

## 3 mm (T1) LED, Non Diffused Super-Bright, Hyper-Red GaAIAs-LED

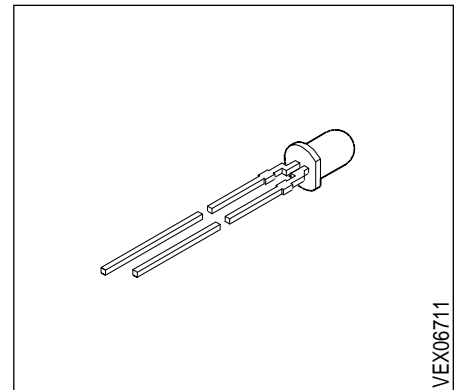
LH 3344

### Besondere Merkmale

- eingefärbtes, klares Gehäuse
- Doppel-Heterostruktur in GaAIAs Technologie
- besonders hohe Lichtstärke
- Lötspieße mit Aufsetzebene
- gegurtet lieferbar
- Störimpulsfest nach DIN 40839

### Features

- colored, clear package
- double heterojunction in GaAIAs technology
- especially high luminous intensity
- solder leads with stand-off
- available taped on reel
- load dump resistant acc. to DIN 40839



Typ Type	Emissionsfarbe Color of Emission	Gehäusefarbe Color of Package	Lichtstärke Luminous Intensity $I_F = 10 \text{ mA}$ $I_V \text{ (mcd)}$	Bestellnummer Ordering Code
LH 3344-QT	hyper-red	red clear	63 ... 500	Q62703-Q2231
LH 3344-R			100 ... 200	Q62703-Q3198
LH 3344-S			160 ... 320	Q62703-Q3199
LH 3344-T			250 ... 500	Q62703-Q3817
LH 3344-RU			100 ... 800	Q62703-Q3200

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
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	$I_F$	40	mA
Stoßstrom Surge current $t \leq 10 \mu\text{s}$ , $D = 0.005$	$I_{FM}$	0.5	A
Sperrspannung Reverse voltage	$V_R$	3	V
Verlustleistung Power dissipation $T_A \leq 25 \text{ °C}$	$P_{tot}$	120	mW
Wärmewiderstand Thermal resistance Sperrschicht / Luft Junction / air	$R_{th JA}$	400	K/W

