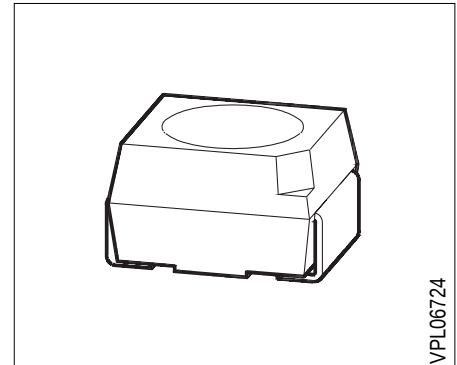


**Super TOPLED®  
High-Current LED**

**LS T672, LO T672, LY T672  
LG T672, LP T672**

**Besondere Merkmale**

- Gehäusebauform: P-LCC-2
- 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 Löttechniken geeignet
- gegurtet (8-mm-Filmgurt)
- Störimpulsfest nach DIN 40839



**Features**

- P-LCC-2 package
- 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 soldering methods
- available taped on reel (8 mm tape)
- load dump resistant acc. to DIN 40839

**LS T672, LO T672, LY T672, LG T672, LP T672**

| Typ<br>Type  | Emissions-<br>farbe<br>Color of<br>Emission | Farbe der Licht-<br>austrittsfläche<br>Color of the<br>Light Emitting<br>Area | Lichtstärke<br>Luminous<br>Intensity<br>$I_F = 50 \text{ mA}$<br>$I_V \text{ (mcd)}$ | Lichtstrom<br>Luminous<br>Flux<br>$I_F = 50 \text{ mA}$<br>$\Phi_V \text{ (lm)}$ | Bestellnummer<br>Ordering Code |
|--------------|---------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------|
| ■ LS T672-LP | super-red                                   | colorless clear                                                               | 10 ... 80                                                                            | -                                                                                | Q62703-Q2334                   |
| ■ LS T672-N  |                                             |                                                                               | 25 ... 50                                                                            | 100 (typ.)                                                                       | Q62703-Q2513                   |
| ■ LS T672-P  |                                             |                                                                               | 40 ... 80                                                                            | 180 (typ.)                                                                       | Q62703-Q2514                   |
| ■ LS T672-NR |                                             |                                                                               | 25 ... 200                                                                           | -                                                                                | Q62703-Q2331                   |
| ■ LO T672-MQ | orange                                      | colorless clear                                                               | 16 ... 125                                                                           | -                                                                                | Q62703-Q2623                   |
| ■ LO T672-N  |                                             |                                                                               | 25 ... 50                                                                            | 100 (typ.)                                                                       | Q62703-Q2494                   |
| ■ LO T672-P  |                                             |                                                                               | 4 ... 80                                                                             | 180 (typ.)                                                                       | Q62703-Q2493                   |
| ■ LO T672-NR |                                             |                                                                               | 25 ... 200                                                                           | -                                                                                | Q62703-Q2330                   |
| ■ LY T672-LP | yellow                                      | colorless clear                                                               | 10 ... 80                                                                            | -                                                                                | Q62703-Q2624                   |
| ■ LY T672-N  |                                             |                                                                               | 25 ... 50                                                                            | 100 (typ.)                                                                       | Q62703-Q2515                   |
| ■ LY T672-P  |                                             |                                                                               | 40 ... 80                                                                            | 180 (typ.)                                                                       | Q62703-Q2516                   |
| ■ LY T672-NR |                                             |                                                                               | 25 ... 200                                                                           | -                                                                                | Q62703-Q2332                   |
| LG T672-MQ   | green                                       | colorless clear                                                               | 16 ... 125                                                                           | -                                                                                | Q62703-Q2625                   |
| LG T672-N    |                                             |                                                                               | 25 ... 50                                                                            | 100 (typ.)                                                                       | Q62703-Q2517                   |
| LG T672-P    |                                             |                                                                               | 40 ... 80                                                                            | 180 (typ.)                                                                       | Q62703-Q2518                   |
| LG T672-Q    |                                             |                                                                               | 63 ... 125                                                                           | 300 (typ.)                                                                       | Q62703-Q3081                   |
| LG T672-NR   |                                             |                                                                               | 25 ... 200                                                                           | -                                                                                | Q62703-Q3854                   |
| LP T672-KN   | pure green                                  | colorless clear                                                               | 6.3 ... 50                                                                           | -                                                                                | Q62703-Q2626                   |
| LP T672-L    |                                             |                                                                               | 10.0 ... 20                                                                          | 45 (typ.)                                                                        | Q62703-Q2627                   |
| LP T672-M    |                                             |                                                                               | 16.0 ... 32                                                                          | 75 (typ.)                                                                        | Q62703-Q2289                   |
| LP T672-N    |                                             |                                                                               | 25.0 ... 50                                                                          | 100 (typ.)                                                                       | Q62703-Q2290                   |
| LP T672-LP   |                                             |                                                                               | 10.0 ... 80                                                                          | -                                                                                | Q62703-Q2334                   |

