

## SIDELED® Super-Bright, Hyper-Red GaAIAs-LED

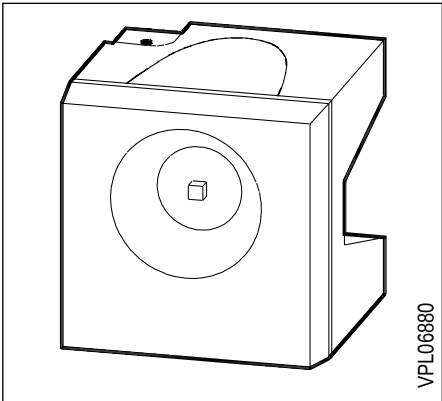
LH A674

### Besondere Merkmale

- Gehäusefarbe: weiß
- Doppel-Heterostruktur in GaAIAs Technologie
- besonders hohe Lichtstärke
- als optischer Indikator einsetzbar
- 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
- double heterojunction in GaAIAs technology
- superior luminous intensity
- for use as optical indicator
- 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>$I_F = 10 \text{ mA}$<br>$I_V \text{ (mcd)}$ | Luminous<br>Flux<br>$I_F = 10 \text{ mA}$<br>$\Phi_V \text{ (lm)}$ | Ordering code |
| LH A674-KM | hyper-red            | colorless clear                        | 6.3 ... 32                                                            | -                                                                  | Q62703-Q2546  |
| LH A674-L  |                      |                                        | 10.0 ... 20                                                           | 45 (typ.)                                                          | Q62703-Q2830  |
| LH A674-M  |                      |                                        | 16.0 ... 32                                                           | 75 (typ.)                                                          | Q62703-Q2831  |
| LH A674-LN |                      |                                        | 10.0 ... 50                                                           | -                                                                  | Q62703-Q2832  |

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                                                                                                                                                                               | $I_F$            | 30              | mA              |
| Stoßstrom<br>Surge current<br>$t \leq 10 \mu s, D = 0.005$                                                                                                                                                     | $I_{FM}$         | 0.5             | A               |
| Sperrspannung<br>Reverse voltage                                                                                                                                                                               | $V_R$            | 3               | V               |
| Verlustleistung<br>Power dissipation<br>$T_A \leq 25 \text{ °C}$                                                                                                                                               | $P_{tot}$        | 90              | mW              |
| Wärmewiderstand<br>Thermal resistance<br>Sperrschicht / Luft<br>Junction / air<br>Montage auf PC-Board*) (Padgröße je $\geq 16 \text{ mm}^2$ )<br>mounted on PC-Board*) (pad size $\geq 16 \text{ mm}^2$ each) | $R_{th JA}$      | 430             | K/W             |

