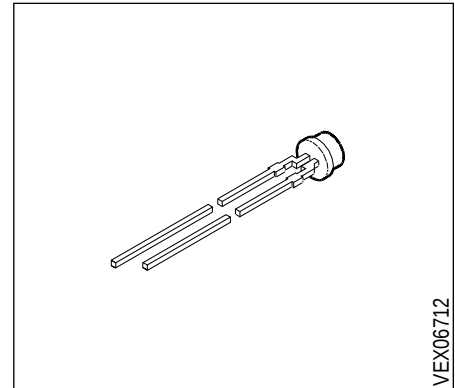


## Hyper ARGUS® LED Hyper-Bright, 3 mm (T1), TS GaAIAs LED, Non Diffused

LH K376

### Besondere Merkmale

- farbloses, klares Gehäuse
  - Doppel-Heterostruktur in GaAIAs Technologie, transparentes Substrat
  - Kunststoffgehäuse mit spezieller Formgebung
  - bei Einsatz eines äußeren Reflektors zur Hintergrundbeleuchtung von Leuchtfeldern und LCD-Anzeigen geeignet.
  - zur Direkteinkopplung in Lichtleiterflächen geeignet
  - gleichmäßige Ausleuchtung einer Streuscheibe (Weißdruck) vor dem äußeren Reflektor
  - Lötspieße mit Aufsetzebene
  - gegurtet lieferbar
  - Störimpulsfest nach DIN 40839
- 
- **Hinweis:** Bei farbigen Streuscheiben muß die spektrale Transmission an die von der LED emittierte Wellenlänge angepaßt werden.



### Features

- colorless, clear package
  - double heterojunction in GaAIAs technology, transparent substrate
  - plastic package with a special design
  - in connection with an additional, custom built reflector suitable for backlighting of display panels
  - for optical coupling into light pipes
  - uniform illumination of a diffuser screen in front of the custom built reflector
  - solder leads with stand-off
  - available taped on reel
  - load dump resistant acc. to DIN 40839
- 
- **Note:** If the diffuser screen is tinted, the spectral transmission must be adjusted to the wavelength emitted by the LED.

| Typ<br>Type | Emissionsfarbe<br>Color of<br>Emission | Gehäusefarbe<br>Color of<br>Package | Lichtstrom<br>Luminous Flux<br>$I_F = 20 \text{ mA}$<br>$\Phi_V \text{ (mlm)}$ | Bestellnummer<br>Ordering Code |
|-------------|----------------------------------------|-------------------------------------|--------------------------------------------------------------------------------|--------------------------------|
| LH K376-QS  | hyper-red                              | colorless clear                     | 63 ... 200                                                                     | Q62703-Q3492                   |
| LH K376-R   |                                        |                                     | 100 ... 200                                                                    | Q62703-Q3304                   |
| LH K376-S   |                                        |                                     | 160 ... 320                                                                    | Q62703-Q3305                   |
| LH K376-RT  |                                        |                                     | 100 ... 500                                                                    | Q62703-Q3493                   |

Streuung des Lichtstromes in einer Verpackungseinheit  $\Phi_{V \max} / \Phi_{V \min} \leq 2.0$ .

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

#### 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>$t \leq 10 \text{ } \mu\text{s}$ , $D = 0.005$   | $I_{FM}$            | 0.5             | A               |
| Sperrspannung<br>Reverse voltage                                               | $V_R$               | 3               | V               |
| Verlustleistung<br>Power dissipation<br>$T_A \leq 25 \text{ } ^\circ\text{C}$  | $P_{tot}$           | 130             | mW              |
| Wärmewiderstand<br>Thermal resistance<br>Sperrschicht / Luft<br>Junction / air | $R_{th \text{ JA}}$ | 500             | K/W             |

