

## 5 mm (T1 3/4) LED, Non Diffused Super-Bright LED

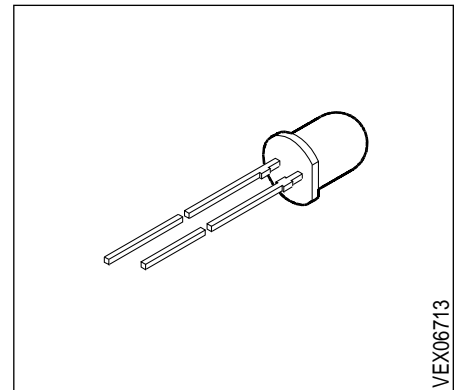
LS 5421, LO 5411, LY 5421  
LG 5411

### Besondere Merkmale

- eingefärbtes, klares Gehäuse
- als optischer Indikator bei hohem Umgebungslicht
- Lötspieße ohne Aufsetzebene
- gegurtet lieferbar
- Störimpulsfest nach DIN 40839

### Features

- colored, clear package
- for use as optical indicator in bright ambient light
- solder leads without 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
LS 5421-NR LS 5421-Q LS 5421-R LS 5421-S LS 5421-QT	super-red	red clear	25 ... 200 63 ... 125 100 ... 200 160 ... 320 63 ... 500	Q62703-Q1994 Q62703-Q1442 Q62703-Q1738 Q62703-Q2405 Q62703-Q1995
LO 5411-QT LO 5411-R LO 5411-S LO 5411-T LO 5411-RU	orange	colorless clear	63 ... 500 100 ... 200 160 ... 320 250 ... 500 100 ... 800	Q62703-Q3928 Q62703-Q3929 Q62703-Q3930 Q62703-Q3931 Q62703-Q3932
LY 5421-NR LY 5421-Q LY 5421-R LY 5421-S LY 5421-QT	yellow	yellow clear	25 ... 200 63 ... 125 100 ... 200 160 ... 320 63 ... 500	Q62703-Q1444 Q62703-Q1446 Q62703-Q2005 Q62703-Q2632 Q62703-Q1447
LG 5411-NR LG 5411-Q LG 5411-R LG 5411-S LG 5411-QT	green	colorless clear	25 ... 200 63 ... 125 100 ... 200 160 ... 320 63 ... 500	Q62703-Q2023 Q62703-Q1739 Q62703-Q1451 Q62703-Q2321 Q62703-Q2024

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**

<b>Bezeichnung Parameter</b>	<b>Symbol Symbol</b>	<b>Werte Values</b>	<b>Einheit Unit</b>
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 $t \leq 10 \mu s, D = 0.005$	$I_{FM}$	0.5	A
Sperrspannung Reverse voltage	$V_R$	5	V
Verlustleistung Power dissipation $T_A \leq 25 \text{ °C}$	$P_{tot}$	140	mW
Wärmewiderstand Thermal resistance Sperrschicht / Luft Junction / air	$R_{th JA}$	400	K/W

