

## Super SIDELED® High-Current LED

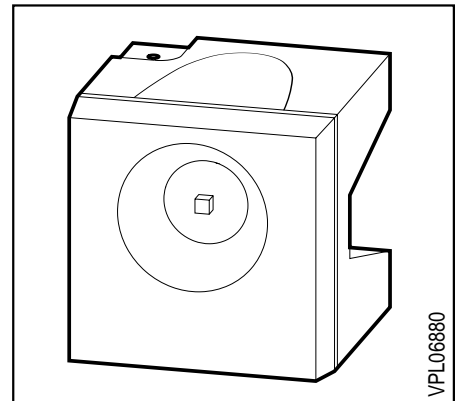
LS A672, LO A672, LY A672  
LG A672, LP A672

### Besondere Merkmale

- Gehäusefarbe: weiß
- als optischer Indikator einsetzbar
- besonders geeignet bei hohem Umgebungslicht durch erhöhten Betriebsstrom ( $\leq 50$  mA DC)
- zur Hinterleuchtung, Lichtleiter- und Linseneinkopplung
- für alle SMT-Bestück- und Reflow-Löttechniken geeignet
- gegurtet (12-mm-Filmgurt)
- Störimpulsfest nach DIN 40839

### Features

- color of package: white
- for use as optical indicator
- appropriate for high ambient light because of the higher operating current ( $\leq 50$  mA DC)
- for backlighting, optical coupling into light pipes and lenses
- suitable for all SMT assembly and reflow soldering methods
- available taped on reel (12 mm tape)
- load dump resistant acc. to DIN 40839



| Typ          | Emissions-<br>farbe  | Farbe der<br>Lichtaustritts-<br>fläche | Lichtstärke   | Lichtstrom  | Bestellnummer |
|--------------|----------------------|--|---|---|---------------|
| Type         | Color of<br>Emission | Color of the<br>Light Emitting<br>Area | Luminous<br>Intensity<br>$I_F = 50 \text{ mA}$<br>$I_V \text{ (mcd)}$ | Luminous<br>Flux<br>$I_F = 50 \text{ mA}$<br>$\Phi_V \text{ (mlm)}$ | Ordering Code |
| ■ LS A672-LP | super-red            | colorless clear                        | 10 ... 80   | -   | Q62703-Q2761  |
| ■ LS A672-N  |                      |  | 25 ... 50   | 100 (typ.)  | Q62703-Q2849  |
| ■ LS A672-P  |                      |  | 40 ... 80   | 180 (typ.)  | Q62703-Q3226  |
| ■ LS A672-NR |                      |  | 25 ... 200  | -   | Q62703-Q2850  |
| ■ LO A672-LP | orange               | colorless clear                        | 10 ... 80   | -   | Q62703-Q2548  |
| ■ LO A672-N  |                      |  | 25 ... 50   | 100 (typ.)  | Q62703-Q2851  |
| ■ LO A672-P  |                      |  | 40 ... 80   | 180 (typ.)  | Q62703-Q2852  |
| ■ LO A672-NR |                      |  | 25 ... 200  | -   | Q62703-Q2853  |
| ■ LY A672-LN | yellow               | colorless clear                        | 10 ... 50   | -   | Q62703-Q2553  |
| ■ LY A672-N  |                      |  | 25 ... 50   | 100 (typ.)  | Q62703-Q2854  |
| ■ LY A672-P  |                      |  | 40 ... 80   | 180 (typ.)  | Q62703-Q2855  |
| ■ LY A672-MQ |                      |  | 16 ... 125  | -   | Q62703-Q2856  |
| LG A672-LP   | green                | colorless clear                        | 10 ... 80   | -   | Q62703-Q2544  |
| LG A672-N    |                      |  | 25 ... 50   | 100 (typ.)  | Q62703-Q2857  |
| LG A672-P    |                      |  | 40 ... 80   | 180 (typ.)  | Q62703-Q2858  |
| LG A672-MQ   |                      |  | 16 ... 125  | -   | Q62703-Q2859  |
| LP A672-KN   | pure green           | colorless clear                        | 6.3 ... 50  | -   | Q62703-Q2860  |
| LP A672-L    |                      |  | 10 ... 20   | 45 (typ.)   | Q62703-Q3838  |
| LP A672-M    |                      |  | 16 ... 32   | 75 (typ.)   | Q62703-Q3839  |
| LP A672-N    |                      |  | 25 ... 50   | 100 (typ.)  | Q62703-Q3148  |
| LP A672-LP   |                      |  | 10 ... 80   | -   | Q62703-Q2863  |