\*) PC-board: FR4

## Kennwerte ( $T_A = 25\text{ °C}$ )

### Characteristics

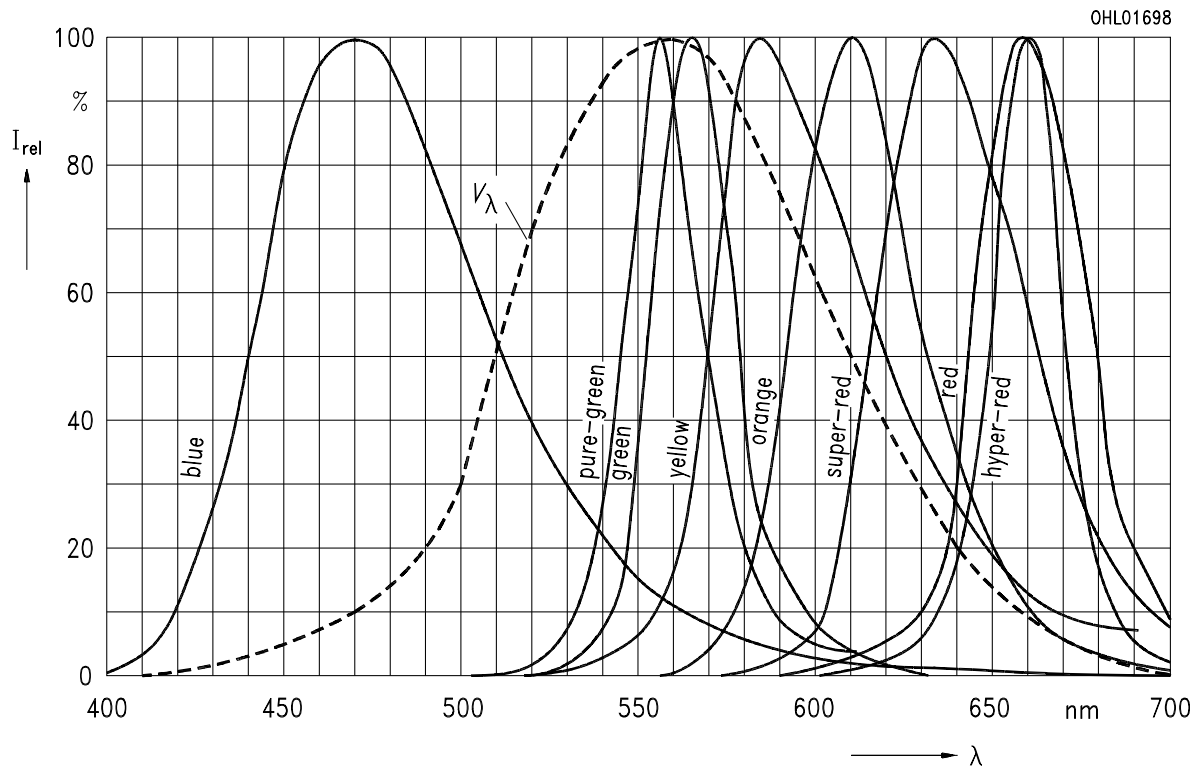
| Bezeichnung<br>Parameter                                                                                                                                                                  | Symbol<br>Symbol        | Werte<br>Values | Einheit<br>Unit                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------|--------------------------------|
| Wellenlänge des emittierten Lichtes (typ.)<br>Wavelength at peak emission (typ.)<br>$I_F = 10\text{ mA}$                                                                                  | $\lambda_{\text{peak}}$ | 660             | nm                             |
| Dominantwellenlänge (typ.)<br>Dominant wavelength (typ.)<br>$I_F = 10\text{ mA}$                                                                                                          | $\lambda_{\text{dom}}$  | 645             | nm                             |
| Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$ (typ.)<br>Spectral bandwidth at 50 % $I_{\text{rel max}}$ (typ.)<br>$I_F = 10\text{ mA}$                                               | $\Delta\lambda$         | 22              | nm                             |
| Abstrahlwinkel bei 50 % $I_V$ (Vollwinkel)<br>Viewing angle at 50 % $I_V$                                                                                                                 | $2\phi$                 | 120             | Grad<br>deg.                   |
| Durchlaßspannung (typ.)<br>Forward voltage (max.)<br>$I_F = 10\text{ mA}$                                                                                                                 | $V_F$<br>$V_F$          | 1.75<br>2.6     | V<br>V                         |
| Sperrstrom (typ.)<br>Reverse current (max.)<br>$V_R = 3\text{ V}$                                                                                                                         | $I_R$<br>$I_R$          | 0.01<br>10      | $\mu\text{A}$<br>$\mu\text{A}$ |
| Kapazität (typ.)<br>Capacitance<br>$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$                                                                                                                | $C_0$                   | 25              | pF                             |
| Schaltzeiten:<br>Switching times:<br>$I_V$ from 10 % to 90 % (typ.)<br>$I_V$ from 90 % to 10 % (typ.)<br>$I_F = 100\text{ mA}$ , $t_p = 10\text{ }\mu\text{s}$ , $R_L = 50\text{ }\Omega$ | $t_r$<br>$t_f$          | 140<br>110      | ns<br>ns                       |

