

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

LS 3341, LY 3341, LG 3341, LP 3341



### Besondere Merkmale

- **Gehäusetyp:** eingefärbtes, klares 3 mm (T1) Gehäuse
- **Besonderheit des Bauteils:** Lötspieße mit Aufsetzebene
- **Wellenlänge:** 628 nm (super-rot), 590 nm (gelb), 570 nm (grün), 560 nm (pure green)
- **Abstrahlwinkel:** 40°
- **Technologie:** GaAlP (super-rot, gelb, grün), GaP (pure green)
- **optischer Wirkungsgrad:** 1,5 lm/W (super-rot, gelb), 2,5 lm/W (grün), 0,6 lm/W (pure green)
- **Gruppierungsparameter:** Lichtstärke
- **Lötmethode:** Wellenlöten (TTW)
- **Verpackung:** Schüttgut, gegurtet lieferbar

### Anwendungen

- optischer Indikator
- Einkopplung in Lichtleiter
- Hinterleuchtung (LCD, Schalter, Tasten, Displays)
- Innenbeleuchtung im Automobilbereich (z.B. Instrumentenbeleuchtung, u.ä.)

### Features

- **package:** colored, clear 3 mm (T1) package
- **feature of the device:** solder leads with stand-off
- **wavelength:** 628 nm (super-red), 590 nm (yellow), 570 nm (green), 560 nm (pure green)
- **viewing angle:** 40°
- **technology:** GaAlP (super-red, yellow, green), GaP (pure green)
- **optical efficiency:** 1.5 lm/W (super-red, yellow), 2.5 lm/W (green), 0.6 lm/W (pure green)
- **grouping parameter:** luminous intensity
- **soldering methods:** TTW soldering
- **packing:** bulk, available taped on reel

### Applications

- optical indicators
- coupling into light guides
- backlighting (LCD, switches, keys, displays)
- interior automotive lighting (e.g. dashboard backlighting, etc.)

## LS 3341, LY 3341, LG 3341, LP 3341

Typ Type	Emissions- farbe Color of Emission	Gehäuse- farbe Color of Package	Lichtstärke Luminous Intensity $I_F = 10 \text{ mA}$ $I_V \text{ (mcd)}$	Lichtstrom Luminous Flux $I_F = 10 \text{ mA}$ $\Phi_V \text{ (mlm)}$	Bestellnummer Ordering Code
LS 3341-LP LS 3341-M LS 3341-N LS 3341-P LS 3341-MQ	super-red	red clear	11.2 ... 71.0 18.0 ... 28.0 28.0 ... 45.0 45.0 ... 71.0 18.0 ... 112.0	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 55 (typ.)	Q62703-Q3911 Q62703-Q2146 Q62703-Q2147 Q62703-Q3445 Q62703-Q2148
LY 3341-LP LY 3341-M LY 3341-N LY 3341-P LY 3341-MQ	yellow	yellow clear	11.2 ... 71.0 18.0 ... 28.0 28.0 ... 45.0 45.0 ... 71.0 18.0 ... 112.0	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 55 (typ.)	Q62703-Q2152 Q62703-Q2151 Q62703-Q2398 Q62703-Q3234 Q62703-Q2149
LG 3341-KN LG 3341-M LG 3341-N LG 3341-MQ	green	green clear	7.1 ... 45.0 18.0 ... 28.0 28.0 ... 45.0 18.0 ... 112.0	25 (typ.) 20 (typ.) 30 (typ.) 60 (typ.)	Q62703-Q2153 Q62703-Q2155 Q62703-Q3187 Q62703-Q2156
LP 3341-JM LP 3341-K LP 3341-L LP 3341-M LP 3341-KN	pure green	green clear	4.5 ... 28.0 7.1 ... 11.2 11.2 ... 18.0 18.0 ... 28.0 7.1 ... 45.0	14 (typ.) 7 (typ.) 12 (typ.) 20 (typ.) 22 (typ.)	Q62703-Q3815 Q62703-Q3816 Q62703-Q2986 Q62703-Q2919 Q62703-Q2750

Helligkeitswerte werden mit einer Stromeinprägedauer von 25 ms und einer Genauigkeit von  $\pm 11 \%$  ermittelt.