■ Nicht für Neuentwicklungen / Not for new design

Streuung der Lichtstärke in einer Verpackungseinheit  $I_{V \max} / I_{V \min} \leq 2.0$ .

Luminous intensity ratio in one packaging unit  $I_{V \max} / I_{V \min} \leq 2.0$ .

**Grenzwerte**  
**Maximum Ratings**

| Bezeichnung<br>Parameter   | Symbol<br>Symbol | Werte<br>Values | Einheit<br>Unit |
|--|------------------|-----------------|-----------------|
| Betriebstemperatur<br>Operating temperature range  | $T_{op}$         | - 55 ... + 100  | °C              |
| Lagertemperatur<br>Storage temperature range   | $T_{stg}$        | - 55 ... + 100  | °C              |
| Sperrschichttemperatur<br>Junction temperature   | $T_j$            | + 100           | °C              |
| Durchlaßstrom<br>Forward current   | $I_F$            | 50              | mA              |
| Stoßstrom<br>Surge current<br>$t \leq 10 \mu s, D = 0.005$   | $I_{FM}$         | 1               | A               |
| Sperrspannung<br>Reverse voltage   | $V_R$            | 5               | V               |
| Verlustleistung<br>Power dissipation   | $P_{tot}$        | 190             | mW              |
| Wärmewiderstand<br>Thermal resistance<br>Sperrschicht / Umgebung<br>Junction / air<br>Montage auf PC-board*) (Padgröße je $\geq 16 \text{ mm}^2$ )<br>mounted on PC board*) (padsizes $\geq 16 \text{ mm}^2$ each) | $R_{th JA}$      | 330             | K/W             |

\*) PC-board: FR4

**Kennwerte** ( $T_A = 25 \text{ }^\circ\text{C}$ )

**Characteristics**

| Bezeichnung<br>Parameter   | Symbol<br>Symbol        | Werte<br>Values |            |            |            |              | Einheit<br>Unit                |
|--|-------------------------|-----------------|------------|------------|------------|--------------|--------------------------------|
|  |                         | LS              | LO         | LY         | LG         | LP           |                                |
| Wellenlänge des emittierten Lichtes (typ.)<br>Wavelength at peak emission (typ.)<br>$I_F = 10 \text{ mA}$  | $\lambda_{\text{peak}}$ | 635             | 610        | 586        | 565        | 557          | nm                             |
| Dominantwellenlänge (typ.)<br>Dominant wavelength (typ.)<br>$I_F = 10 \text{ mA}$  | $\lambda_{\text{dom}}$  | 628             | 605        | 590        | 570        | 560          | nm                             |
| Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$ (typ.)<br>Spectral bandwidth at 50 % $I_{\text{rel max}}$ (typ.)<br>$I_F = 10 \text{ mA}$                         | $\Delta\lambda$         | 45              | 40         | 45         | 25         | 22           | nm                             |
| Abstrahlwinkel bei 50 % $I_v$ (Vollwinkel)<br>Viewing angle at 50 % $I_v$  | $2\phi$                 | 120             | 120        | 120        | 120        | 120          | deg.                           |
| Durchlaßspannung (typ.)<br>Forward voltage (max.)<br>$I_F = 50 \text{ mA}$   | $V_F$<br>$V_F$          | 2.0<br>3.8      | 2.1<br>3.8 | 2.2<br>3.8 | 2.6<br>3.8 | 2.6<br>3.8*) | V<br>V                         |
| Sperrstrom (typ.)<br>Reverse current (max.)<br>$V_R = 5 \text{ V}$   | $I_R$<br>$I_R$          | 0.01<br>10      | 0.01<br>10 | 0.01<br>10 | 0.01<br>10 | 0.01<br>10   | $\mu\text{A}$<br>$\mu\text{A}$ |
| Kapazität (typ.)<br>Capacitance<br>$V_R = 0 \text{ V}, f = 1 \text{ MHz}$  | $C_0$                   | 40              | 35         | 35         | 60         | 80           | pF                             |
| Schaltzeiten:<br>Switching times:<br>$I_V$ from 10 % to 90 % (typ.)<br>$I_V$ from 90 % to 10 % (typ.)<br>$I_F = 100\text{mA}, t_p = 10 \mu\text{s}, R_L = 50 \Omega$ | $t_r$<br>$t_f$          | 350<br>200      | 500<br>250 | 350<br>200 | 500<br>250 | 500<br>250   | ns<br>ns                       |