## Kennwerte ( $T_A = 25\text{ °C}$ )

### Characteristics

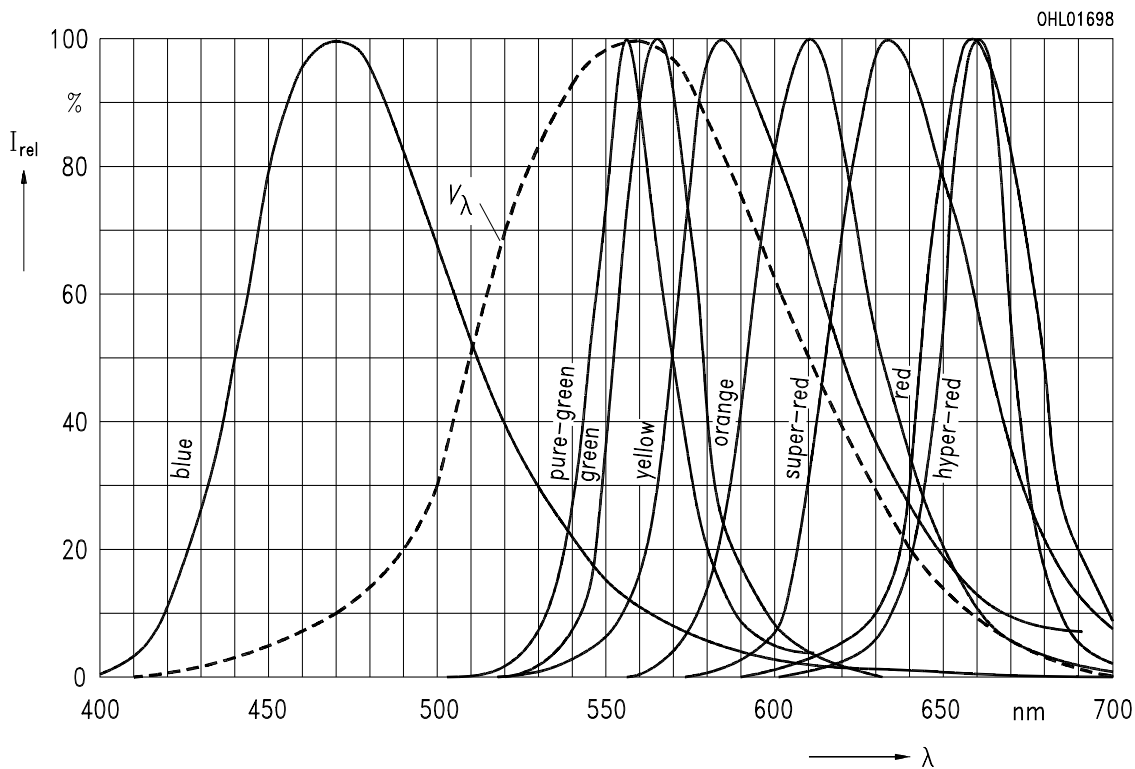
Bezeichnung Parameter	Symbol Symbol	Werte Values				Einheit Unit
		LS	LY	LG	LO	
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission (typ.) $I_F = 20\text{ mA}$	$\lambda_{\text{peak}}$	635	586	565	610	nm
Dominantwellenlänge (typ.) Dominant wavelength (typ.) $I_F = 20\text{ mA}$	$\lambda_{\text{dom}}$	628	590	570	605	nm
Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$ (typ.) Spectral bandwidth at 50 % $I_{\text{rel max}}$ (typ.) $I_F = 20\text{ mA}$	$\Delta\lambda$	45	45	25	40	nm
Abstrahlwinkel bei 50 % $I_V$ (Vollwinkel) Viewing angle at 50 % $I_V$	$2\varphi$	20	20	20	20	Grad deg.
Durchlaßspannung (typ.) Forward voltage (max.) $I_F = 10\text{ mA}$	$V_F$ $V_F$	2.0 2.6	2.0 2.6	2.0 2.6	2.0 2.6	V V
Sperrstrom (typ.) Reverse current (max.) $V_R = 5\text{ V}$	$I_R$ $I_R$	0.01 10	0.01 10	0.01 10	0.01 10	$\mu\text{A}$ $\mu\text{A}$
Kapazität (typ.) Capacitance $V_R = 0\text{ V}, f = 1\text{ MHz}$	$C_0$	12	10	15	8	pF
Schaltzeiten: Switching times: $I_V$ from 10 % to 90 % (typ.) $I_V$ from 90 % to 10 % (typ.) $I_F = 100\text{ mA}, t_p = 10\text{ }\mu\text{s}, R_L = 50\text{ }\Omega$	$t_r$ $t_f$	300 150	300 150	450 200	300 150	ns ns