## Kennwerte ( $T_A = 25\text{ °C}$ )

### Characteristics

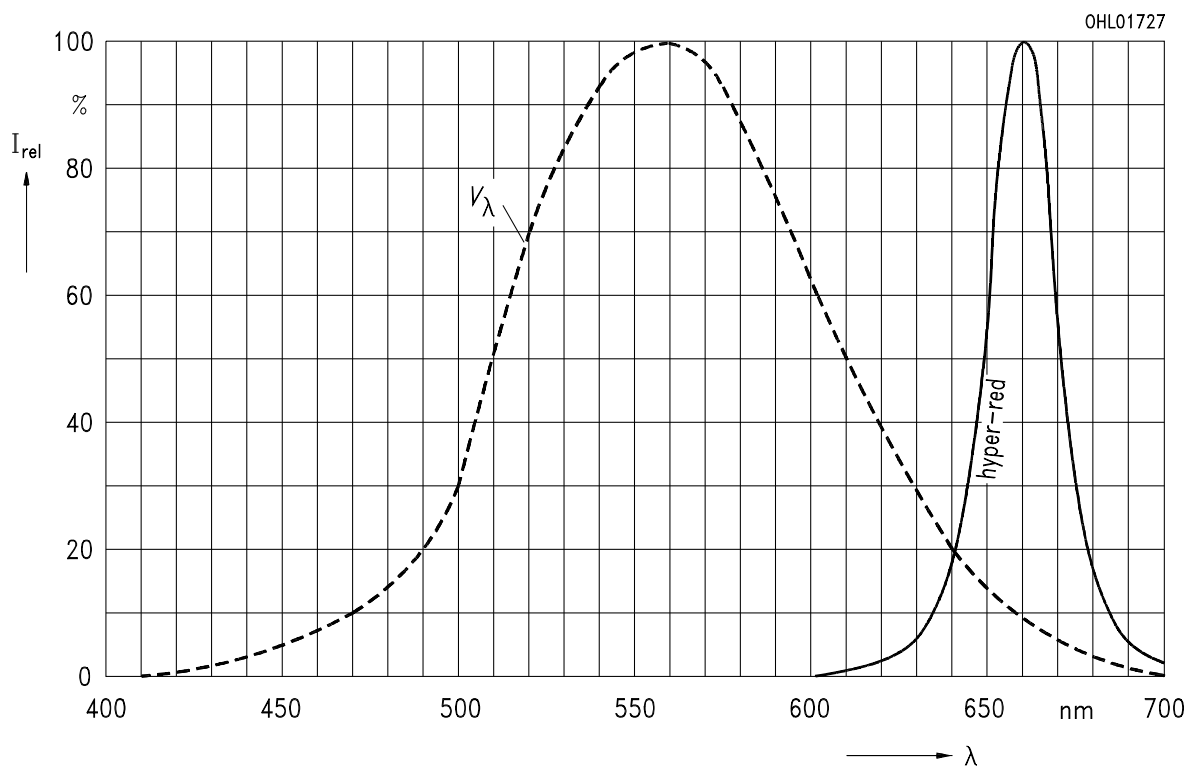
| Bezeichnung<br>Parameter                                                                                                                                              |                  | Symbol<br>Symbol        | Werte<br>Values | Einheit<br>Unit                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------|-----------------|--------------------------------|
| Wellenlänge des emittierten Lichtes<br>Wavelength at peak emission<br>$I_F = 20\text{ mA}$                                                                            | (typ.)<br>(typ.) | $\lambda_{\text{peak}}$ | 660             | nm                             |
| Dominantwellenlänge<br>Dominant wavelength<br>$I_F = 20\text{ mA}$                                                                                                    | (typ.)<br>(typ.) | $\lambda_{\text{dom}}$  | 645             | nm                             |
| Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$<br>Spectral bandwidth at 50 % $I_{\text{rel max}}$<br>$I_F = 20\text{ mA}$                                         | (typ.)<br>(typ.) | $\Delta\lambda$         | 22              | nm                             |
| Durchlaßspannung<br>Forward voltage<br>$I_F = 20\text{ mA}$                                                                                                           | (typ.)<br>(max.) | $V_F$<br>$V_F$          | 1.85<br>2.3     | V<br>V                         |
| Sperrstrom<br>Reverse current<br>$V_R = 3\text{ V}$                                                                                                                   | (typ.)<br>(max.) | $I_R$<br>$I_R$          | 0.01<br>10      | $\mu\text{A}$<br>$\mu\text{A}$ |
| Kapazität<br>Capacitance<br>$V_R = 0\text{ V}, f = 1\text{ MHz}$                                                                                                      | (typ.)           | $C_0$                   | 30              | pF                             |
| Schaltzeiten:<br>Switching times:<br>$I_V$ from 10 % to 90 %<br>$I_V$ from 90 % to 10 %<br>$I_F = 100\text{ mA}, t_p = 10\text{ }\mu\text{s}, R_L = 50\text{ }\Omega$ | (typ.)<br>(typ.) | $t_r$<br>$t_f$          | 100<br>100      | ns<br>ns                       |
| Temperaturkoeffizient von $I_V$ bzw. $\Phi_V$ ,<br>$I_F = 50\text{ mA}$<br>Temperature coefficient of $I_V$ or $\Phi_V$ ,<br>$I_F = 50\text{ mA}$                     | (typ.)<br>(typ.) | $TC_I$                  | - 0.4           | %/K                            |
| Temperaturkoeffizient von $V_F$ , $I_F = 50\text{ mA}$<br>Temperature coefficient of $V_F$ , $I_F = 50\text{ mA}$                                                     | (typ.)<br>(typ.) | $TC_V$                  | - 3             | mV/K                           |
| Temperaturkoeffizient von $\lambda_{\text{peak}}$ , $I_F = 50\text{ mA}$<br>Temperature coefficient of $\lambda_{\text{peak}}$ , $I_F = 50\text{ mA}$                 | (typ.)<br>(typ.) | $TC_\lambda$            | + 0.16          | nm/K                           |