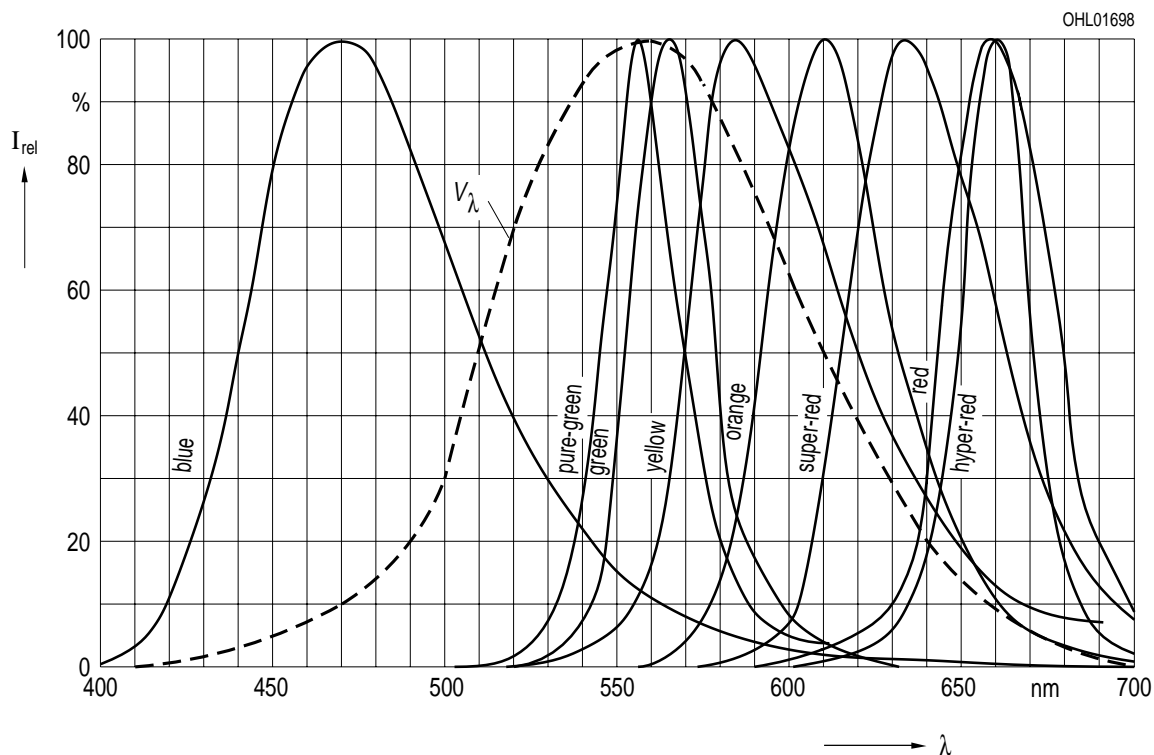
\*)  $V_F \text{ max} = 3.2 \text{ V}$  as of Febr. 97