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

### Relative spectral emission

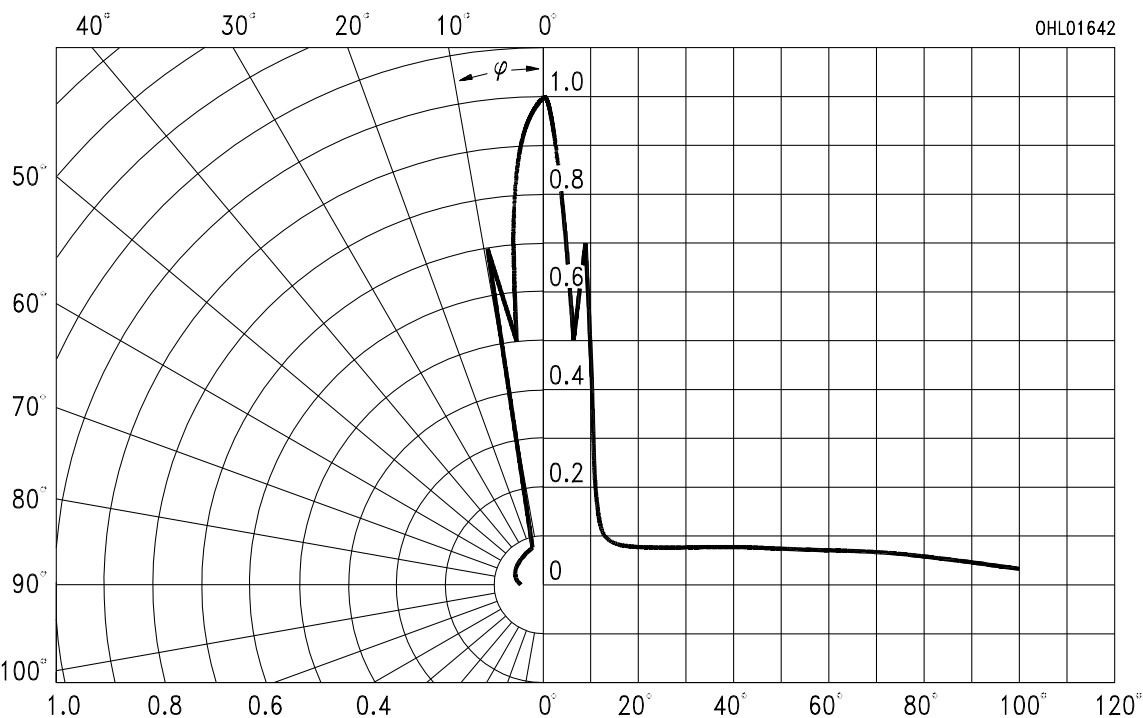
$V(\lambda)$  = spektrale Augenempfindlichkeit