Relative spektrale Emission  $\Phi_{\text{rel}} = f(\lambda)$ ,  $T_A = 25^\circ\text{C}$ ,  $I_F = 20\text{ mA}$

Relative spectral emission

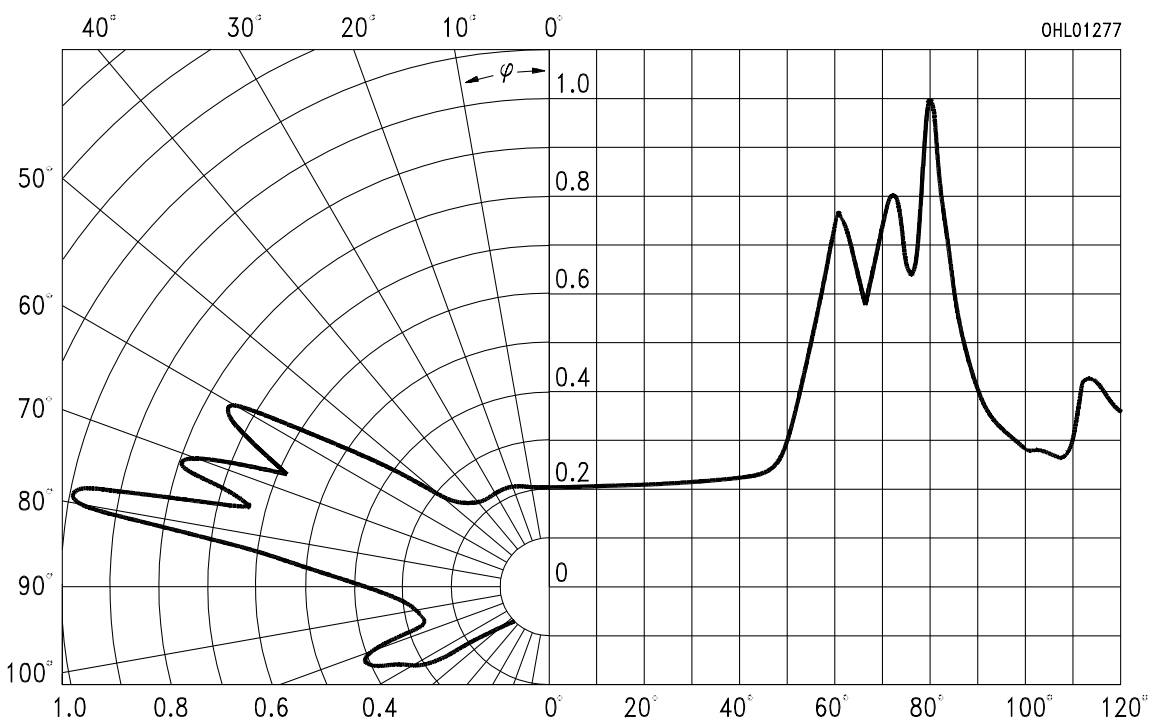
$V(\lambda)$  = spektrale Augenempfindlichkeit