■ 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  $I_{V \max} / I_{V \min} \leq 2.0$ .

**LS T672, LO T672, LY T672, LG T672, LP T672**

**Grenzwerte  
Maximum Ratings**

| <b>Bezeichnung<br/>Parameter</b>                                                                                                                                                                       | <b>Symbol<br/>Symbol</b> | <b>Werte<br/>Values</b> | <b>Einheit<br/>Unit</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------|-------------------------|
| 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 $\geq 16 \text{ mm}^2$ )<br>mounted on PC board*) (pad size $16 \text{ mm}^2$ ) | $R_{th JA}$              | 300                     | K/W                     |

\*) PC-board: FR4

LS T672, LO T672, LY T672, LG T672, LP T672

Kennwerte ( $T_A = 25\text{ °C}$ )

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>$I_F = 50\text{ mA}$                                                                   | $V_F$                   | 2.0             | 2.1  | 2.2  | 2.6  | 2.6   | V               |
|                                                                                                                                             | $V_F$                   | 3.8             | 3.8  | 3.8  | 3.8  | 3.8*) | V               |
| Sperrstrom (typ.)<br>Reverse current (max.)<br>$V_R = 5\text{ V}$                                                                           | $I_R$                   | 0.01            | 0.01 | 0.01 | 0.01 | 0.01  | $\mu\text{A}$   |
|                                                                                                                                             | $I_R$                   | 10              | 10   | 10   | 10   | 10    | $\mu\text{A}$   |
| 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:                                                                                                           |                         |                 |      |      |      |       |                 |
| $I_v$ from 10 % to 90 % (typ.)                                                                                                              | $t_r$                   | 350             | 500  | 350  | 500  | 500   | ns              |
| $I_v$ from 90 % to 10 % (typ.)                                                                                                              | $t_f$                   | 200             | 250  | 200  | 250  | 250   | ns              |
| $I_F = 100\text{ mA}, t_p = 10\text{ }\mu\text{s}, R_L = 50\text{ }\Omega$                                                                  |                         |                 |      |      |      |       |                 |