## Kennwerte ( $T_A = 25 \text{ °C}$ )

### Characteristics

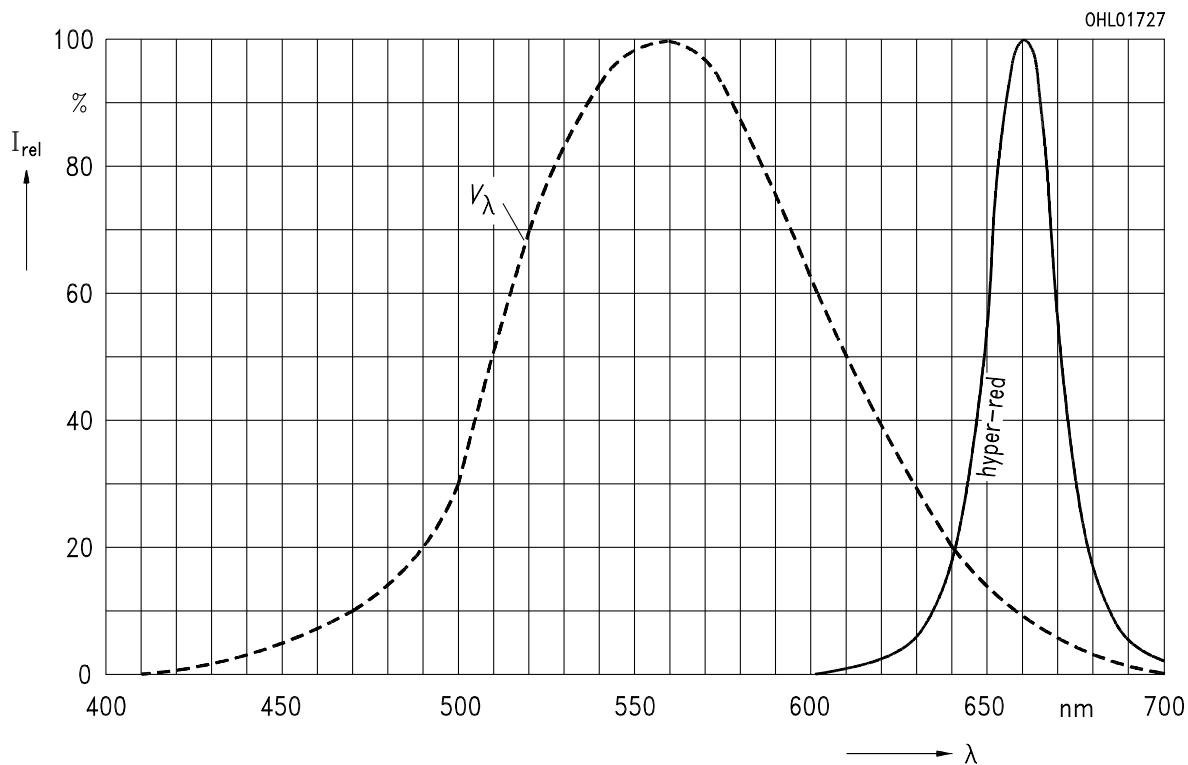
Bezeichnung Parameter		Symbol Symbol	Werte Values	Einheit Unit
Wellenlänge des emittierten Lichtes Wavelength at peak emission $I_F = 20 \text{ mA}$	(typ.) (typ.)	$\lambda_{\text{peak}}$	660	nm
Dominantwellenlänge Dominant wavelength $I_F = 20 \text{ mA}$	(typ.) (typ.)	$\lambda_{\text{dom}}$	645	nm
Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$ Spectral bandwidth at 50 % $I_{\text{rel max}}$ $I_F = 20 \text{ mA}$	(typ.) (typ.)	$\Delta\lambda$	22	nm
Abstrahlwinkel bei 50 % $I_V$ (Vollwinkel) Viewing angle at 50 % $I_V$		$2\phi$	25	Grad deg.
Durchlaßspannung Forward voltage $I_F = 10 \text{ mA}$	(typ.) (max.)	$V_F$ $V_F$	1.75 2.6	V V
Sperrstrom Reverse current $V_R = 3 \text{ V}$	(typ.) (max.)	$I_R$ $I_R$	0.01 10	$\mu\text{A}$ $\mu\text{A}$
Kapazität Capacitance $V_R = 0 \text{ V}, f = 1 \text{ MHz}$	(typ.)	$C_0$	25	pF
Schaltzeiten: Switching times: $I_V$ from 10 % to 90 % $I_V$ from 90 % to 10 % $I_F = 100 \text{ mA}, t_p = 10 \text{ }\mu\text{s}, R_L = 50$	(typ.) (typ.)	$t_r$ $t_f$	140 110	ns ns

