

Hyper TOPLED® RG Hyper-Bright LED

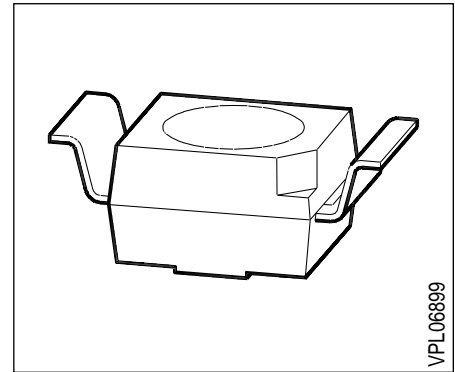
LS T776, LA T776, LO T776
LY T776

Besondere Merkmale

- Gehäusefarbe: weiß
- als optischer Indikator einsetzbar
- zur Hinterleuchtung, Lichtleiter- und Linseneinkopplung
- für alle SMT-Bestück- und Löttechniken geeignet
- gegurtet (12-mm-Filmgurt)

Features

- color of package: white
- for use as optical indicator
- for backlighting, optical coupling into light pipes and lenses
- suitable for all SMT assembly and soldering methods
- available taped on reel (12 mm tape)



| Typ | Emissions- farbe | Farbe der Lichtaustritts- fläche | Lichtstärke | Lichtstrom | Bestellnummer |
|------------|----------------------|--|---|---|---------------|
| Type | Color of Emission | Color of the Light Emitting Area | Luminous Intensity $I_F = 20 \text{ mA}$ $I_V \text{ (mcd)}$ | Luminous Flux $I_F = 20 \text{ mA}$ $\Phi_V \text{ (mlm)}$ | Ordering Code |
| LS T776-NR | super-red | colorless clear | 25 ... 200 | - | Q62703-Q3270 |
| LS T776-P | | | 40 ... 80 | 180 (typ.) | Q62703-Q3271 |
| LS T776-Q | | | 63 ... 125 | 300 (typ.) | Q62703-Q3272 |
| LS T776-R | | | 100 ... 200 | 450 (typ.) | Q62703-Q3273 |
| LS T776-PS | | | 40 ... 320 | - | Q62703-Q3274 |
| LA T776-PS | amber | colorless clear | 40 ... 320 | - | Q62703-Q3914 |
| LA T776-Q | | | 63 ... 125 | 300 (typ.) | Q62703-Q3915 |
| LA T776-R | | | 100 ... 200 | 450 (typ.) | Q62703-Q3916 |
| LA T776-S | | | 160 ... 320 | 700 (typ.) | Q62703-Q3917 |
| LA T776-QT | | | 63 ... 500 | - | Q62703-Q3918 |
| LO T776-PS | orange | colorless clear | 40 ... 320 | - | Q62703-Q3275 |
| LO T776-Q | | | 63 ... 125 | 300 (typ.) | Q62703-Q3276 |
| LO T776-R | | | 100 ... 200 | 450 (typ.) | Q62703-Q3277 |
| LO T776-S | | | 160 ... 320 | 700 (typ.) | Q62703-Q3278 |
| LO T776-QT | | | 63 ... 500 | - | Q62703-Q3279 |
| LY T776-PS | yellow | colorless clear | 40 ... 320 | - | Q62703-Q3280 |
| LY T776-Q | | | 63 ... 125 | 300 (typ.) | Q62703-Q3281 |
| LY T776-R | | | 100 ... 200 | 450 (typ.) | Q62703-Q3282 |
| LY T776-S | | | 160 ... 320 | 700 (typ.) | Q62703-Q3283 |
| LY T776-QT | | | 63 ... 500 | - | Q62703-Q3284 |