Standard eye response curve



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

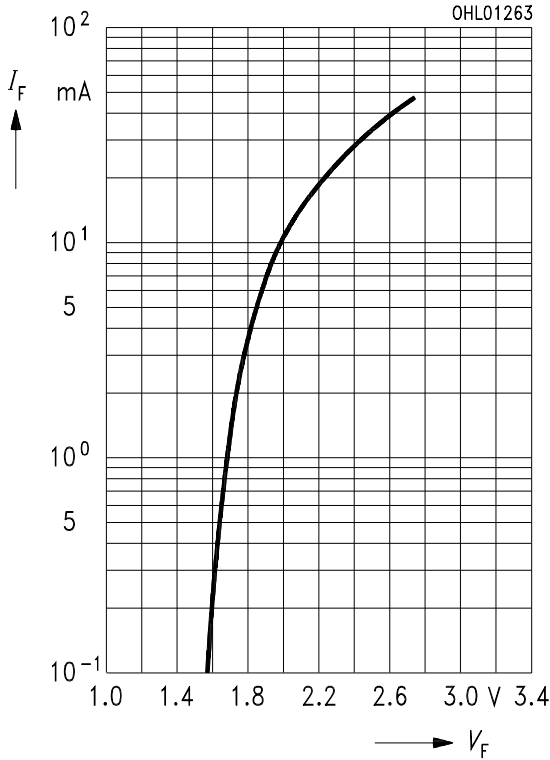
### Radiation characteristic



### Durchlaßstrom $I_F = f(V_F)$

#### Forward current

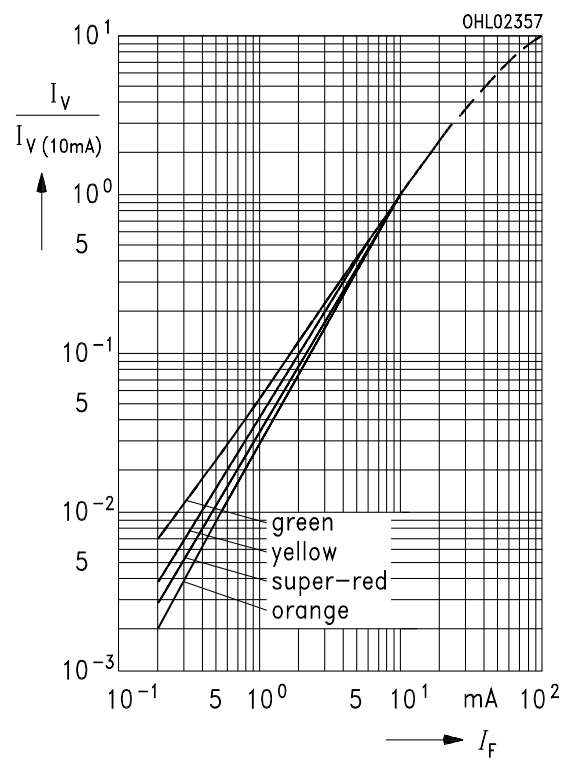
$T_A = 25^\circ\text{C}$



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

#### Relative luminous intensity

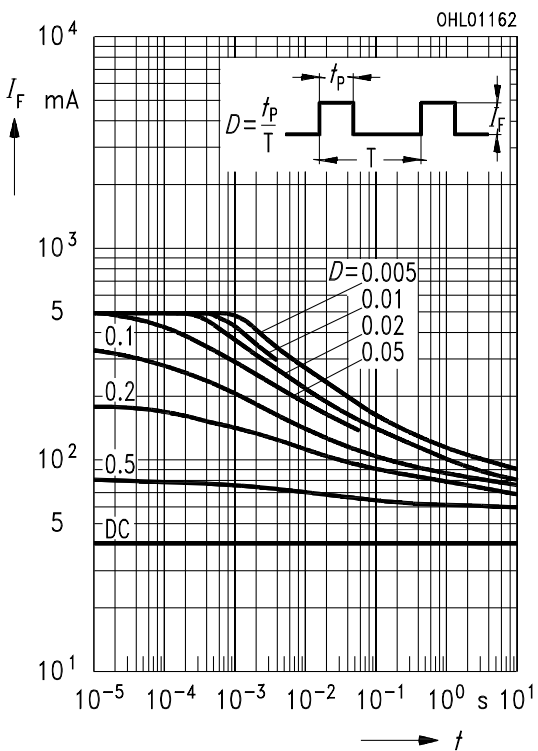
$T_A = 25^\circ\text{C}$



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

#### Permissible pulse handling capability

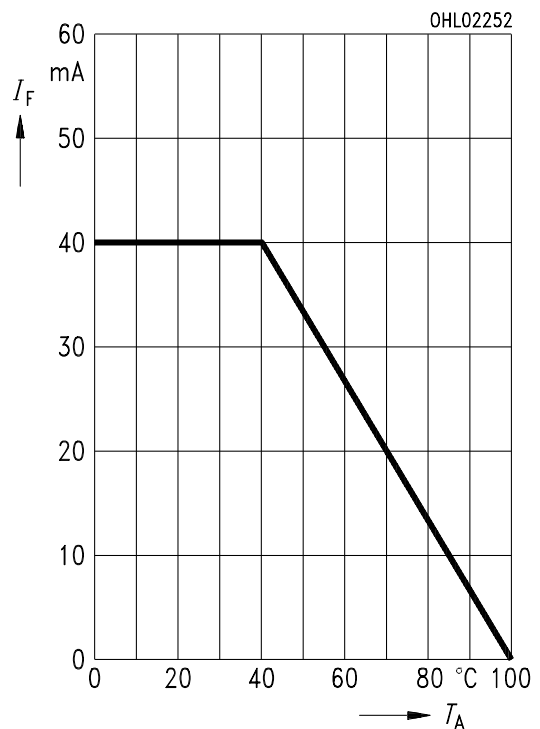
Duty cycle  $D =$  parameter,  $T_A = 25^\circ\text{C}$



