

## Array LED 2 mm LED, Diffused

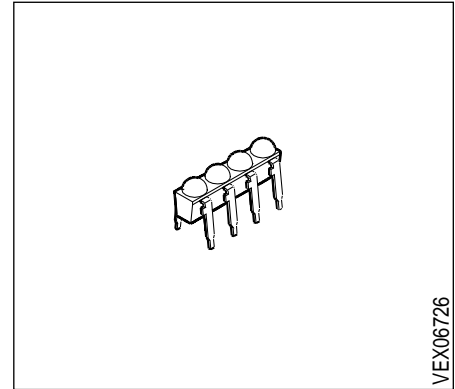
LR Z18 x, LY Z181, LG Z18 x

### Besondere Merkmale

- eingefärbtes, diffuses Gehäuse
- als optischer Indikator einsetzbar
- als Mehrfachzeile verfügbar
- Störimpulsfest nach DIN 40839

### Features

- colored, diffused package
- for use as optical indicator
- available as multiple array (LED)
- load dump resistant acc. to DIN 40839



Typ Type	Anzahl der Lichtpunkte Number of Dots	Emissionsfarbe Color of Emission	Gehäusefarbe Color of Package	Lichtstärke Luminous Intensity $I_F = 10 \text{ mA}$ $I_V \text{ (mcd)}$	Bestellnummer Ordering Code
LR Z181-CO	1	red	red diffused	$\geq 0.25$	Q62703-Q1495
LR Z182-CO	2	red	red diffused	$\geq 0.25$	Q62703-Q1496
LR Z183-CO	3	red	red diffused	$\geq 0.25$	Q62703-Q1497
LR Z184-CO	4	red	red diffused	$\geq 0.25$	Q62703-Q1498
LR Z185-CO	5	red	red diffused	$\geq 0.25$	Q62703-Q1499
LR Z186-CO	6	red	red diffused	$\geq 0.25$	Q62703-Q1500
LR Z187-CO	7	red	red diffused	$\geq 0.25$	Q62703-Q1501
LR Z188-CO	8	red	red diffused	$\geq 0.25$	Q62703-Q1502
LR Z189-CO	9	red	red diffused	$\geq 0.25$	Q62703-Q1503
LR Z180-CO	10	red	red diffused	$\geq 0.25$	Q62703-Q1504
LY Z181-CO	1	yellow	yellow diffused	$\geq 0.25$	Q62703-Q1505
LG Z181-CO	1	green	green diffused	$\geq 0.25$	Q62703-Q1506
LG Z182-CO	2	green	green diffused	$\geq 0.25$	Q62703-Q1507
LG Z183-CO	3	green	green diffused	$\geq 0.25$	Q62703-Q1508
LG Z184-CO	4	green	green diffused	$\geq 0.25$	Q62703-Q1509
LG Z185-CO	5	green	green diffused	$\geq 0.25$	Q62703-Q1510
LG Z186-CO	6	green	green diffused	$\geq 0.25$	Q62703-Q1511
LG Z188-CO	8	green	green diffused	$\geq 0.25$	Q62703-Q1513
LG Z180-CO	10	green	green diffused	$\geq 0.25$	Q62703-Q1515

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	$T_{op}$	- 40 ... + 80	°C
Lagertemperatur Storage temperature range	$T_{stg}$	- 40 ... + 80	°C
Sperrschichttemperatur Junction temperature	$T_j$	+ 100	°C
Durchlaßstrom Forward current	$I_F$	30	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 $T_A \leq 25 \text{ °C}$	$P_{tot}$	80	mW
Wärmewiderstand Thermal resistance Sperrschicht / Luft Junction / air	$R_{th JA}$	750 <sup>1)</sup>	K/W

1) Auf Platine gelötet: Lötfläche  $\geq 16 \text{ cm}^2$ .  
1) Soldered on PC board: pad size  $\geq 16 \text{ cm}^2$ .