Luminous intensity is tested at a current pulse duration of 25 ms and an accuracy of  $\pm 11 \%$ .

Bezeichnung Parameter	Symbol Symbol	Werte Values		Einheit Unit
		LS, LY, LG	LP	
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	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
Leistungsaufnahme Power dissipation $T_A \leq 25 \text{ °C}$	$P_{tot}$	130	90	mW
Wärmewiderstand Thermal resistance Sperrschicht/Umgebung Junction/ambient	$R_{th JA}$	400		K/W
Sperrschicht/Löt看pad Junction/solder point Montage auf PC-Board FR 4 (Padgröße $\geq 16 \text{ mm}^2$ ) mounted on PC board FR 4 (pad size $\geq 16 \text{ mm}^2$ ) Minimale Beinchenlänge Minimum lead length	$R_{th JS}$	180		K/W

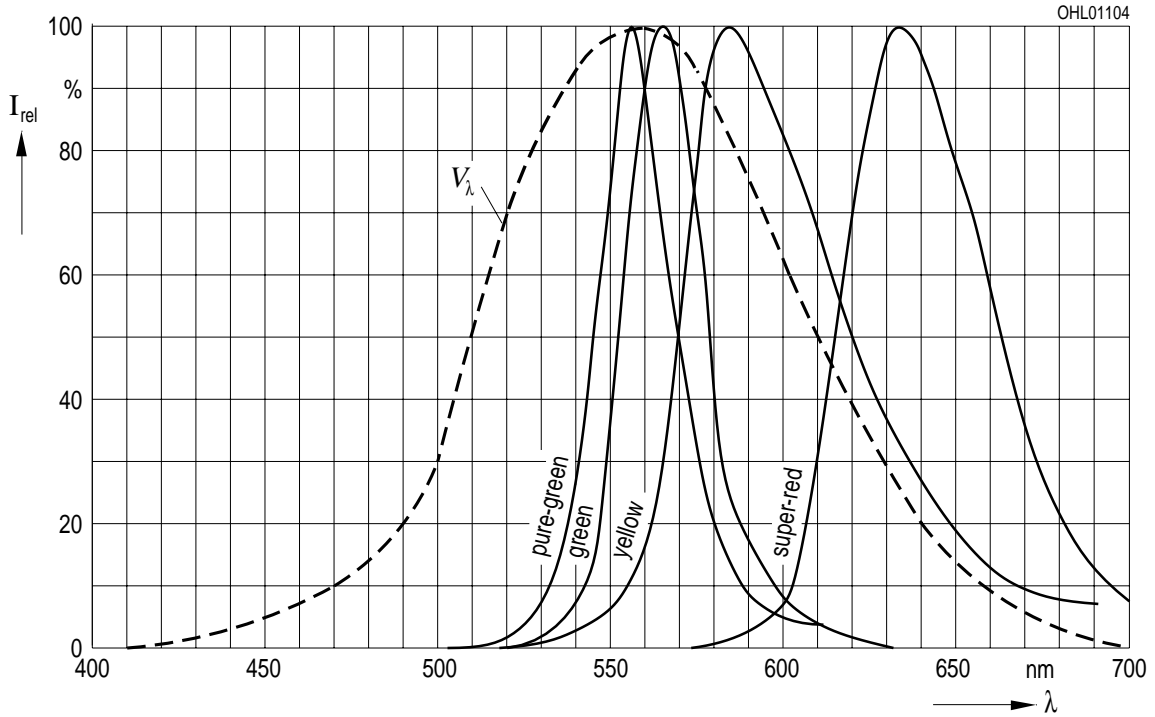
Bezeichnung Parameter	Symbol Symbol	Werte Values				Einheit Unit
		LS	LY	LG	LP	
Wellenlänge des emittierten Lichtes Wavelength at peak emission $I_F = 10 \text{ mA}$	(typ.) $\lambda_{\text{peak}}$	635	586	565	557	nm
Dominantwellenlänge Dominant wavelength $I_F = 10 \text{ mA}$	(typ.) $\lambda_{\text{dom}}$	628	590	570	560	nm
Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$ Spectral bandwidth at 50 % $I_{\text{rel max}}$ $I_F = 10 \text{ mA}$	(typ.) $\Delta\lambda$	45	45	25	22	nm
Abstrahlwinkel bei 50 % $I_V$ (Vollwinkel) Viewing angle at 50 % $I_V$	(typ.) $2\phi$	40	40	40	40	Grad deg.
Durchlaßspannung Forward voltage $I_F = 10 \text{ mA}$	(typ.) $V_F$ (max.) $V_F$	2.0 2.6	2.0 2.6	2.0 2.6	2.0 2.6	V V
Sperrstrom Reverse current $V_R = 5 \text{ V}$	(typ.) $I_R$ (max.) $I_R$	0.01 10	0.01 10	0.01 10	0.01 10	$\mu\text{A}$ $\mu\text{A}$
Temperaturkoeffizient von $\lambda_{\text{peak}}$ Temperature coefficient of $\lambda_{\text{peak}}$ $I_F = 10 \text{ mA}$	(typ.) $TC_{\lambda_{\text{peak}}}$	0.11	0.10	0.11	0.11	nm/K
Temperaturkoeffizient von $\lambda_{\text{dom}}$ Temperature coefficient of $\lambda_{\text{dom}}$ $I_F = 10 \text{ mA}$	(typ.) $TC_{\lambda_{\text{dom}}}$	0.07	0.07	0.07	0.05	nm/K
Temperaturkoeffizient von $V_F$ Temperature coefficient of $V_F$ $I_F = 10 \text{ mA}$	(typ.) $TC_V$	-1.9	-1.9	-1.4	-2.1	mV/K
Optischer Wirkungsgrad Optical efficiency $I_F = 10 \text{ mA}$	(typ.) $\eta_{\text{opt}}$	1.5	1.5	2.5	0.6	lm/W