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 Parameter | Symbol Symbol | Werte Values | | Einheit Unit |
|---|------------------|-----------------|-----|-----------------|
| | | LS, LO, LA | LY | |
| Betriebstemperatur Operating temperature range | T_{op} | – 55 ... + 100 | | °C |
| Lagertemperatur Storage temperature range | T_{stg} | – 55 ... + 100 | | °C |
| Sperrschichttemperatur Junction temperature | T_j | + 100 | | °C |
| Durchlaßstrom Forward current | I_F | 30 | 20 | mA |
| Stoßstrom Surge current $t \leq 10 \mu s, D = 0.005$ | I_{FM} | 1 | 0.2 | A |
| Sperrspannung ¹⁾ Reverse voltage ¹⁾ | V_R | 3 | | V |
| Verlustleistung Power dissipation | P_{tot} | 80 | 55 | mW |
| Wärmewiderstand Thermal resistance Sperrschicht / Umgebung Junction / air Montage auf PC-board*) (Padgröße $\geq 16 \text{ mm}^2$) mounted on PC board*) (pad size $\geq 16 \text{ mm}^2$) | $R_{th JA}$ | 500 | | K/W |

1) Belastung in Sperrichtung sollte vermieden werden.

1) Reverse biasing should be avoided.

*) PC-board: FR4

Kennwerte ($T_A = 25\text{ °C}$)

Characteristics

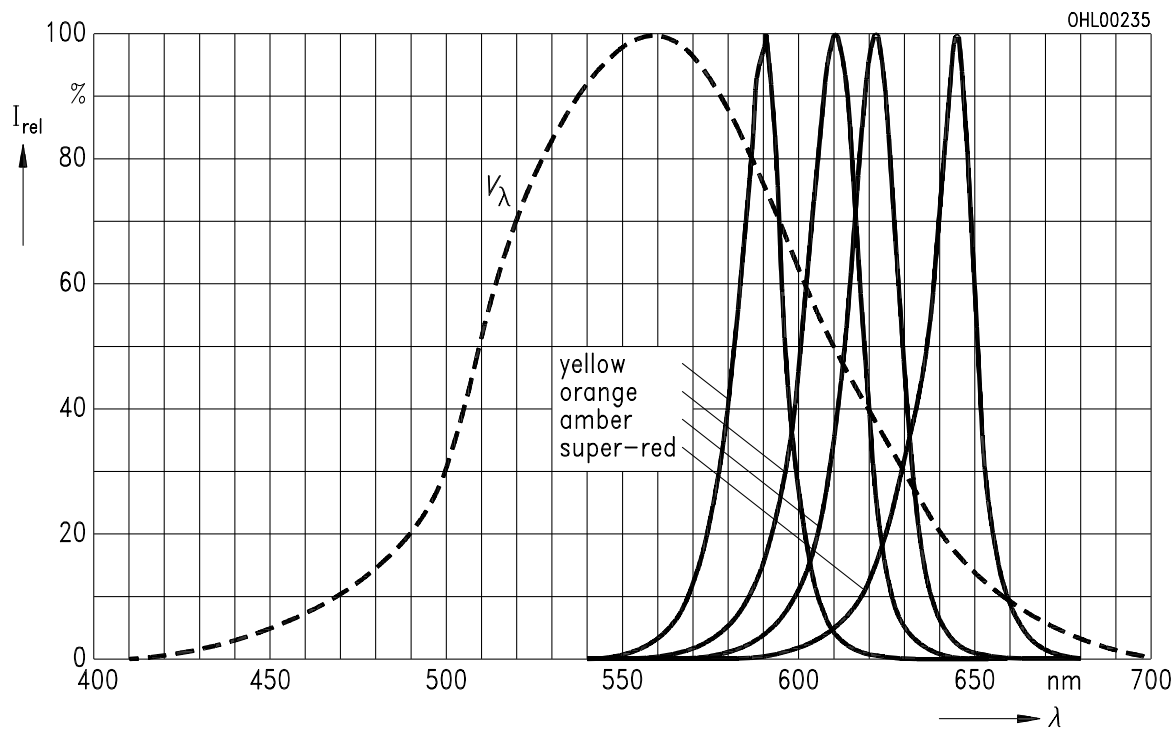
| Bezeichnung Parameter | Symbol Symbol | Werte Values | | | | Einheit Unit |
|---|-------------------------|-----------------|------------|------------|------------|--------------------------------|
| | | LS | LA | LO | LY | |
| Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission (typ.) $I_F = 20\text{ mA}$ | λ_{peak} | 645 | 622 | 610 | 591 | nm |
| Dominantwellenlänge (typ.) Dominant wavelength (typ.) $I_F = 20\text{ mA}$ | λ_{dom} | 632 | 615 | 605 | 587 | nm |
| Spektrale Bandbreite bei 50% $I_{\text{rel max}}$ (typ.) Spectral bandwidth at 50% $I_{\text{rel max}}$ (typ.) $I_F = 20\text{ mA}$ | $\Delta\lambda$ | 16 | 16 | 16 | 15 | nm |
| Abstrahlwinkel bei 50% I_v (Vollwinkel) Viewing angle at 50% I_v | 2ϕ | 120 | 120 | 120 | 120 | Grad deg. |
| Durchlaßspannung (typ.) Forward voltage (max.) $I_F = 20\text{ mA}$ | V_F V_F | 2.0 2.6 | 2.0 2.6 | 2.0 2.6 | 2.0 2.6 | V V |
| Sperrstrom (typ.) Reverse current (max.) $V_R = 3\text{ V}$ | I_R I_R | 0.01 10 | 0.01 10 | 0.01 10 | 0.01 10 | μA μA |
| Temperaturkoeffizient von λ_{dom} ($I_F = 20\text{ mA}$) Temperature coefficient of λ_{dom} ($I_F = 20\text{ mA}$) | TC_λ | 0.014 | 0.062 | 0.067 | 0.096 | nm/K |
| Temperaturkoeffizient von λ_{peak} , $I_F = 20\text{ mA}$ (typ.) Temperature coefficient of λ_{peak} , $I_F = 20\text{ mA}$ (typ.) | TC_λ | 0.14 | 0.13 | 0.13 | 0.13 | nm/K |
| Temperaturkoeffizient von V_F , $I_F = 20\text{ mA}$ (typ.) Temperature coefficient of V_F , $I_F = 20\text{ mA}$ (typ.) | TC_V | -1.95 | -1.78 | -1.67 | -2.51 | mV/K |