## Kennwerte ( $T_A = 25\text{ °C}$ )

### Characteristics

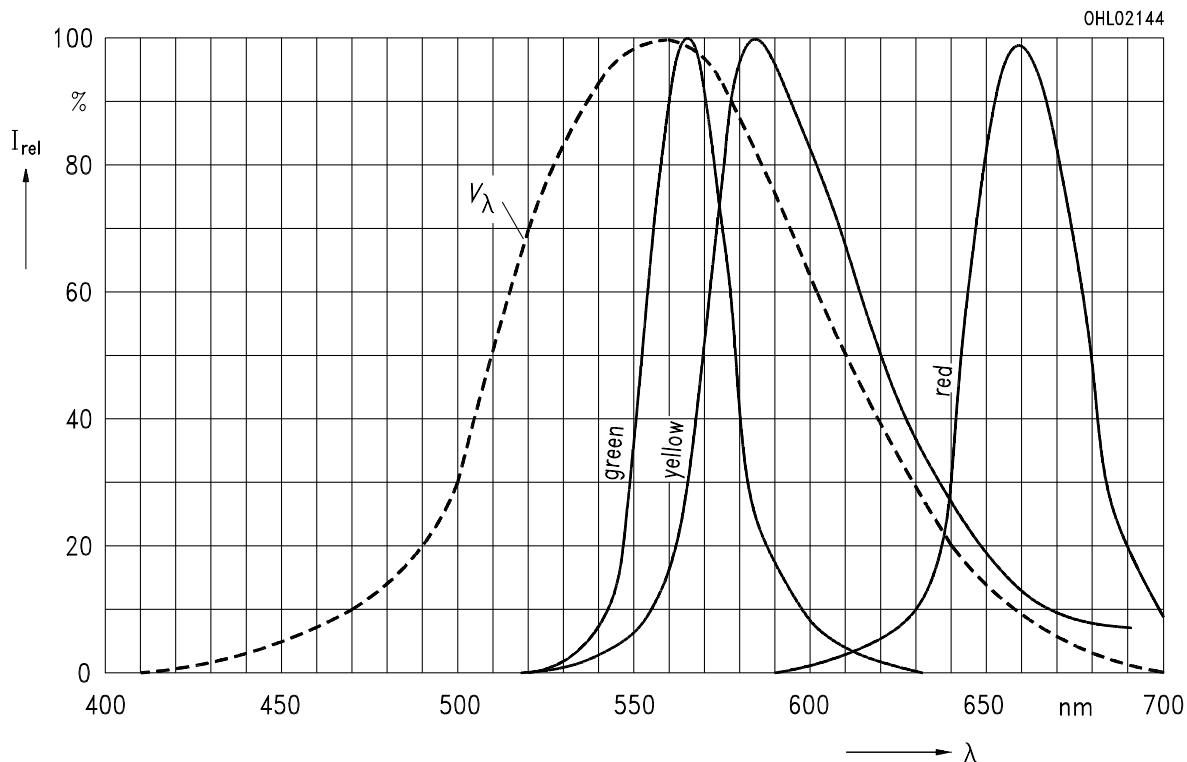
Bezeichnung Parameter	Symbol Symbol	Werte Values			Einheit Unit
		LR	LY	LG	
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission (typ.) $I_F = 20\text{ mA}$	$\lambda_{\text{peak}}$	660	586	565	nm
Dominantwellenlänge (typ.) Dominant wavelength (typ.) $I_F = 20\text{ mA}$	$\lambda_{\text{dom}}$	645	590	570	nm
Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$ (typ.) Spectral bandwidth at 50 % $I_{\text{rel max}}$ (typ.) $I_F = 20\text{ mA}$	$\Delta\lambda$	35	45	25	nm
Abstrahlwinkel bei 50 % $I_V$ (Vollwinkel) Viewing angle at 50 % $I_V$	$2\varphi$	100	100	100	Grad deg.
Durchlaßspannung (typ.) Forward voltage (max.) $I_F = 10\text{ mA}$	$V_F$ $V_F$	1.6 2.0	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	$\mu\text{A}$ $\mu\text{A}$
Kapazität (typ.) Capacitance $V_R = 0\text{ V}, f = 1\text{ MHz}$	$C_0$	25	10	15	pF
Schaltzeiten: Switching times: $I_V$ from 10 % to 90 % (typ.) $I_V$ from 90 % to 10 % (typ.) $I_F = 100\text{ mA}, t_p = 10\text{ }\mu\text{s}, R_L = 50\text{ }\Omega$	$t_r$ $t_f$	120 50	300 150	450 200	ns ns