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

Relative spectral emission

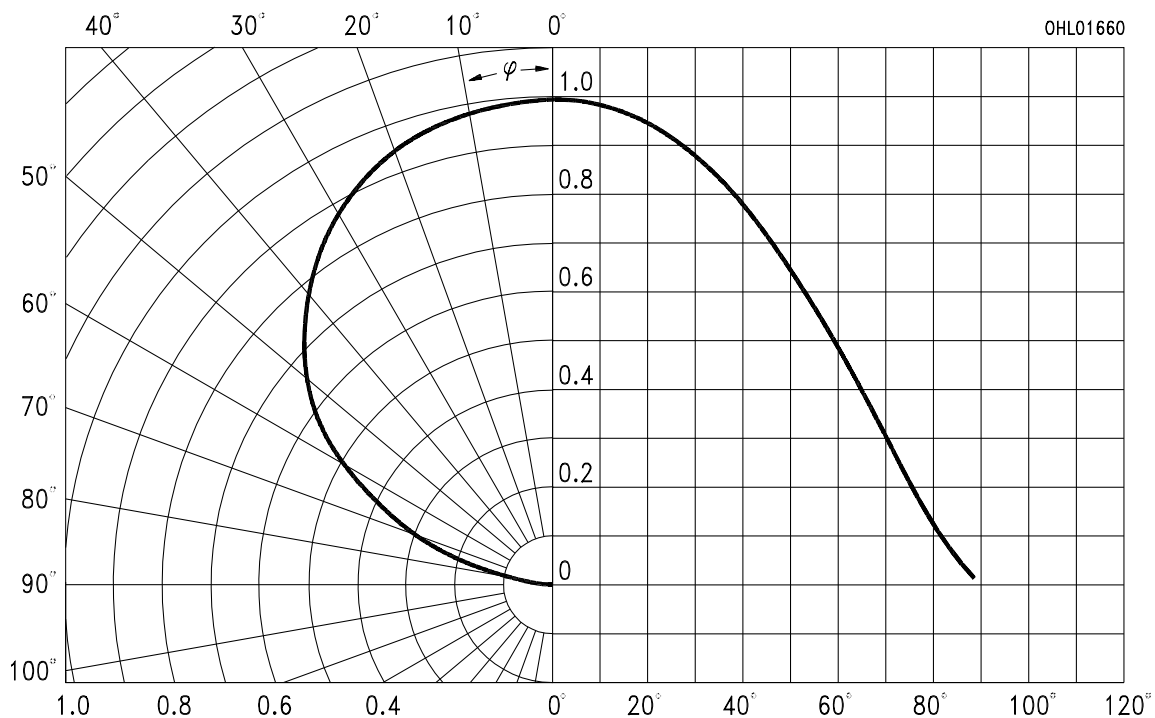
$V(\lambda)$  = spektrale Augenempfindlichkeit

