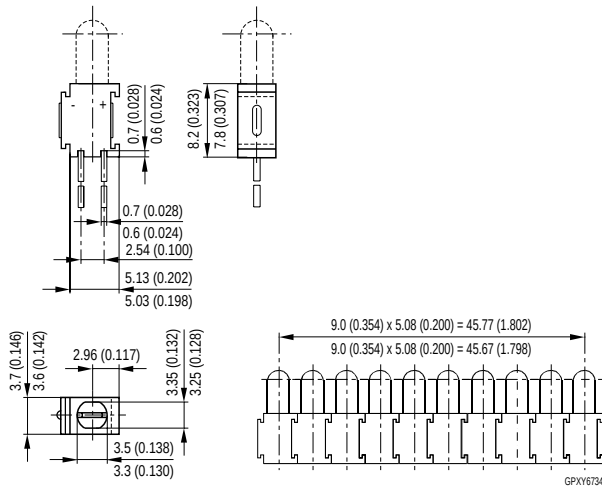
**Figure 39**      **Hülse und Ring, 5 mm LED**  
**Sleeves and ring, 5 mm LED:**  
**Q62901-B64 (glass clear)**  
**Q62901-B65 (black)**



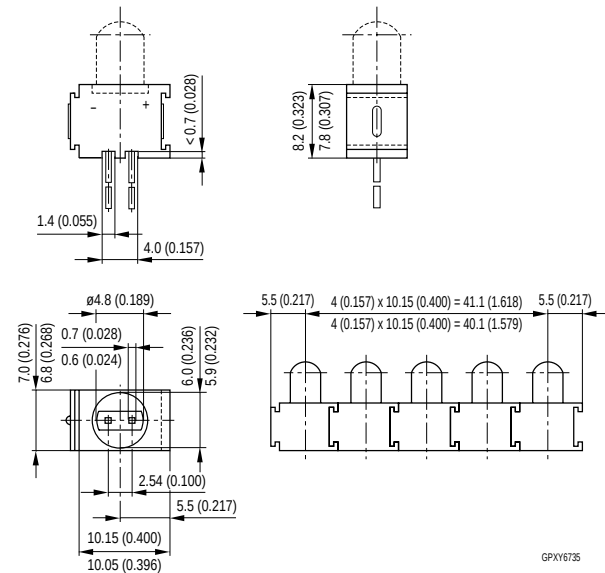
Ø Bohrung/bore = 6.45-6 mm \*)  
 Stärke der Montageplatte = 1.5-2.5 mm \*)  
 Thickness of mounting board = 1.5-2.5 mm \*)

Maßbilder in mm (inch)

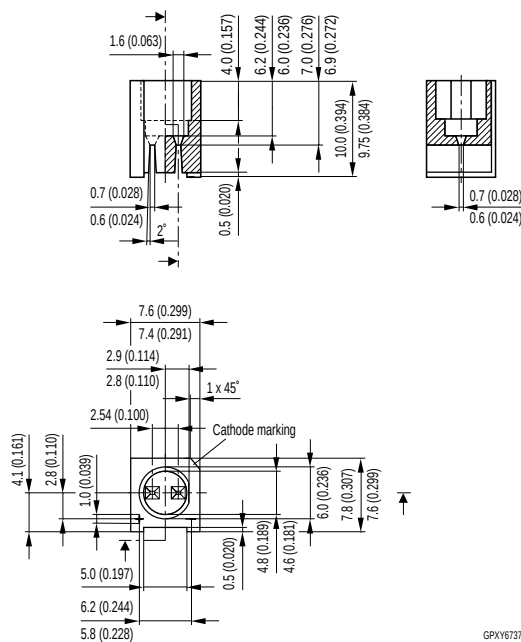
**Figure 40** Aneinanderreihbare Halterung für 3 mm LED  
Endstackable clips for 3 mm LED  
Q62902-B152-F222 (black)



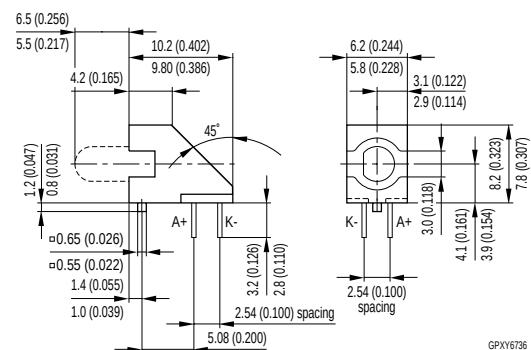
**Figure 41** Aneinanderreihbare Halterung für 5 mm LED  
Endstackable clips for 5 mm LED  
Q62902-B153-F222 (black)



**Figure 42** Winkelhalterungen für 5 mm LED  
Rectangular mounting part for 5 mm LED  
Q62902-B156-F222 (grey)



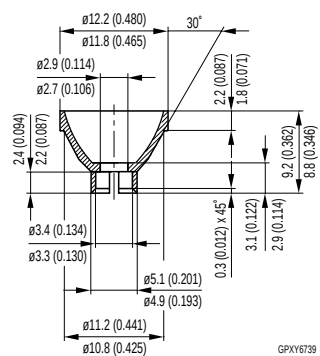
**Figure 43** Winkelhalterungen für 3 mm LED  
Rectangular mounting part for 3 mm LED  
Q62902-B155-F222 (grey)



**Maßbilder in mm (inch)**

**Outline Drawings** dimensions in mm (inch)

**Figure 44** Reflektor für 3 mm LED  
Reflector für 3 mm LED  
Q62902-B141-F222 (silver)



**Figure 45** Reflektor für 5 mm LED  
Reflector für 5 mm LED  
Q62902-B154-F222 (silver)