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

### Relative spectral emission

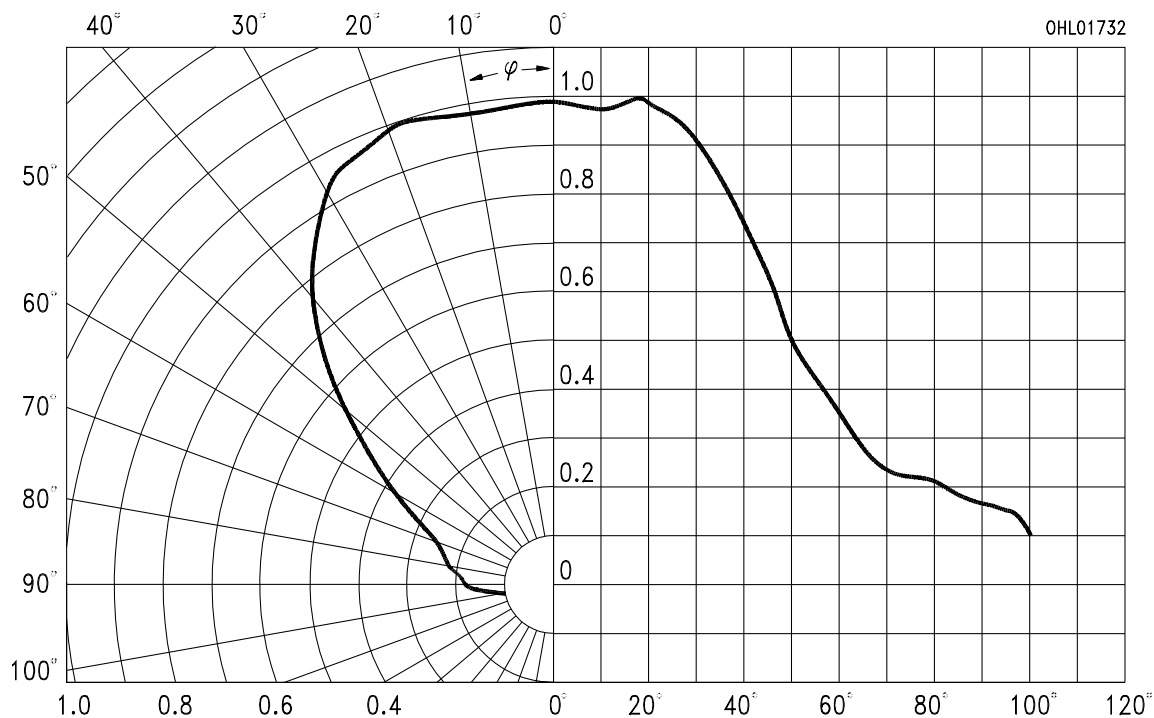
$V(\lambda)$  = spektrale Augenempfindlichkeit