Relative spektrale Emission  $I_{rel} = f(\lambda)$ ,  $T_A = 25\text{ °C}$ ,  $I_F = 10\text{ mA}$

### Relative Spectral Emission

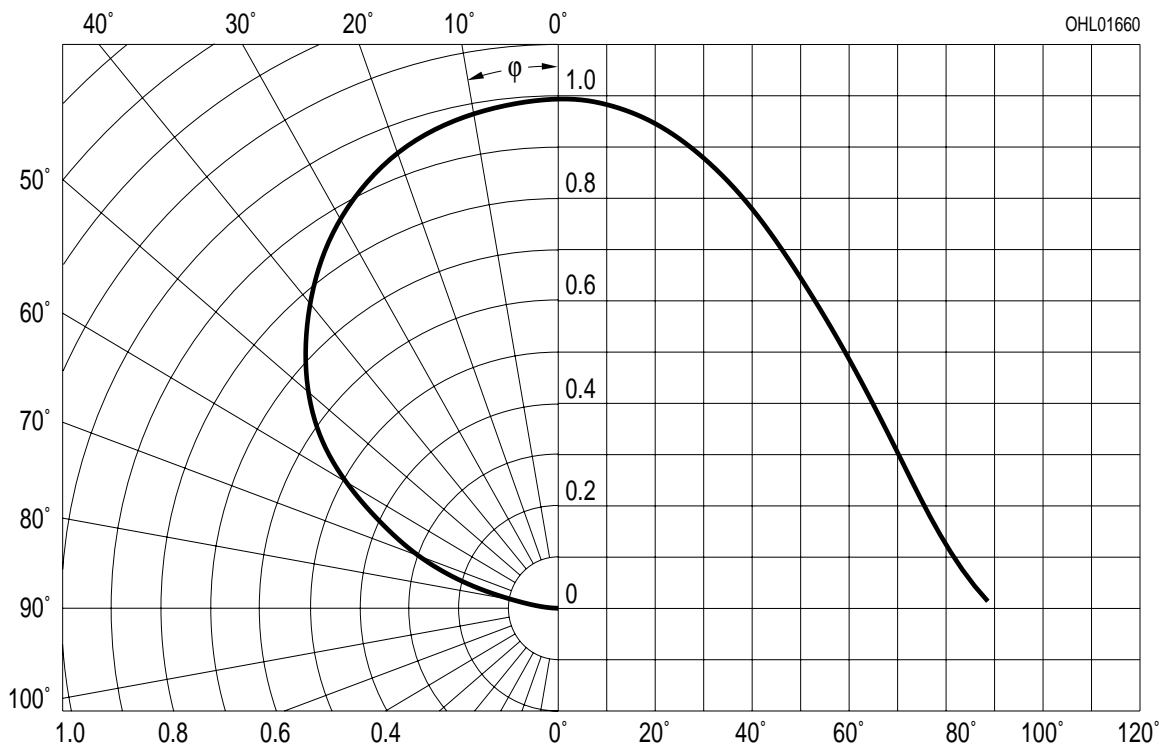
$V(\lambda)$  = spektrale Augenempfindlichkeit