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

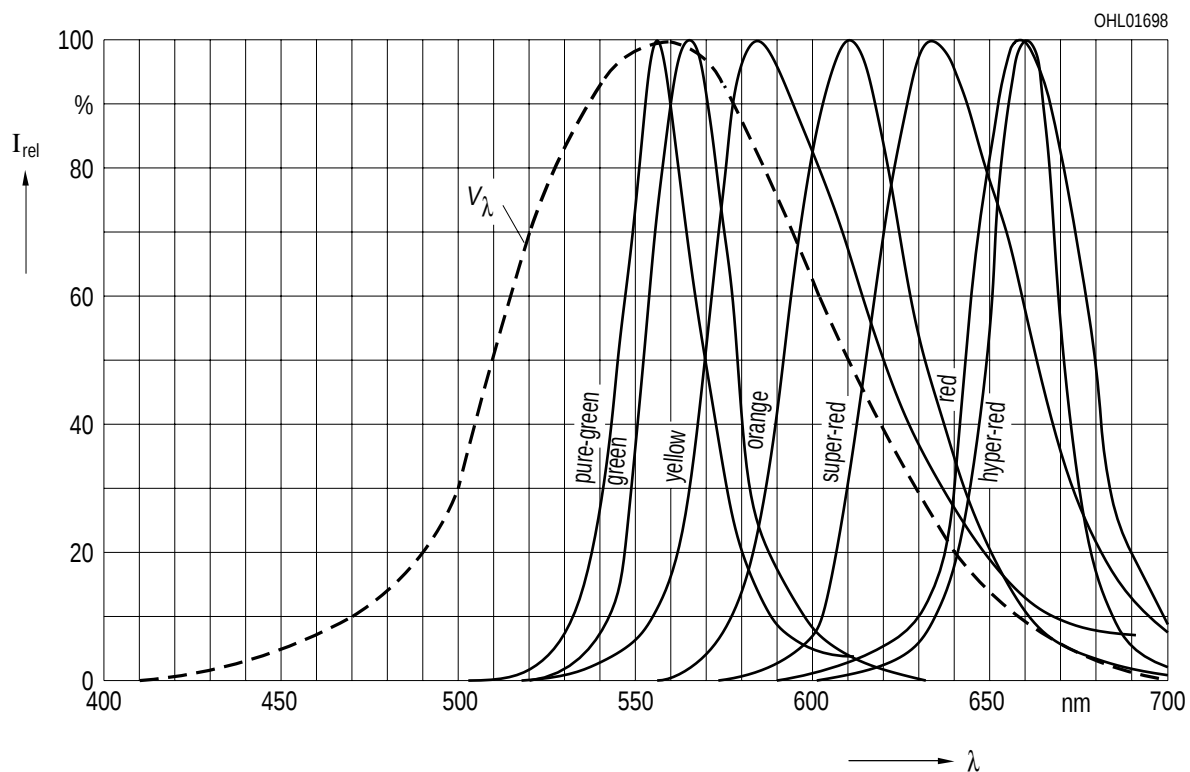
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Relative spektrale Emission  $I_{\text{rel}} = f(\lambda)$ ,  $T_A = 25^\circ\text{C}$ ,  $I_F = 10\text{ mA}$

Relative Spectral Emission

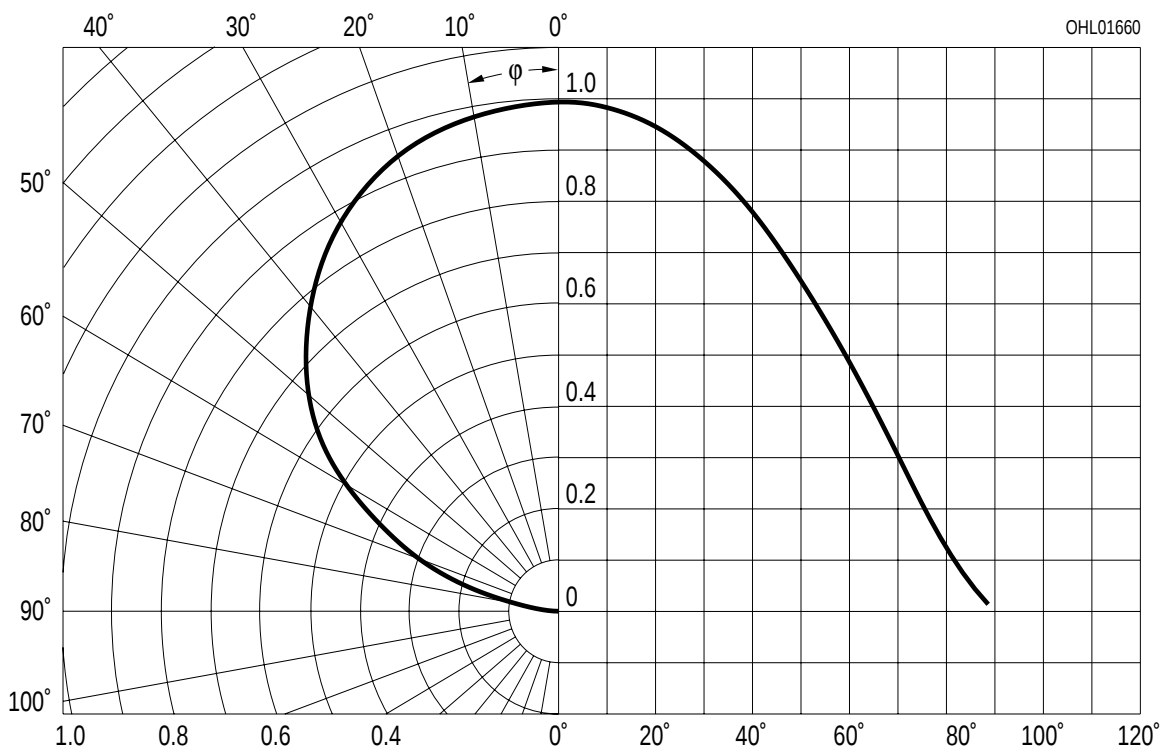
$V(\lambda)$  = spektrale Augenempfindlichkeit