Standard eye response curve



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

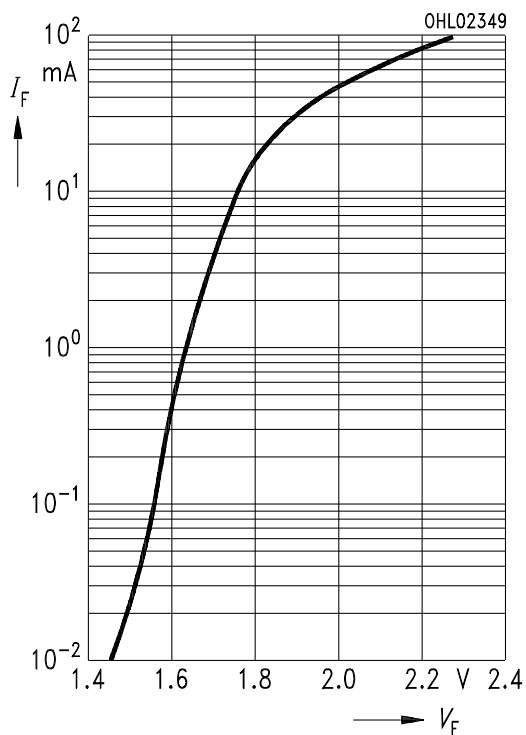
Radiation characteristic



Durchlaßstrom  $I_F = f(V_F)$

Forward current

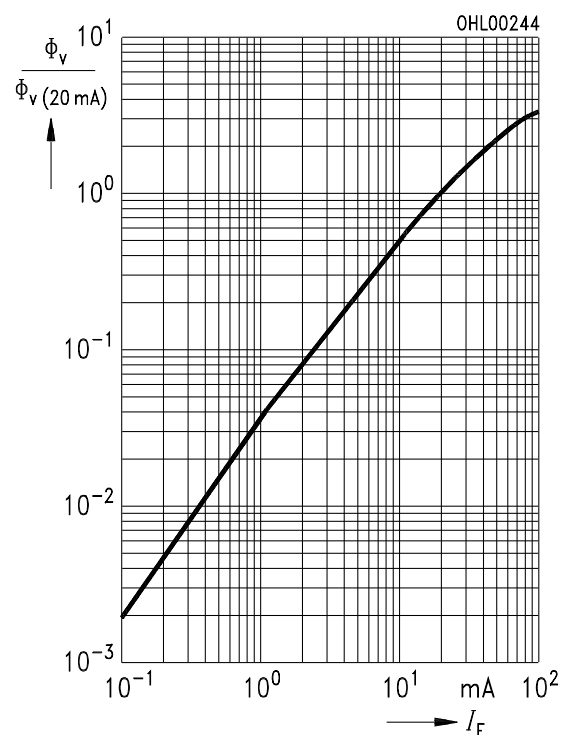
$T_A = 25^\circ\text{C}$



Relativer Lichtstrom  $\Phi_V/\Phi_{V(20\text{ mA})} = f(I_F)$

Relative luminous flux

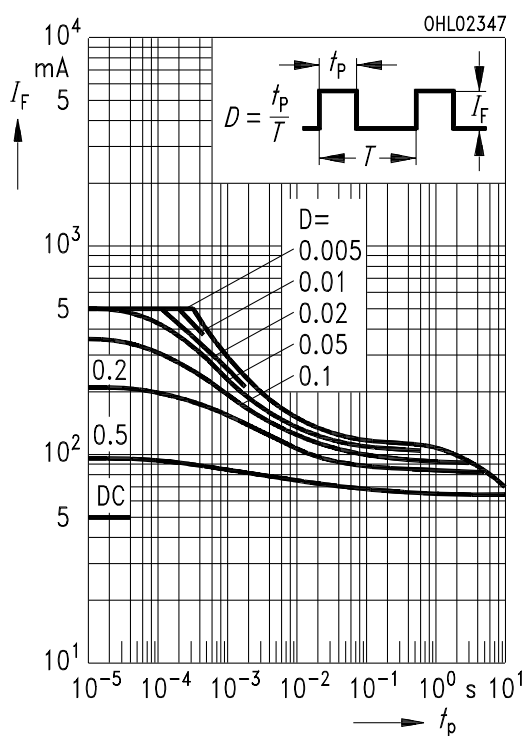
$T_A = 25^\circ\text{C}$



Zulässige Impulsbelastbarkeit  $I_F = f(t_p)$