Standard eye response curve

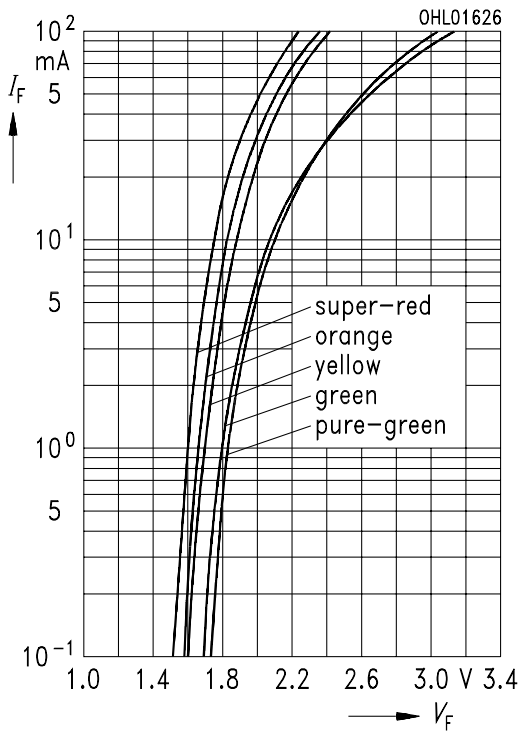


Abstrahlcharakteristik  $I_{rel} = f(\varphi)$

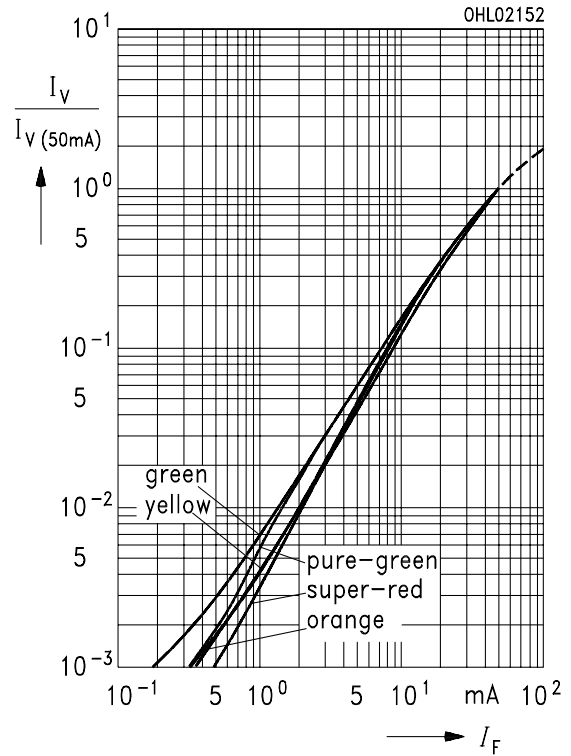
### Radiation characteristic



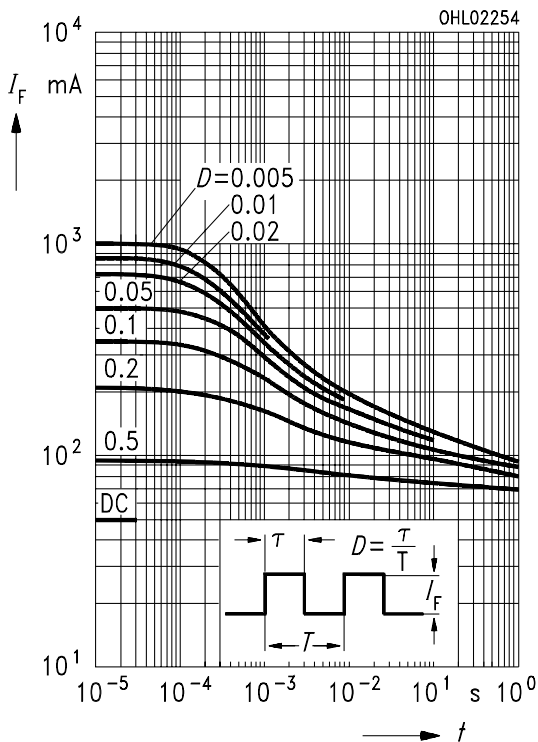
**Durchlaßstrom  $I_F = f(V_F)$**   
**Forward current**  
 $T_A = 25^\circ\text{C}$