Standard eye response curve



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

Radiation characteristic

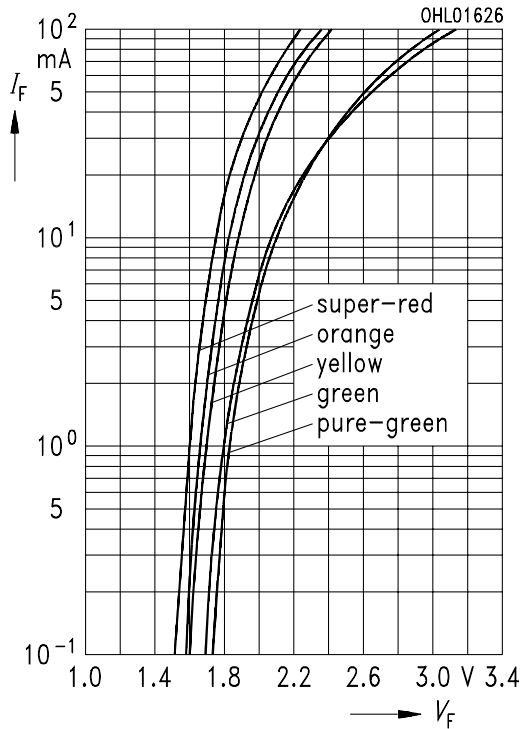


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Durchlaßstrom  $I_F = f(V_F)$