Standard eye response curve



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

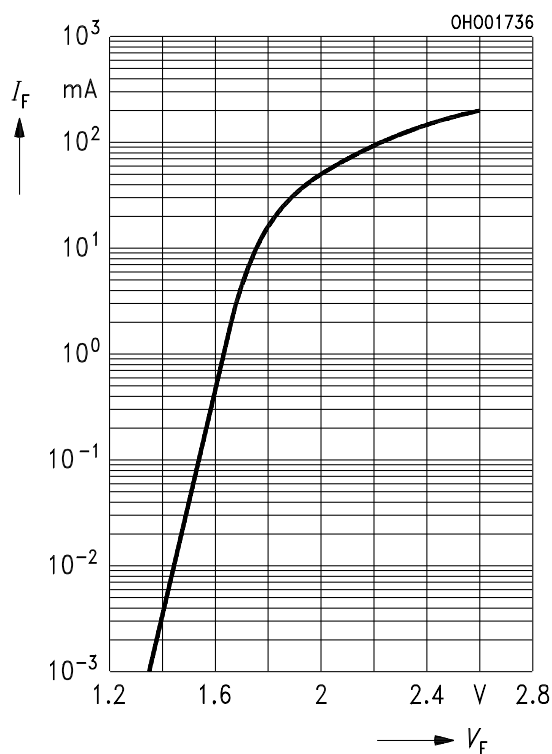
Radiation characteristic



Durchlaßstrom  $I_F = f(V_F)$

Forward current

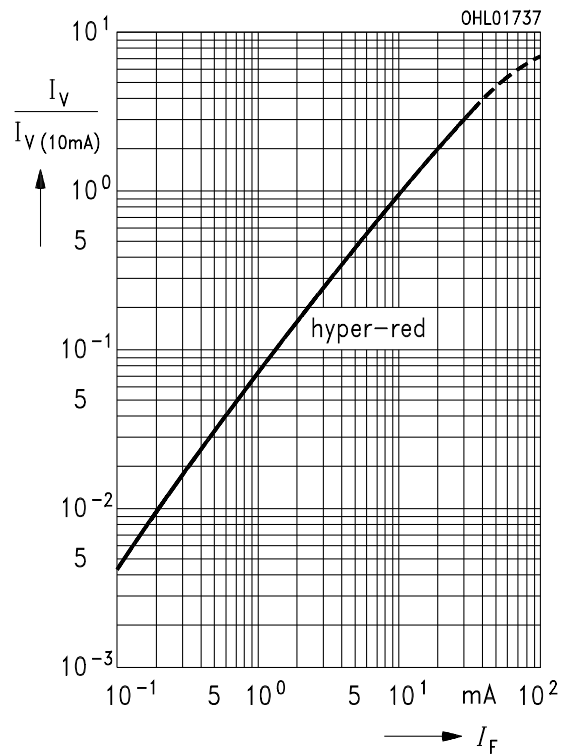
$T_A = 25^\circ\text{C}$



Relative Lichtstärke  $I_V/I_{V(10\text{ mA})} = f(I_F)$

Relative luminous intensity

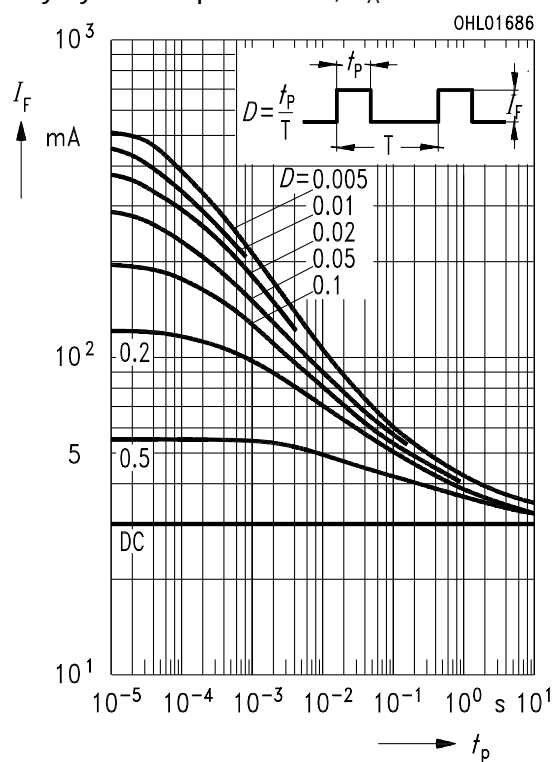
$T_A = 25^\circ\text{C}$



Zulässige Impulsbelastbarkeit  $I_F = f(t_p)$

Permissible pulse handling capability

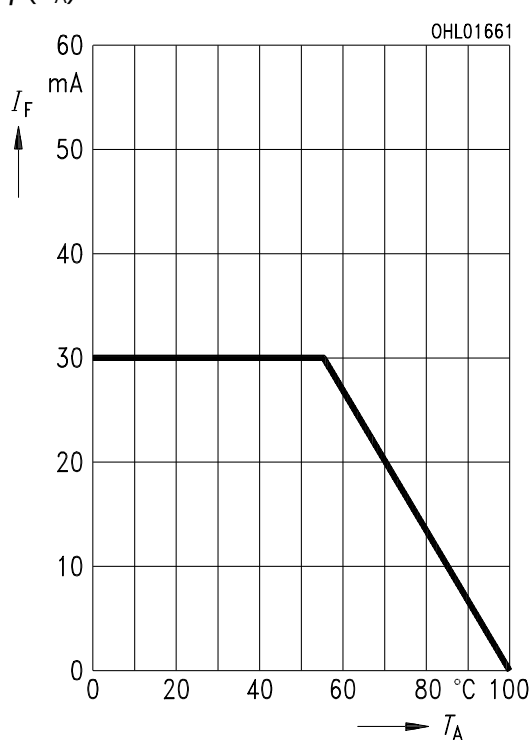
Duty cycle  $D = \text{parameter}$ ,  $T_A = 25^\circ\text{C}$