### Maximal zulässiger Durchlaßstrom

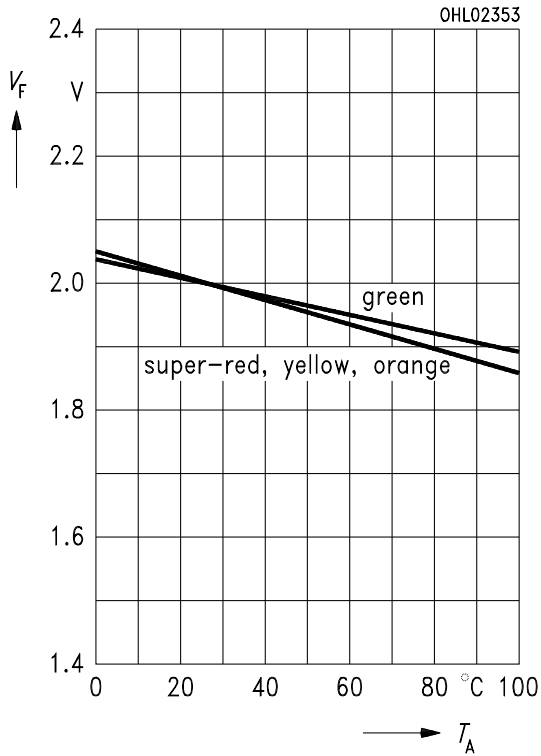
#### Max. permissible forward current

$I_F = f(T_A)$



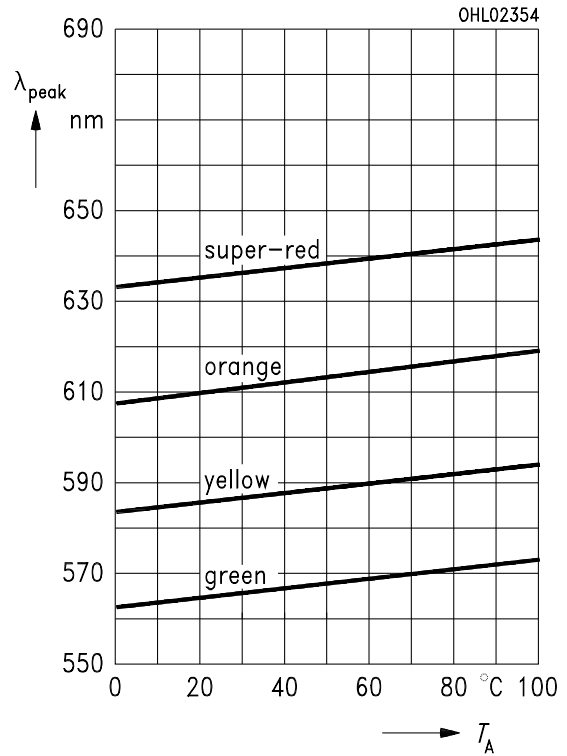
**Wellenlänge der Strahlung  $\lambda_{\text{peak}} = f(T_A)$**   
**Wavelength at peak emission**

$I_F = 20 \text{ mA}$



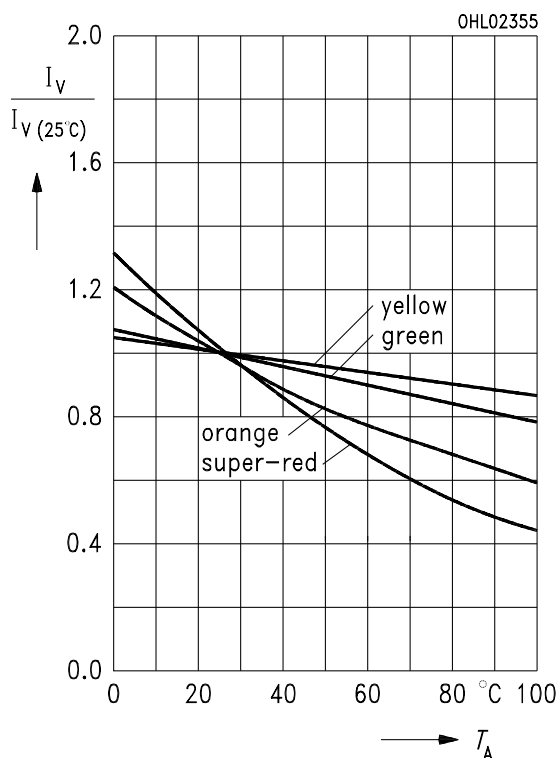
**Dominantwellenlänge  $\lambda_{\text{dom}} = f(T_A)$**   
**Dominant wavelength**