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

Relative spectral emission

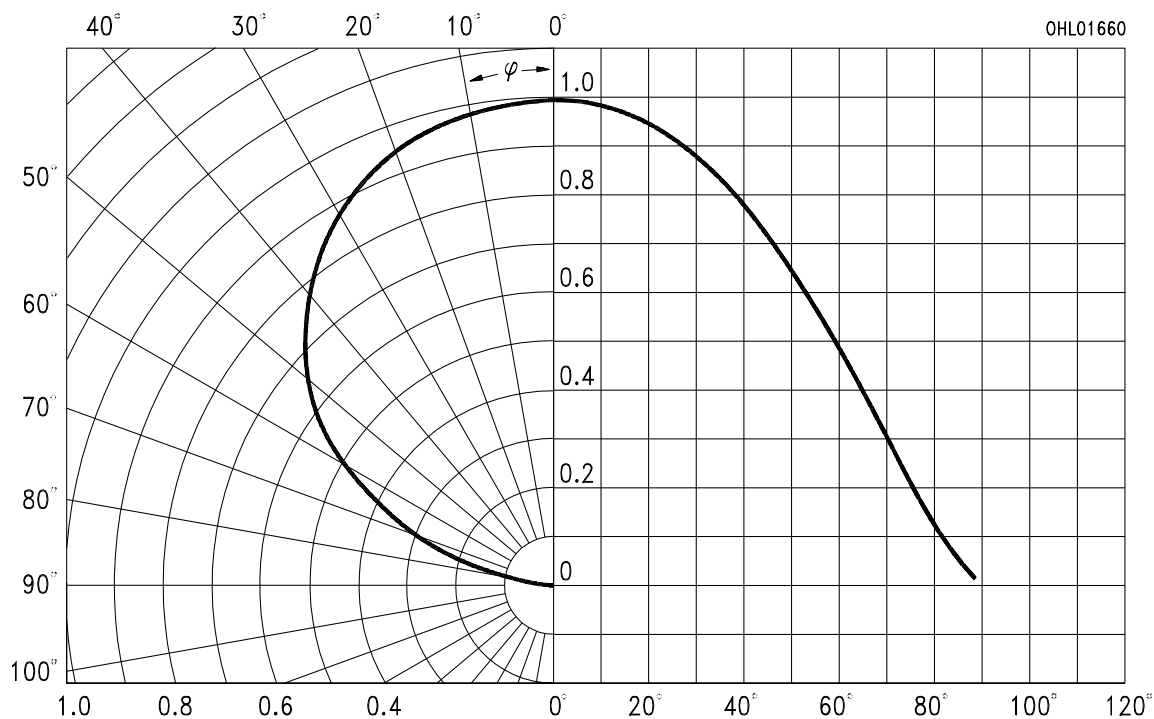
$V(\lambda)$ = spektrale Augenempfindlichkeit