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

### Relative spectral emission

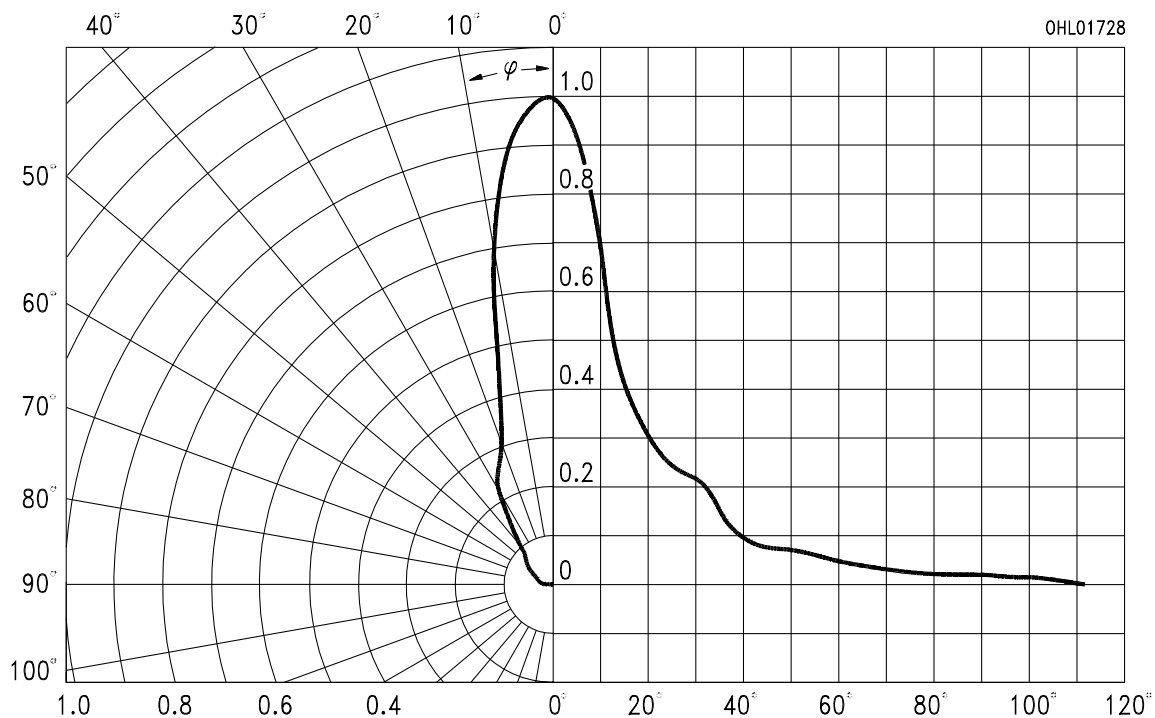
$V(\lambda)$  = spektrale Augenempfindlichkeit