$I_F = 20 \text{ mA}$



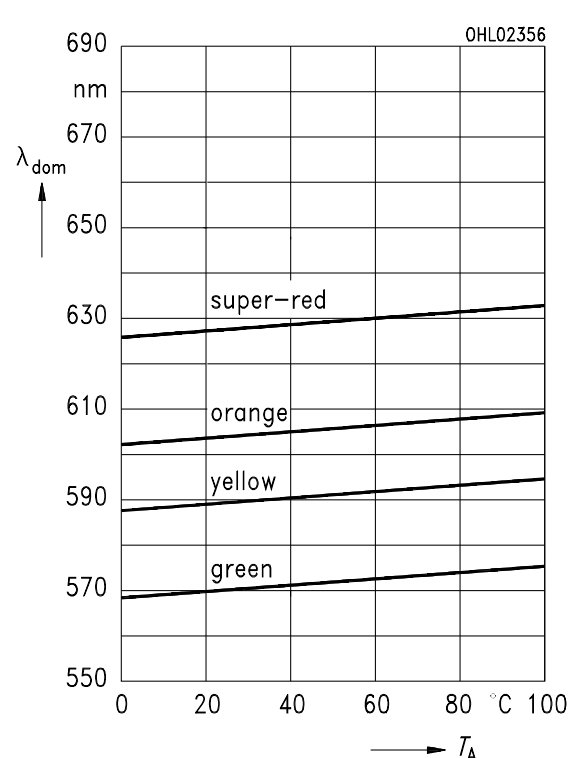
**Durchlaßspannung  $V_F = f(T_A)$**   
**Forward voltage**

$I_F = 10 \text{ mA}$

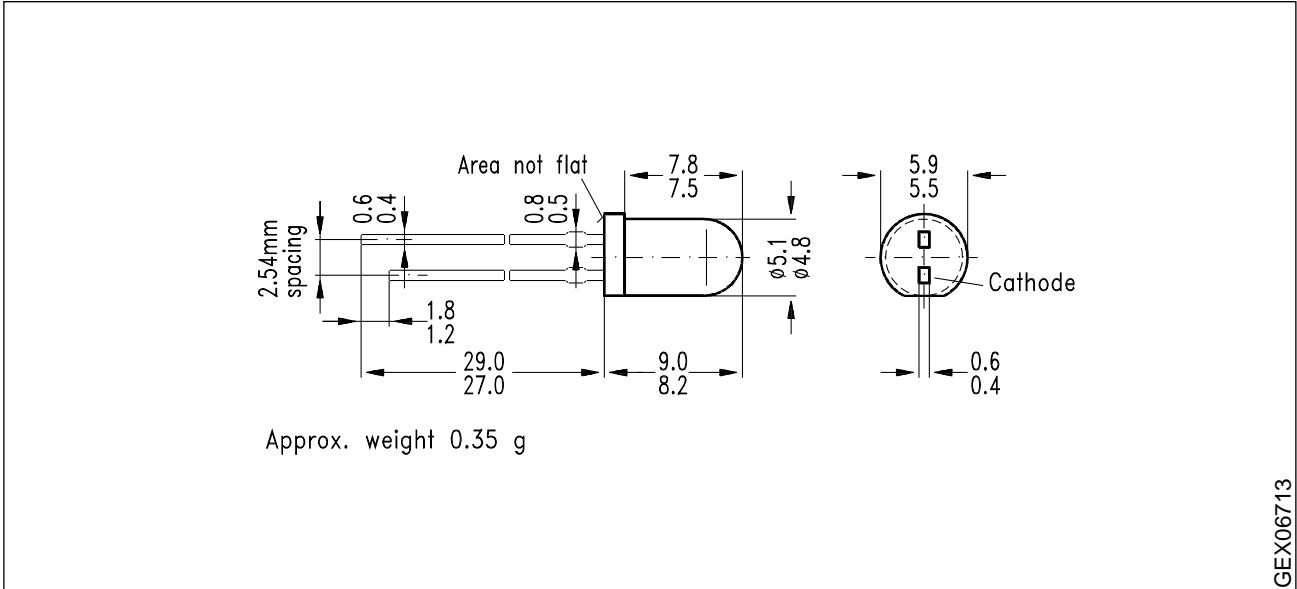


**Relative Lichtstärke  $I_V/I_{V(25^\circ\text{C})} = f(T_A)$**   
**Relative luminous intensity**

$I_F = 10 \text{ mA}$



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



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