Standard eye response curve



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

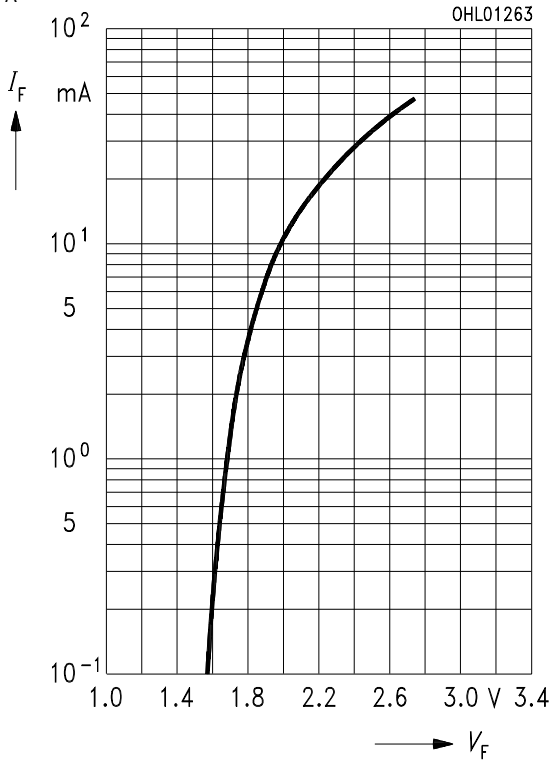
### Radiation characteristic



### Durchlaßstrom $I_F = f(V_F)$

#### Forward current

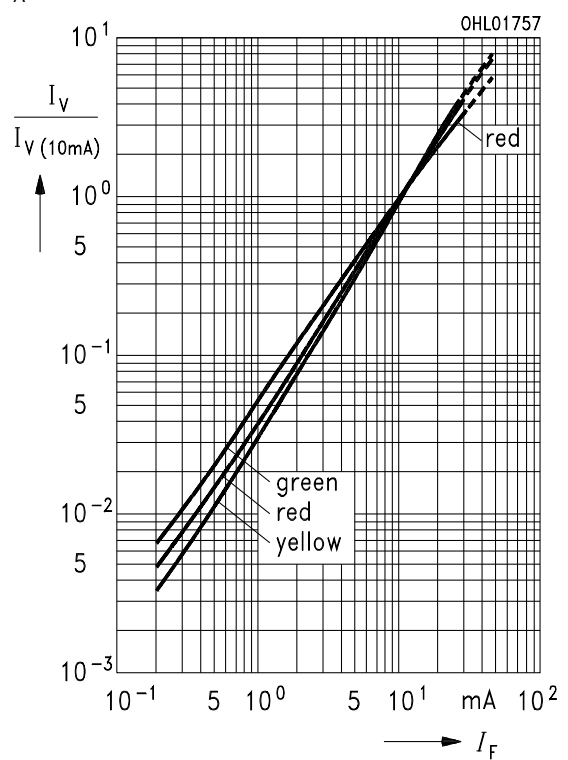
$T_A = 25^\circ\text{C}$



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

#### Relative luminous intensity

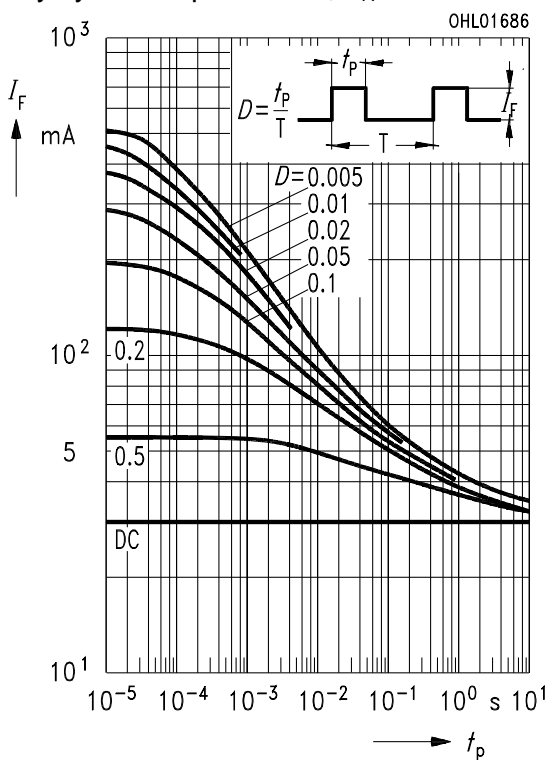
$T_A = 25^\circ\text{C}$