Standard eye response curve



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

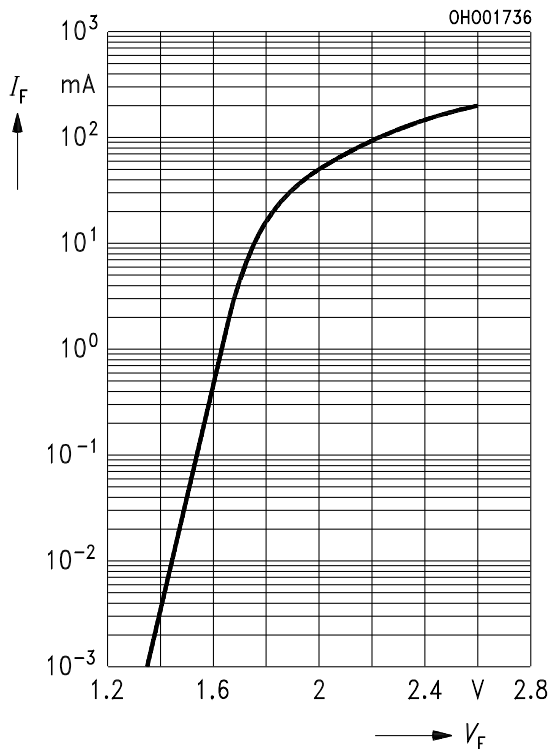
### Radiation characteristic



### Durchlaßstrom $I_F = f(V_F)$

#### Forward current

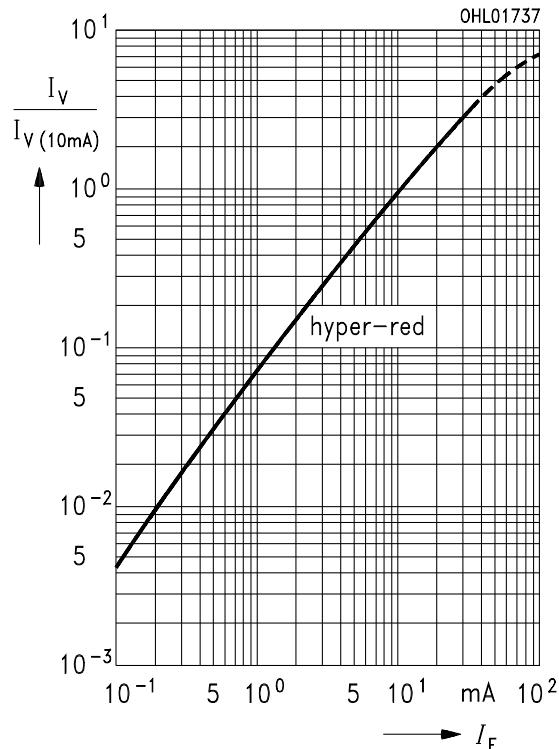
$T_A = 25\text{ °C}$



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

#### Relative luminous intensity

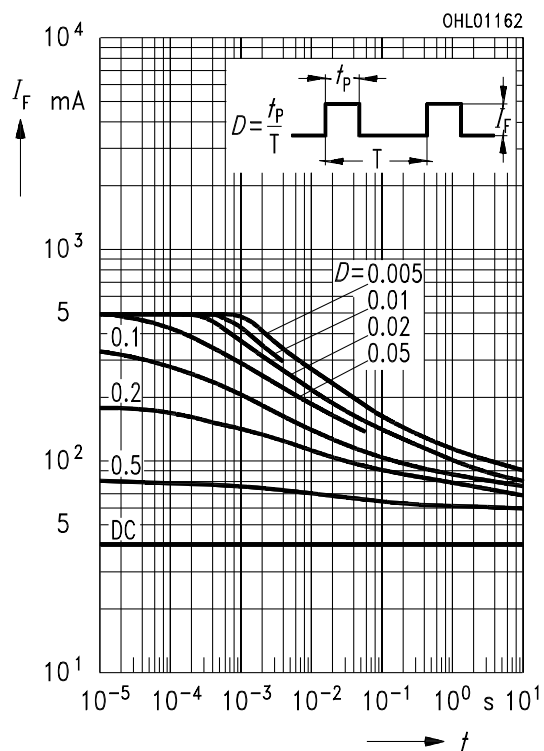
$T_A = 25\text{ °C}$



### Zulässige Impulsbelastbarkeit $I_F = f(t_P)$

#### Permissible pulse handling capability

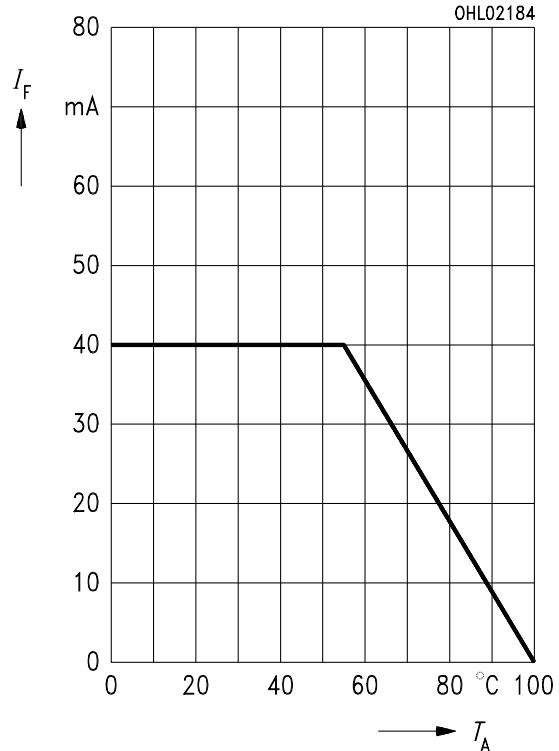
Duty cycle  $D =$  parameter,  $T_A = 25\text{ °C}$