Standard eye response curve



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

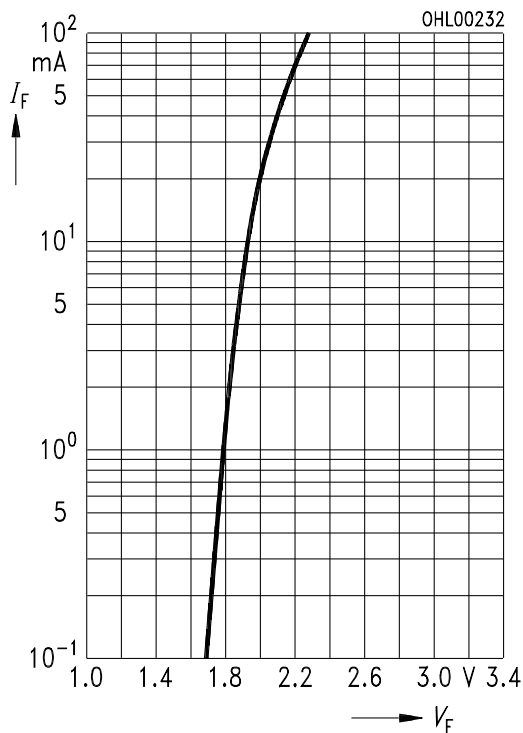
Radiation characteristic



Durchlaßstrom $I_F = f(V_F)$

Forward current

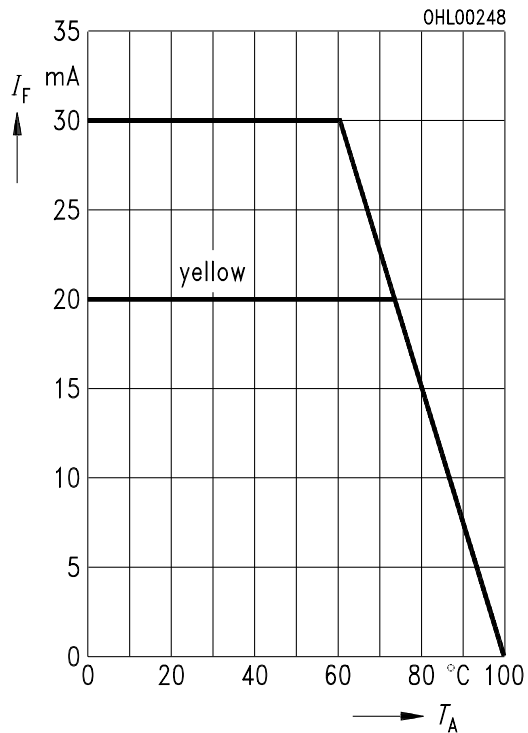
$T_A = 25^\circ\text{C}$



Maximal zulässiger Durchlaßstrom

Max. permissible forward current

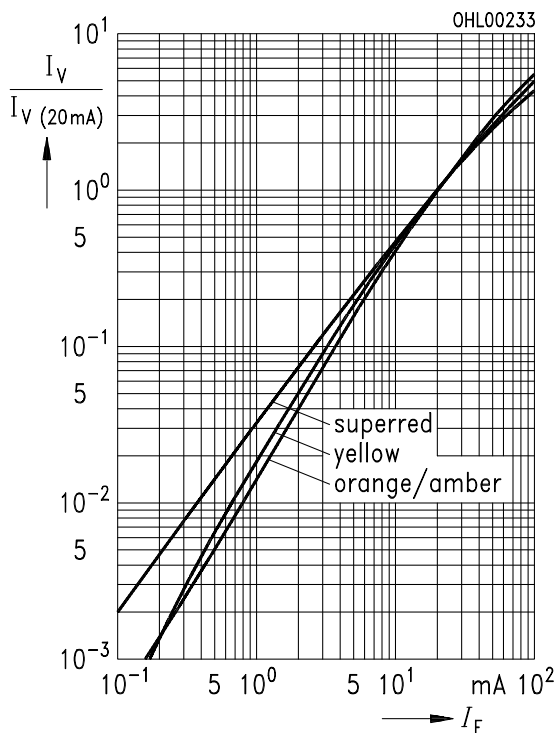
$I_F = f(T_A)$



Relative Lichtstärke $I_V / I_{V(20\text{mA})} = f(I_F)$