Maximal zulässiger Durchlaßstrom

Max. permissible forward current

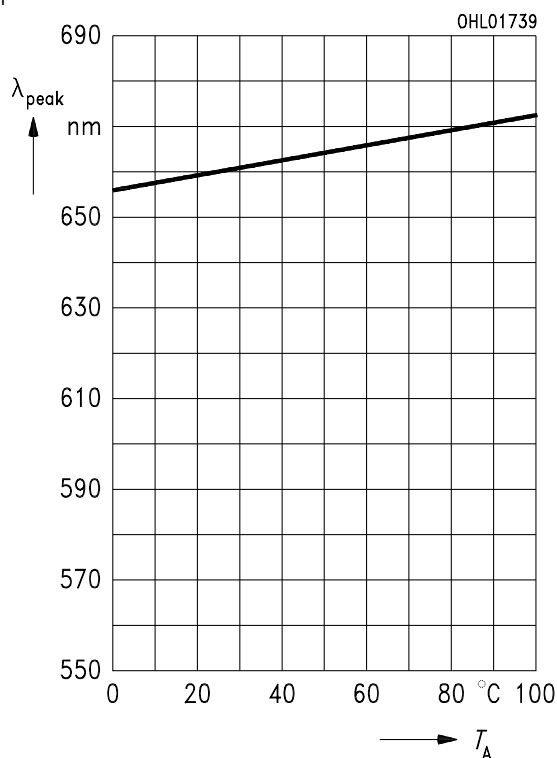
$I_F = f(T_A)$



Wellenlänge der Strahlung  $\lambda_{\text{peak}} = f(T_A)$

Wavelength at peak emission

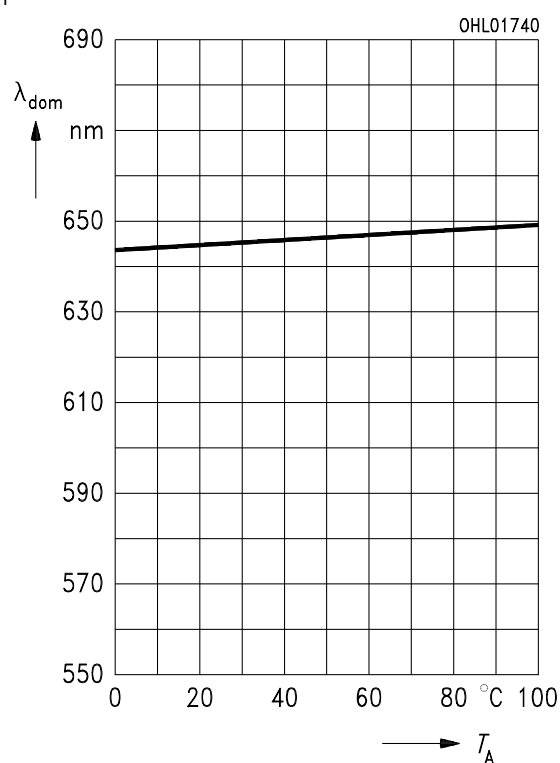
$I_F = 10 \text{ mA}$



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

Dominant wavelength

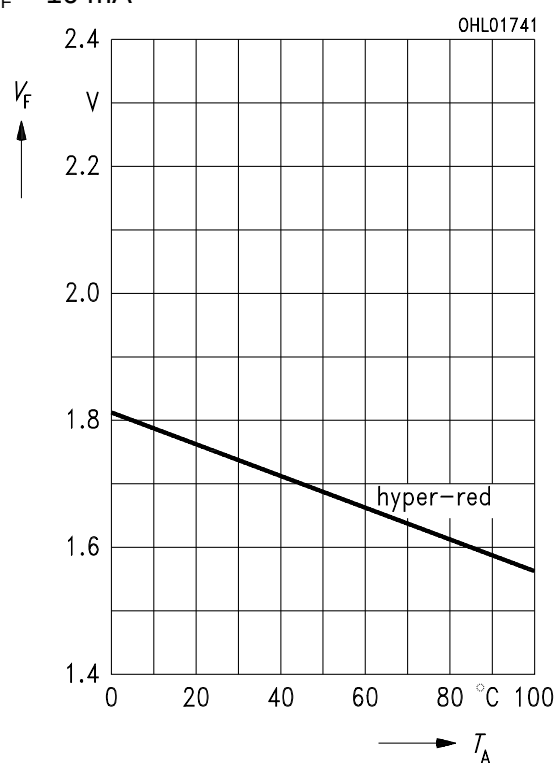