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

#### Permissible pulse handling capability

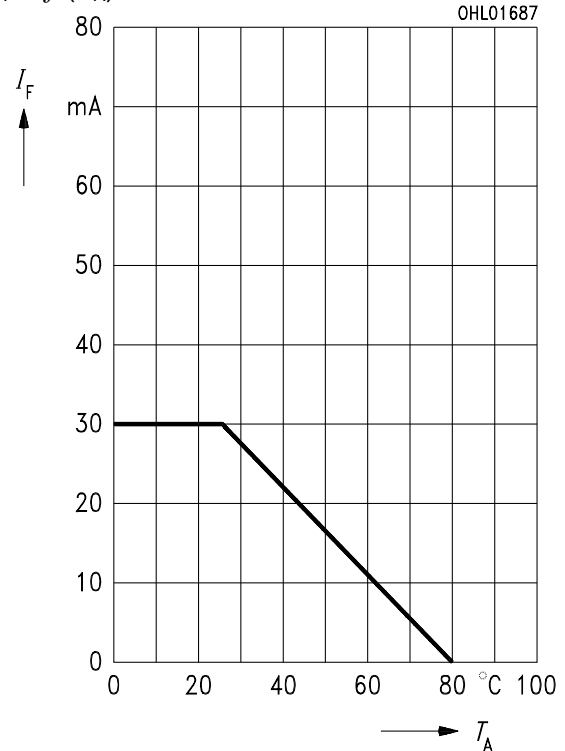
Duty cycle  $D = \text{parameter}$ ,  $T_A = 25^\circ\text{C}$



### Maximal zulässiger Durchlaßstrom

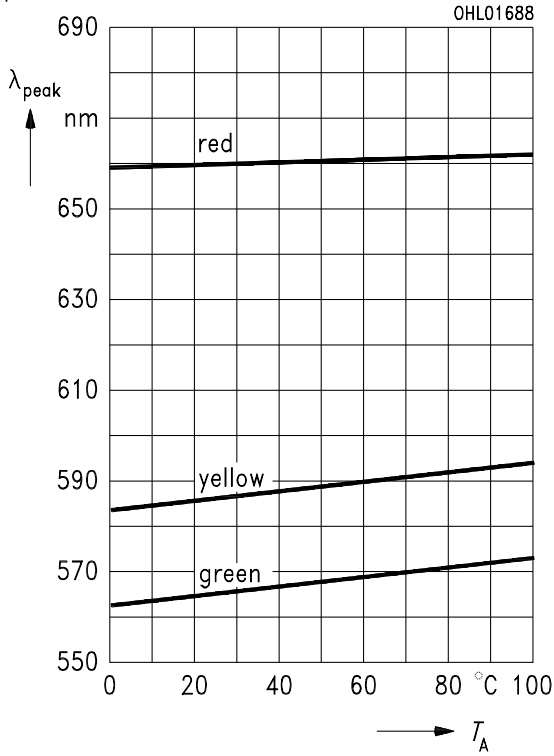
#### Max. permissible forward current

$I_F = f(T_A)$



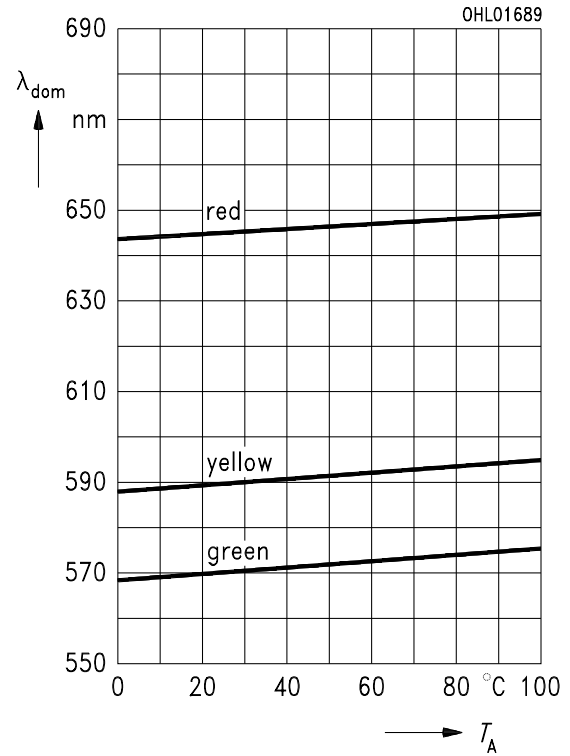
### Wellenlänge der Strahlung Wavelength at peak emission