Forward current

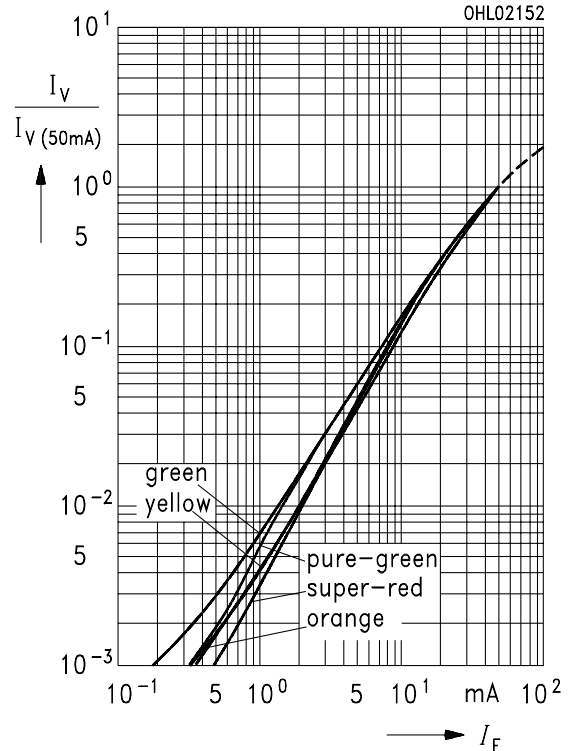
$T_A = 25^\circ\text{C}$



Relative Lichtstärke  $I_V/I_{V(50\text{ mA})} = f(I_F)$

Relative luminous intensity

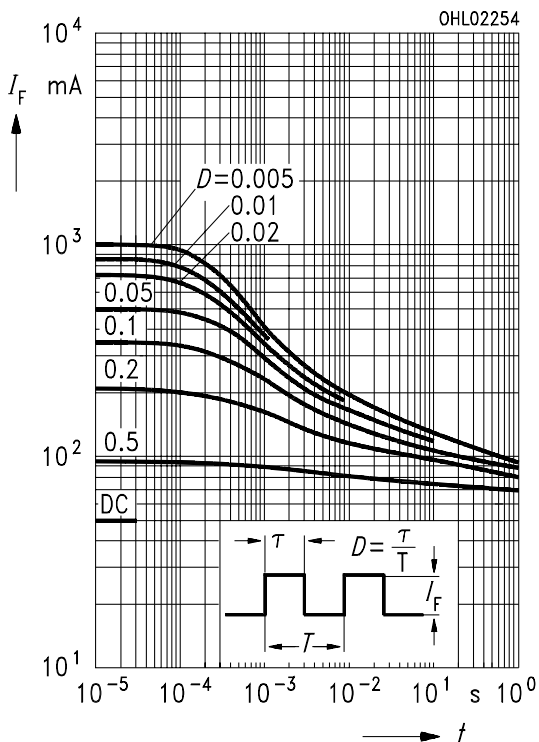
$T_A = 25^\circ\text{C}$



Zulässige Impulsbelastbarkeit  $I_F = f(t_p)$

Permissible pulse handling capability

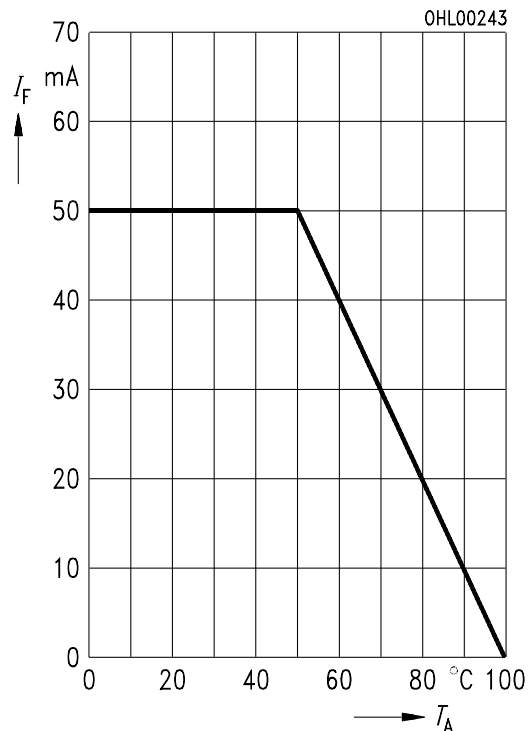
Duty cycle  $D = \text{parameter}$ ,  $T_A = 25^\circ\text{C}$



Maximal zulässiger Durchlaßstrom

Max. permissible forward current

$I_F = f(T_A)$

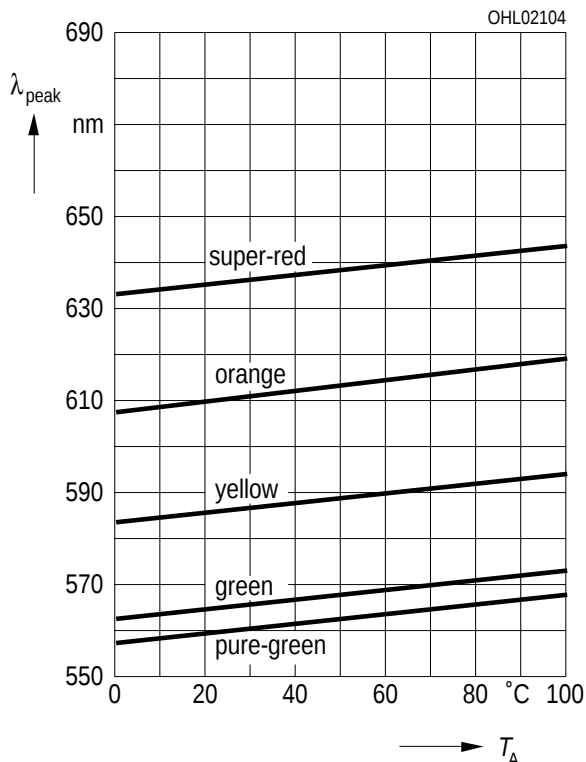


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Wellenlänge der Strahlung  $\lambda_{\text{peak}} = f(T_A)$