Permissible pulse handling capability

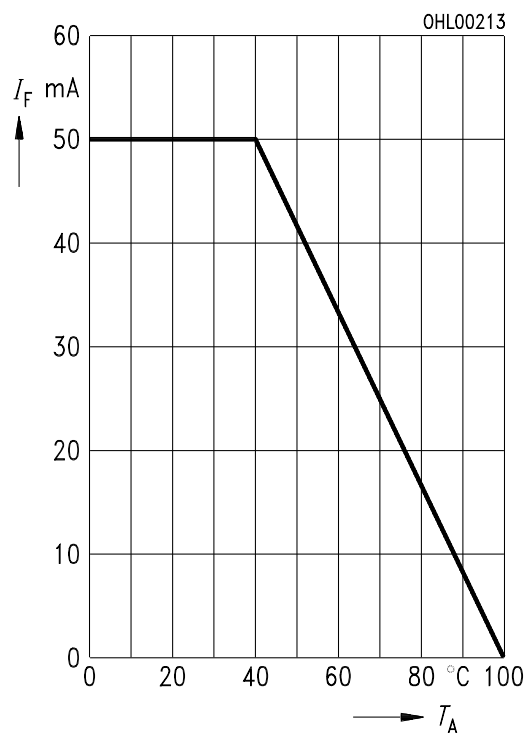
Duty cycle  $D = \text{parameter}$ ,  $T_A = 25^\circ\text{C}$



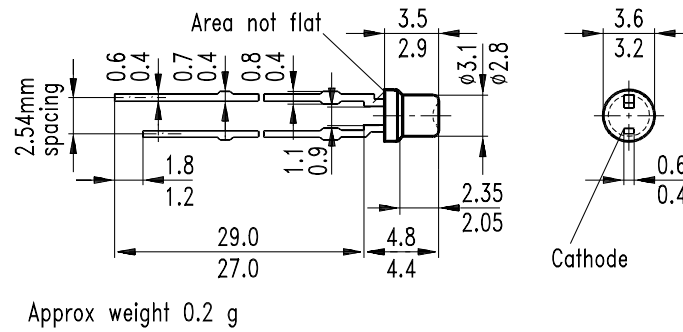
Maximal zulässiger Durchlaßstrom

Max. permissible forward current

$I_F = f(T_A)$



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



GEX06712

**Kathodenkennzeichnung:** Kürzerer Lötspieß  
**Cathode mark:** Short solder lead

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