$$\lambda_{\text{peak}} = f(T_A), I_F = 20 \text{ mA}$$



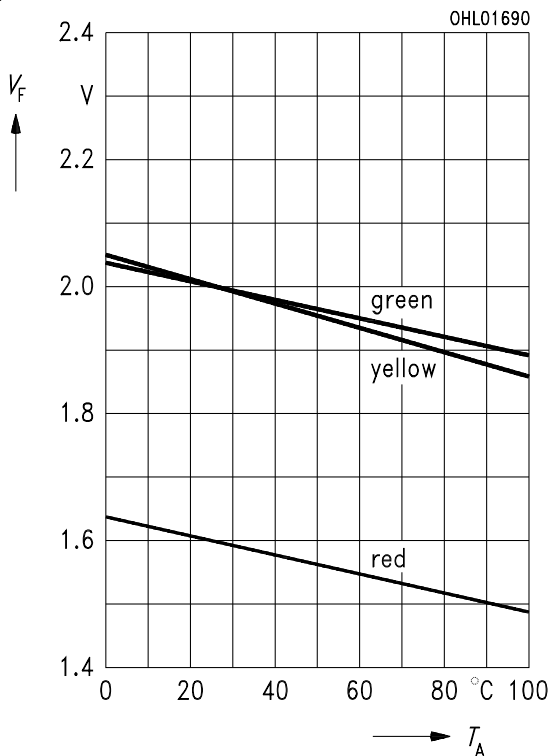
### Dominantwellenlänge Dominant wavelength

$$\lambda_{\text{dom}} = f(T_A), I_F = 20 \text{ mA}$$



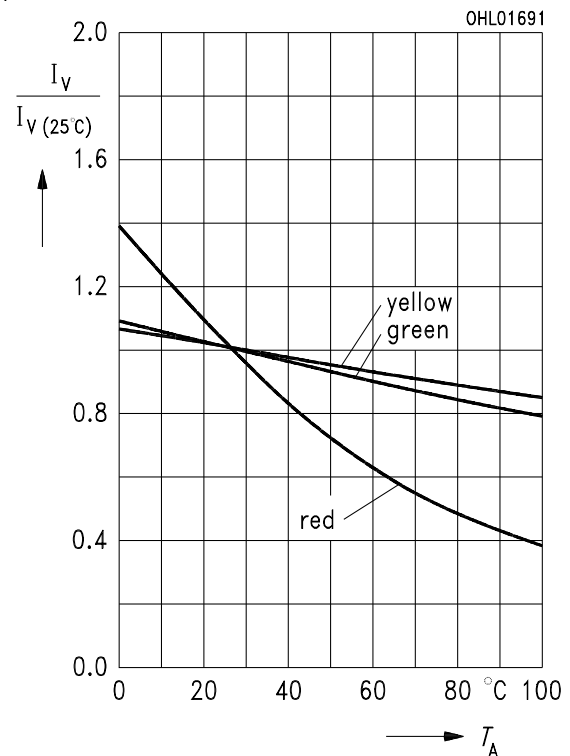
### Durchlaßspannung $V_F = f(T_A)$ Forward voltage