Relative luminous intensity

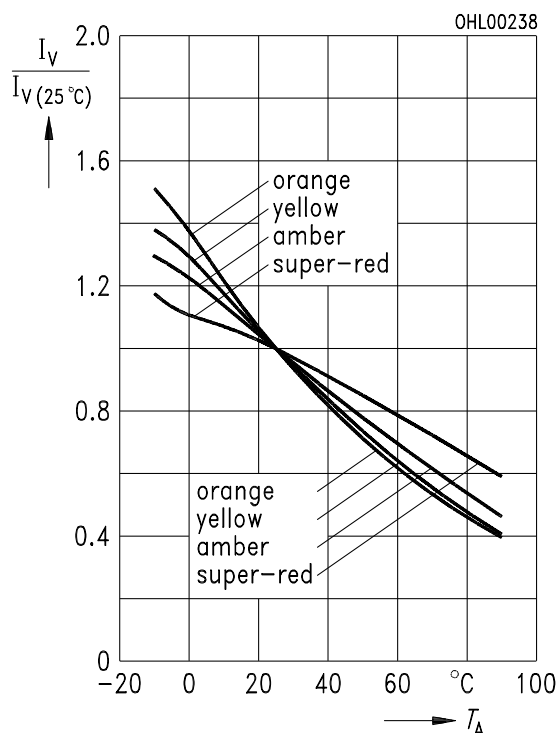
$T_A = 25^\circ\text{C}$



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

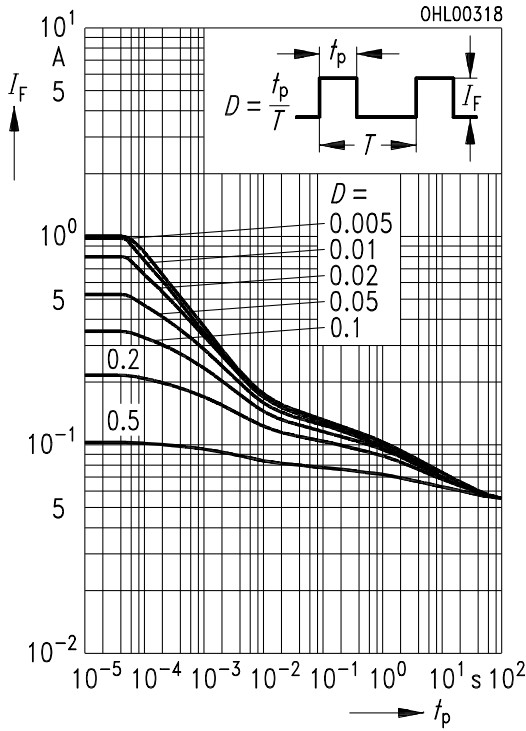
Relative luminous intensity

$I_F = 20\text{ mA}$



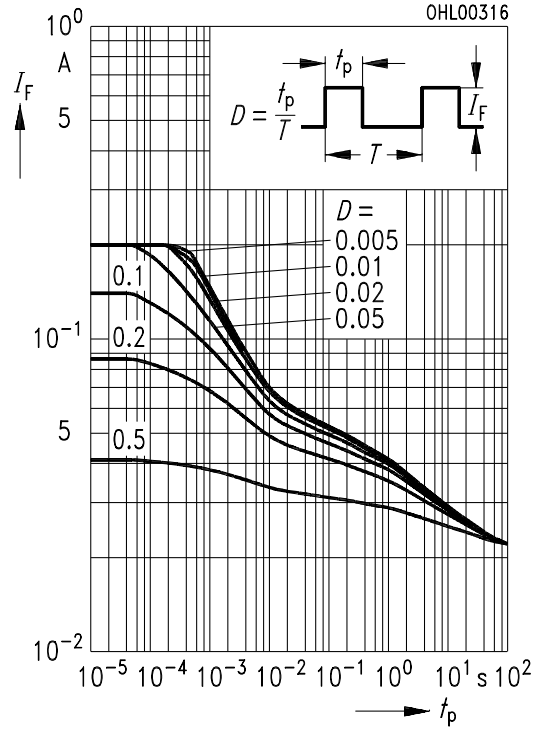
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$
Permissible pulse handling capability
LS, LA, LO