$I_F = 10 \text{ mA}$



Durchlaßspannung  $V_F = f(T_A)$

Forward voltage

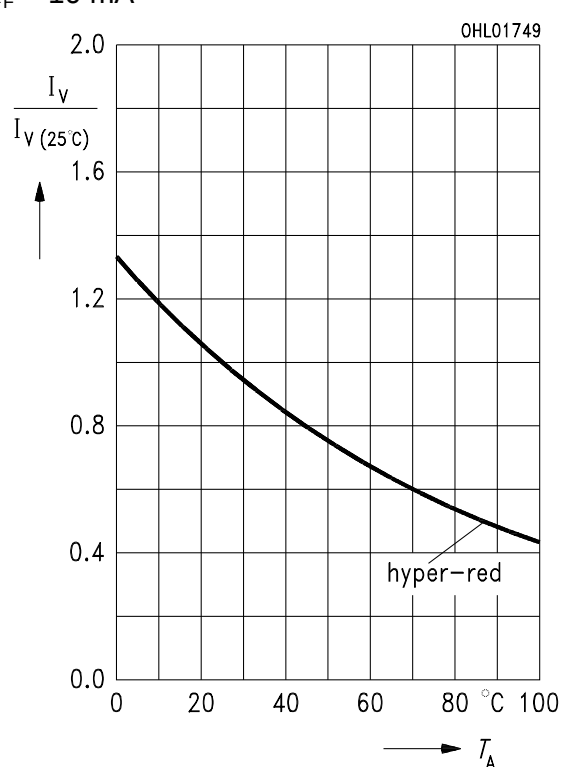
$I_F = 10 \text{ mA}$



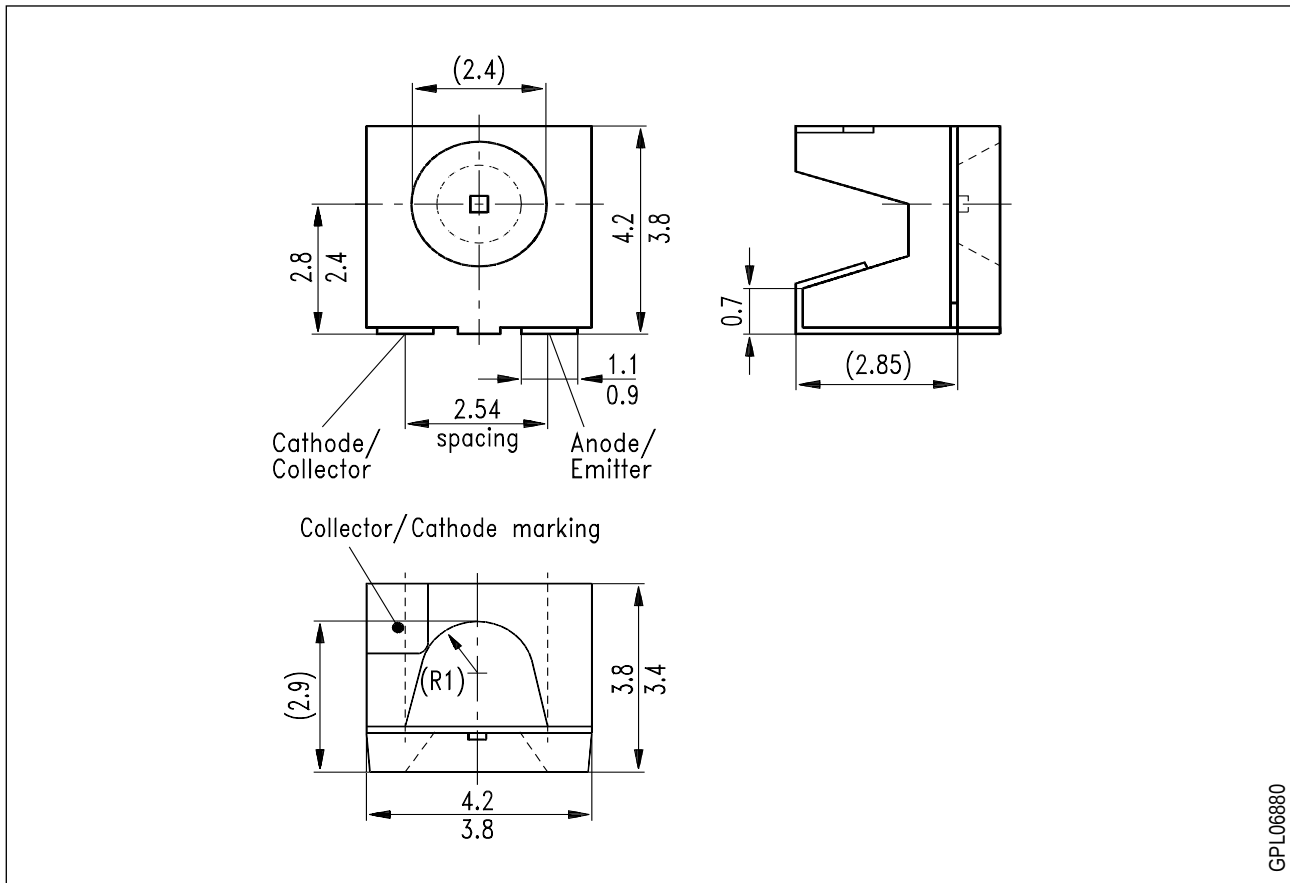
Relative Lichtstärke  $I_V/I_{V(25^\circ\text{C})} = f(T_A)$

Relative luminous intensity

$I_F = 10 \text{ mA}$



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



GPL06880

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