$$I_F = 10 \text{ mA}$$

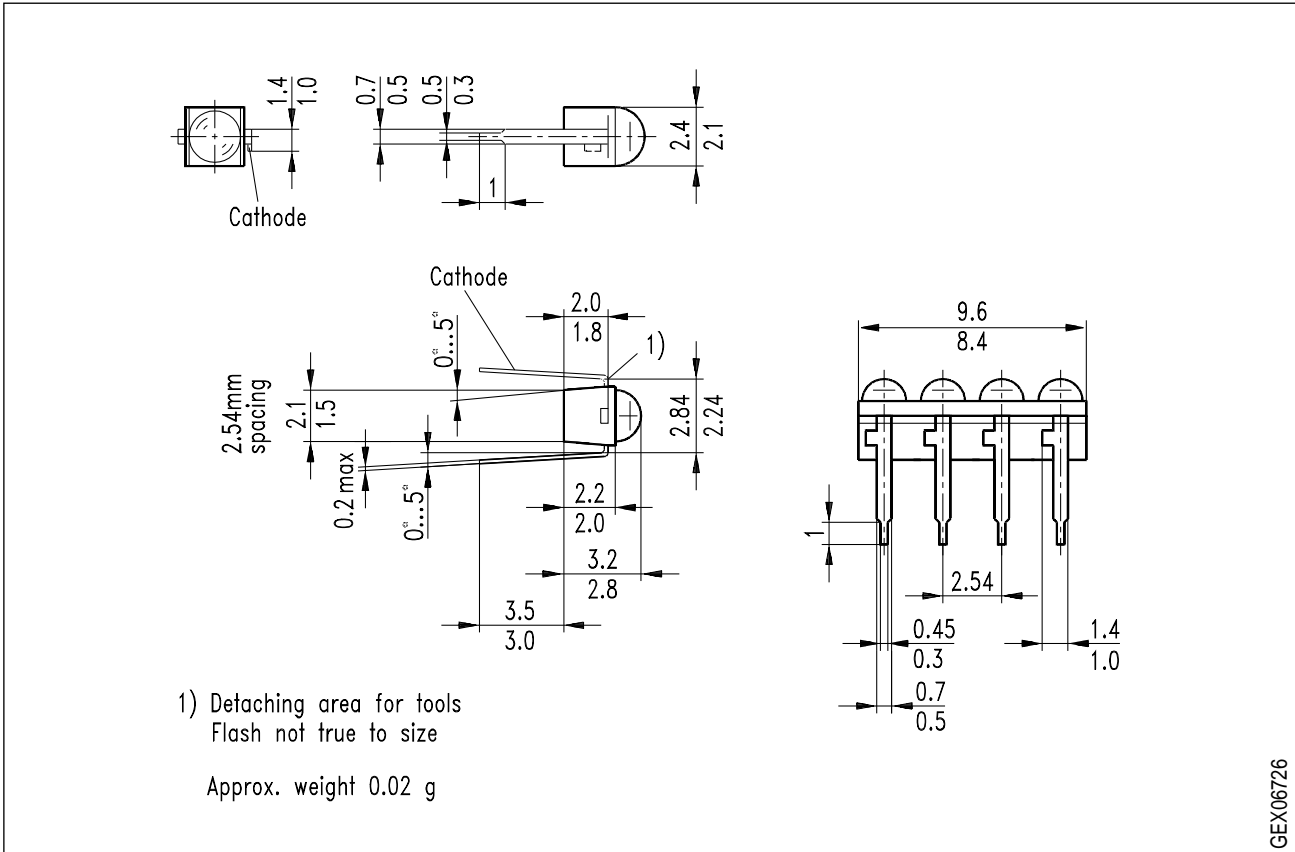


### Relative Lichtstärke $I_V/I_{V(25^\circ\text{C})} = f(T_A)$ Relative luminous intensity

$$I_F = 10 \text{ mA}$$



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



**Kathodenkennzeichnung:** Breiterer Lötspieß  
**Cathode mark:** Broad solder lead

**Zeile mit 4 Dioden** (z. B. LR Z184)  
**Row with 4 diodes** (e. g. LR Z184)