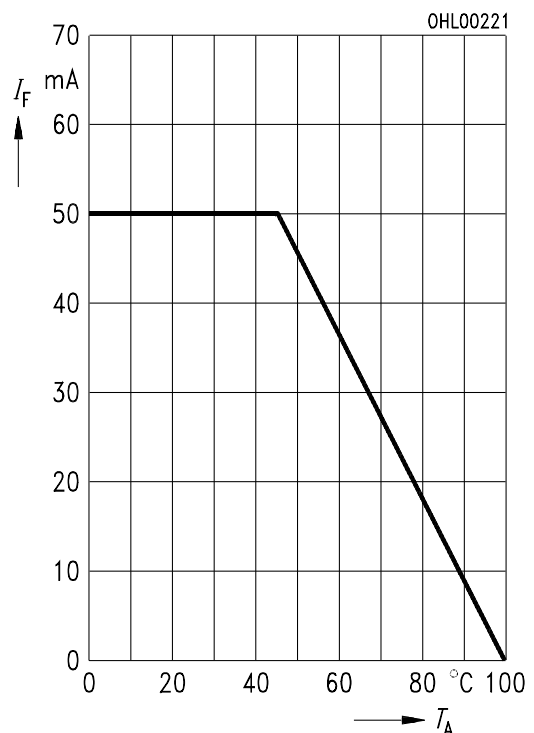
**Relative Lichtstärke  $I_V/I_{V(50\text{mA})} = f(I_F)$**   
**Relative luminous intensity**  
 $T_A = 25^\circ\text{C}$



**Zulässige Impulsbelastbarkeit  $I_F = f(t_p)$**   
**Permissible pulse handling capability**  
 Duty cycle  $D =$  parameter,  $T_A = 25^\circ\text{C}$

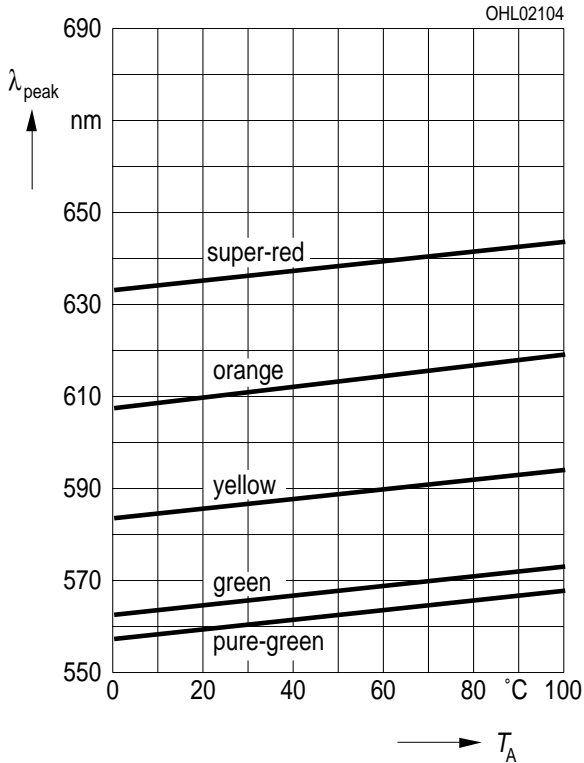


**Maximal zulässiger Durchlaßstrom**  
**Max. permissible forward current**  
 $I_F = f(T_A)$



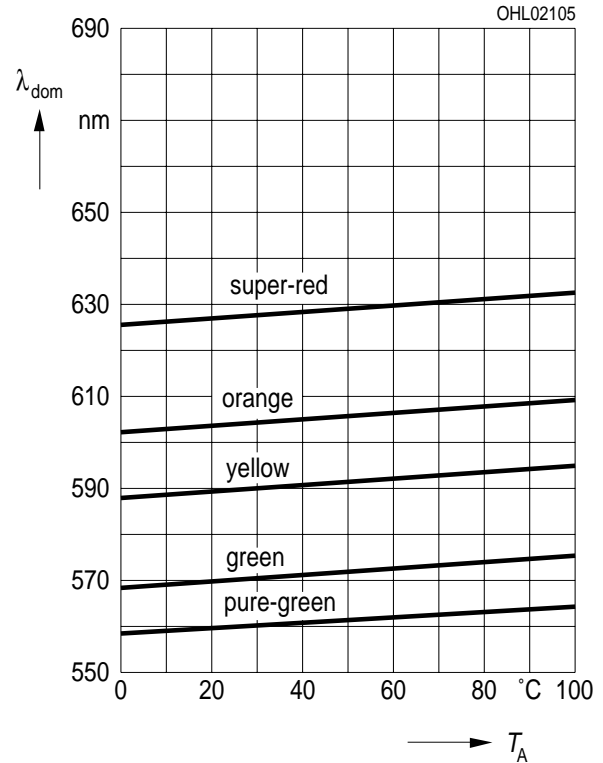
**Wellenlänge der Strahlung  $\lambda_{\text{peak}} = f(T_A)$**   
**Wavelength at peak emission**