### Maximal zulässiger Durchlaßstrom

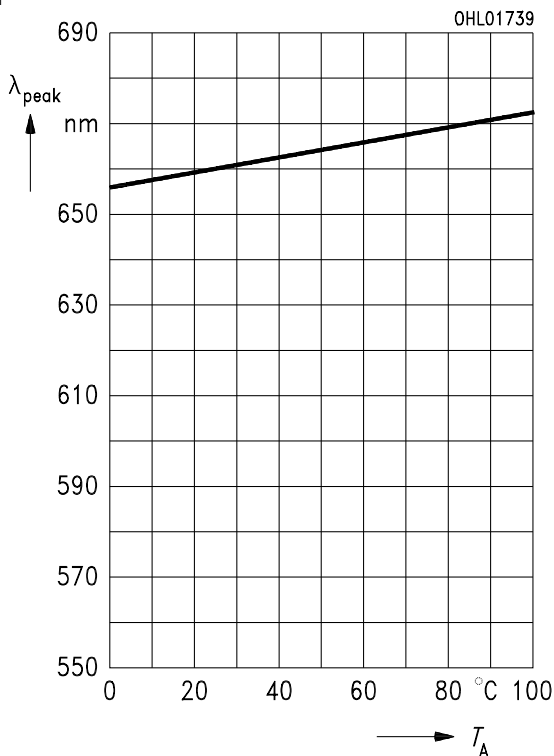
#### Max. permissible forward current

$I_F = f(T_A)$



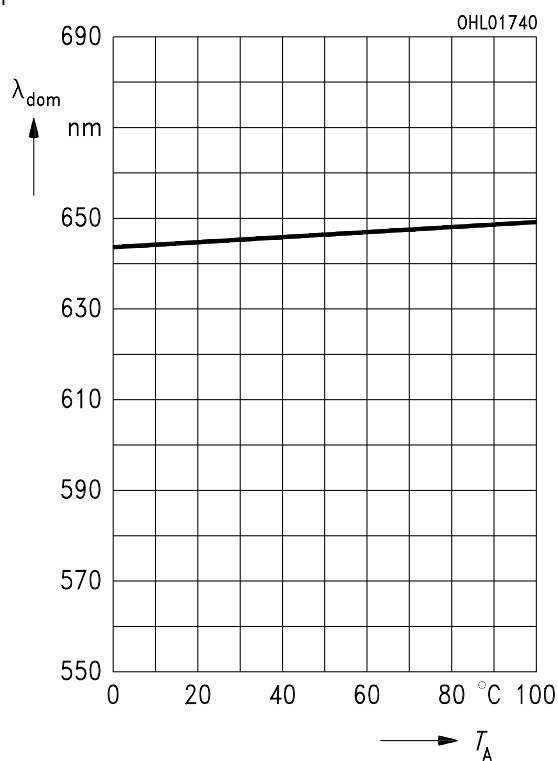
**Wellenlänge der Strahlung  $\lambda_{\text{peak}} = f(T_A)$**   
**Wavelength at peak emission**

$I_F = 20 \text{ mA}$



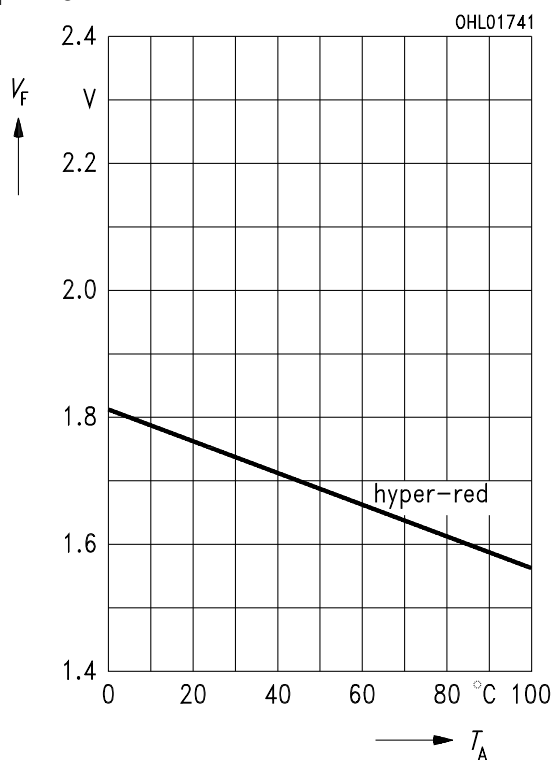
**Dominantwellenlänge  $\lambda_{\text{dom}} = f(T_A)$**   
**Dominant wavelength**