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



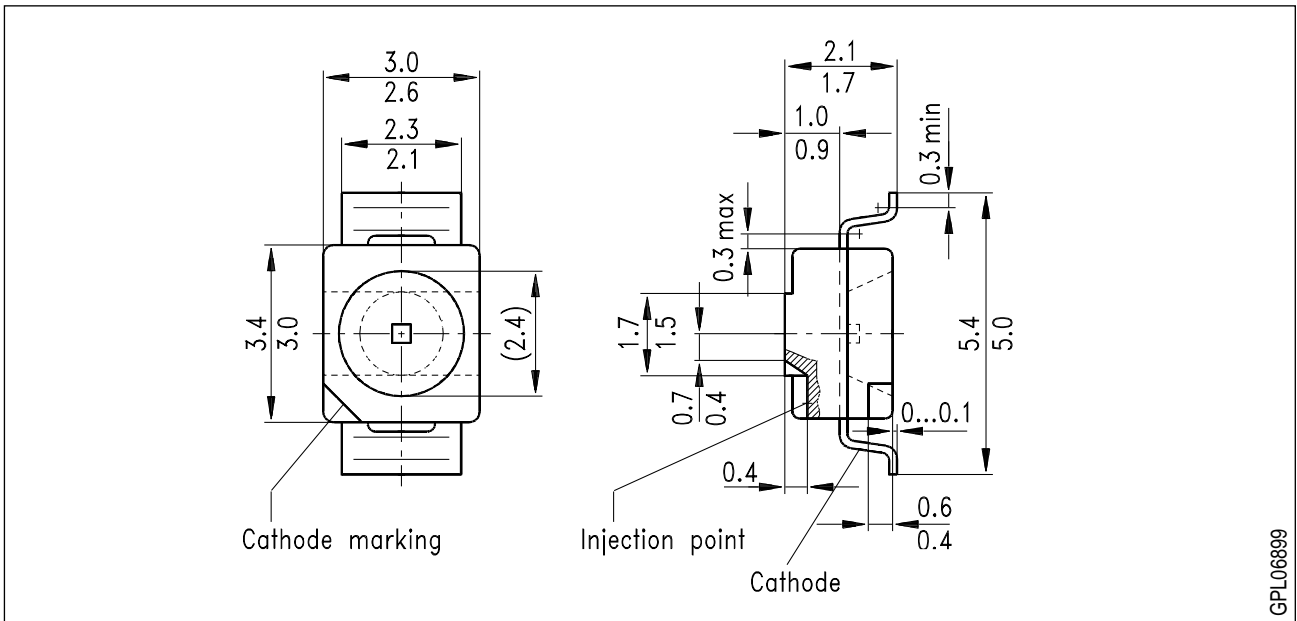
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$
Permissible pulse handling capability
LY

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



Maßzeichnung
Package Outlines

(Maße in mm, wenn nicht anders angegeben)
 (Dimensions in mm, unless otherwise specified)



GPL06899

Kathodenkennung: abgeschrägte Ecke
Cathode mark: bevelled edge