Wavelength at peak emission

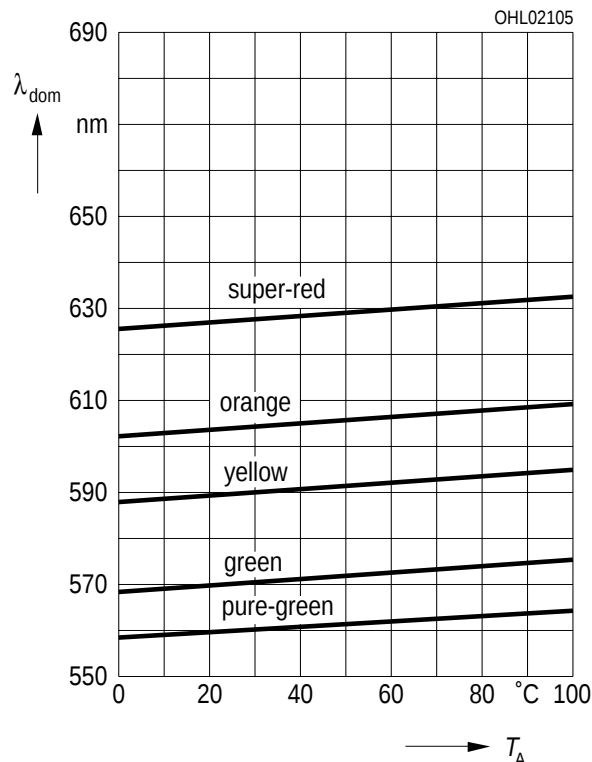
$I_F = 10 \text{ mA}$



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

Dominant wavelength

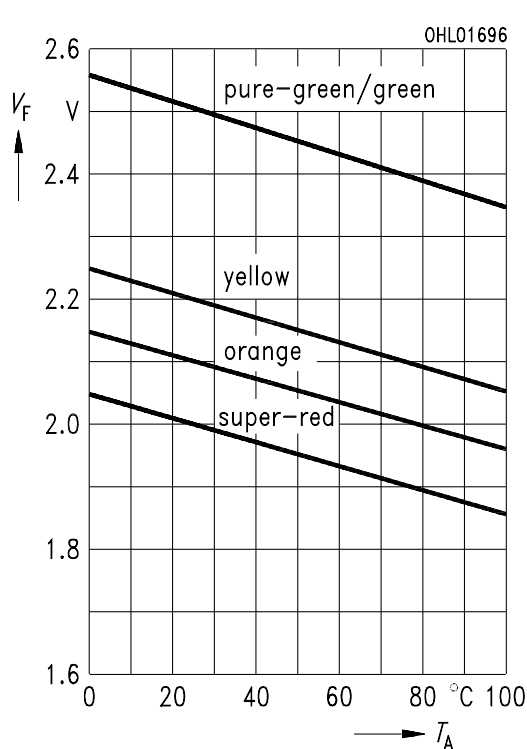
$I_F = 10 \text{ mA}$



Durchlaßspannung  $V_F = f(T_A)$

Forward voltage

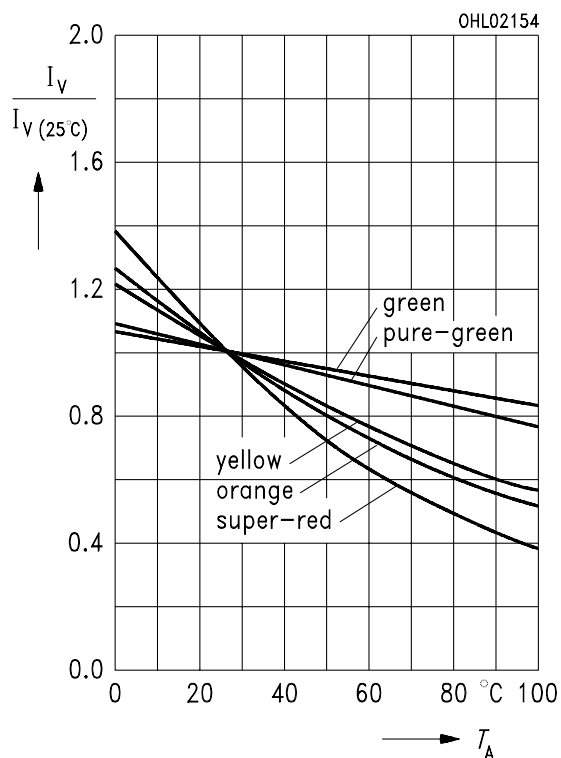
$I_F = 50 \text{ mA}$



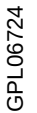
Relative Lichtstärke  $I_V / I_{V(25^\circ\text{C})} = f(T_A)$

Relative luminous intensity

$I_F = 50 \text{ mA}$



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



1999-05-18