$I_F = 20 \text{ mA}$



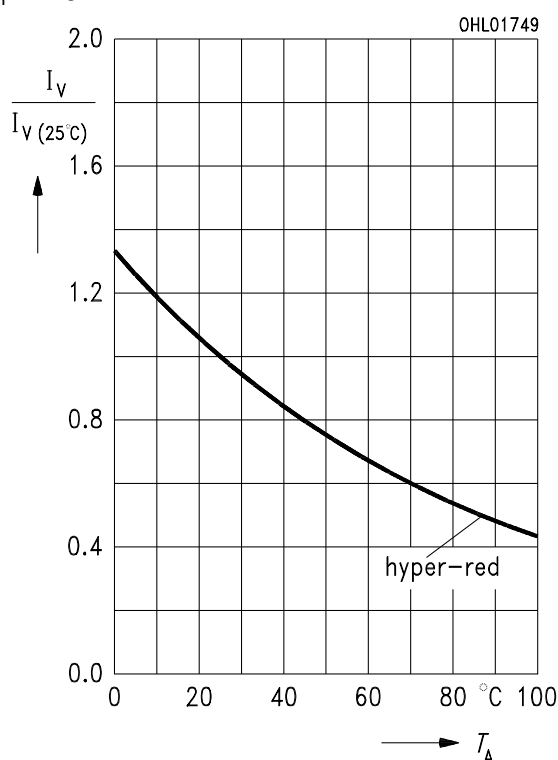
**Durchlaßspannung  $V_F = f(T_A)$**   
**Forward voltage**

$I_F = 10 \text{ mA}$

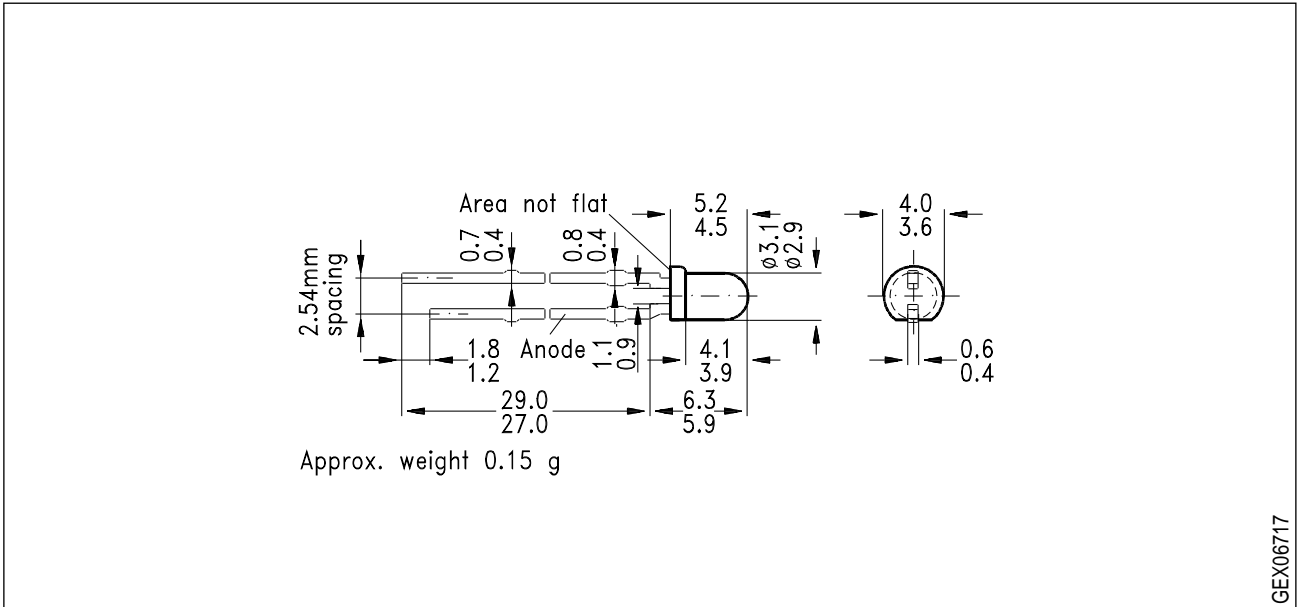


**Relative Lichtstärke  $I_V/I_{V(25^{\circ}\text{C})} = f(T_A)$**   
**Relative luminous intensity**

$I_F = 10 \text{ mA}$



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



**Anodenkennzeichnung:** Kürzerer Lötspieß  
**Anode mark:** Short solder lead