$I_F = 10 \text{ mA}$



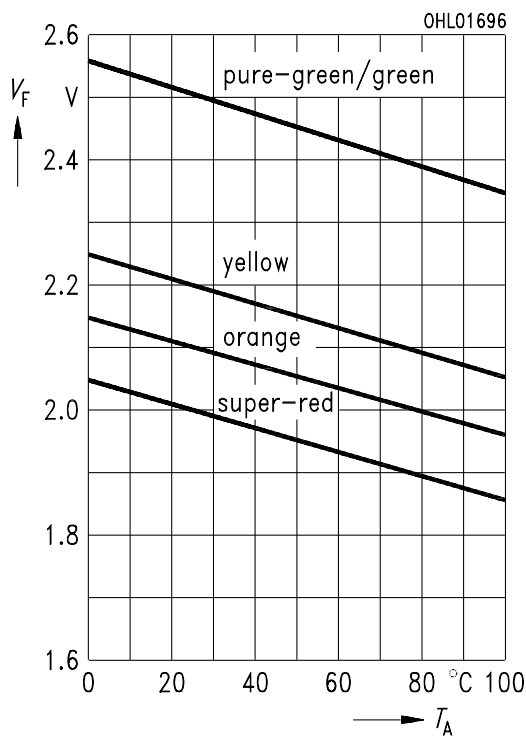
**Dominantwellenlänge  $\lambda_{\text{dom}} = f(T_A)$**   
**Dominant wavelength**

$I_F = 10 \text{ mA}$



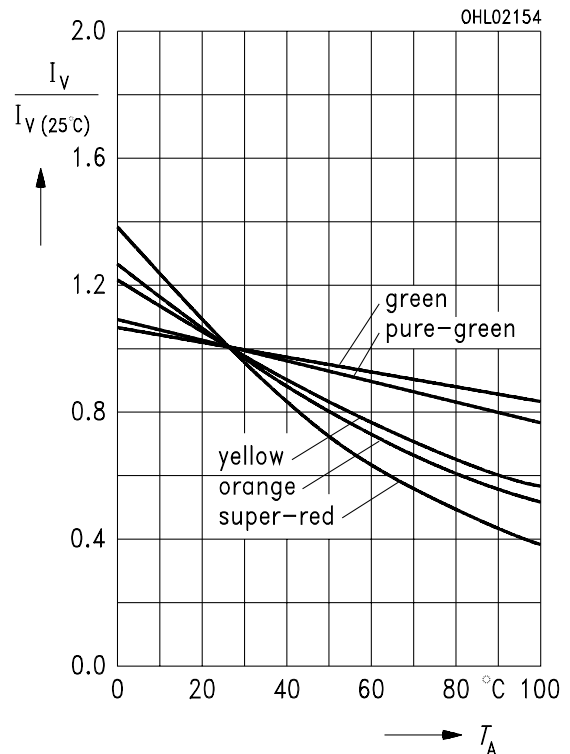
**Durchlaßspannung  $V_F = f(T_A)$**   
**Forward voltage**

$I_F = 50 \text{ mA}$

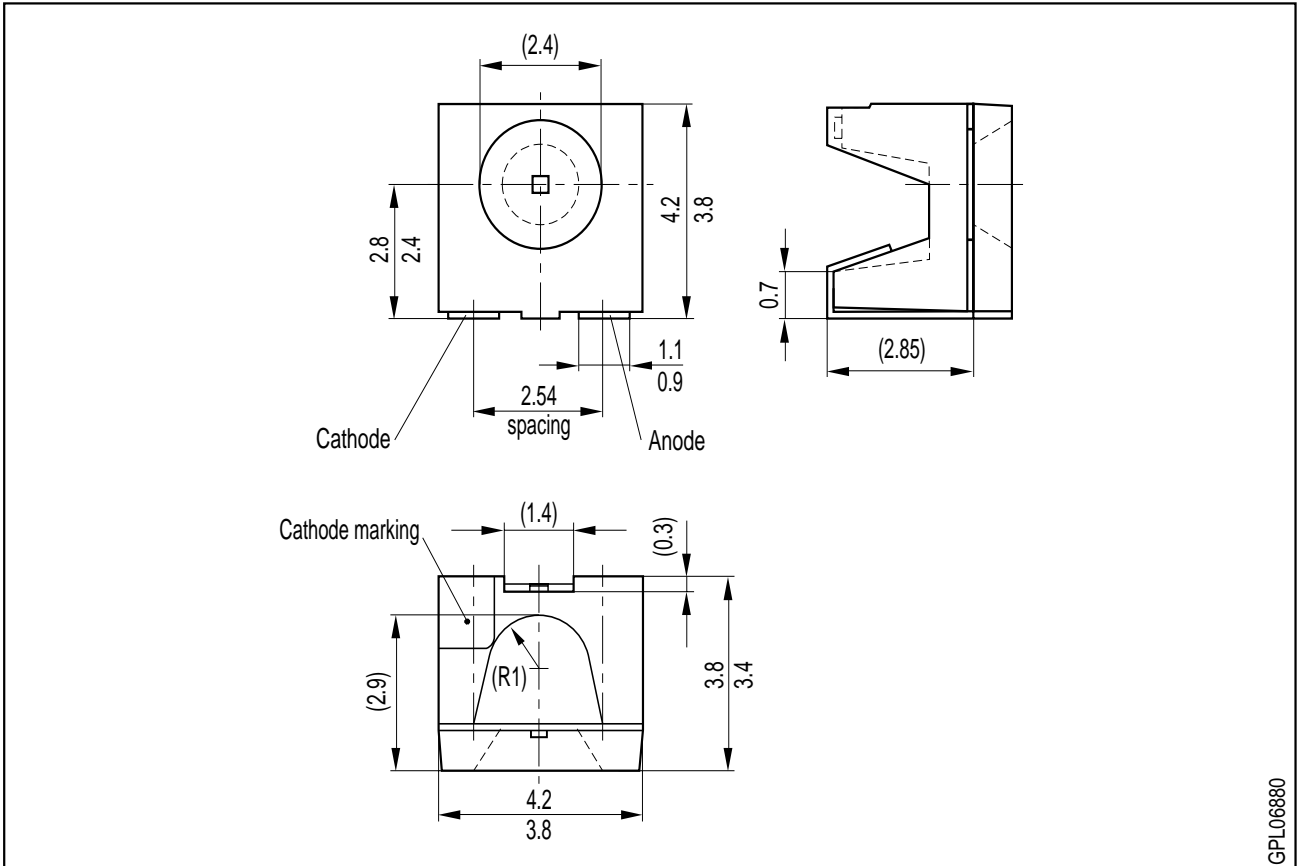


**Relative Lichtstärke  $I_V / I_{V(25^\circ\text{C})} = f(T_A)$**   
**Relative luminous intensity**

$I_F = 50 \text{ mA}$



**Maßzeichnung** (Maße in mm, wenn nicht anders angegeben)  
**Package Outlines** (Dimensions in mm, unless otherwise specified)



GPL06880

**Kathodenkennung:** abgeschrägte Ecke  
**Cathode mark:** bevelled edge