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

**Relative Spectral Emission**

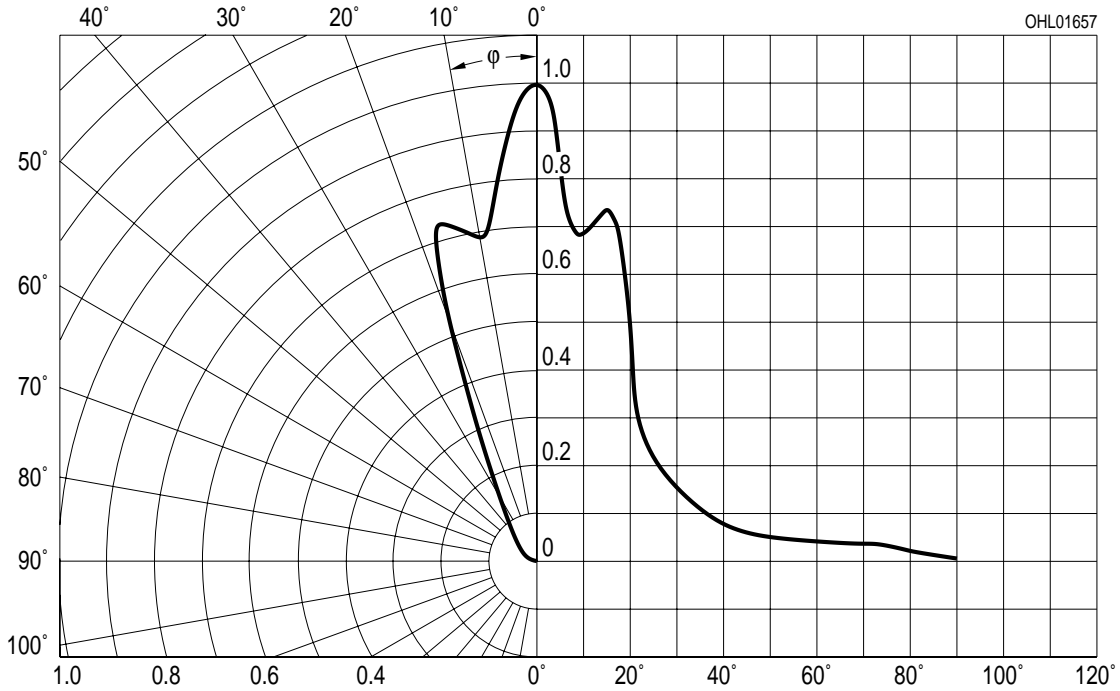
$V(\lambda)$  = spektrale Augenempfindlichkeit

Standard eye response curve



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

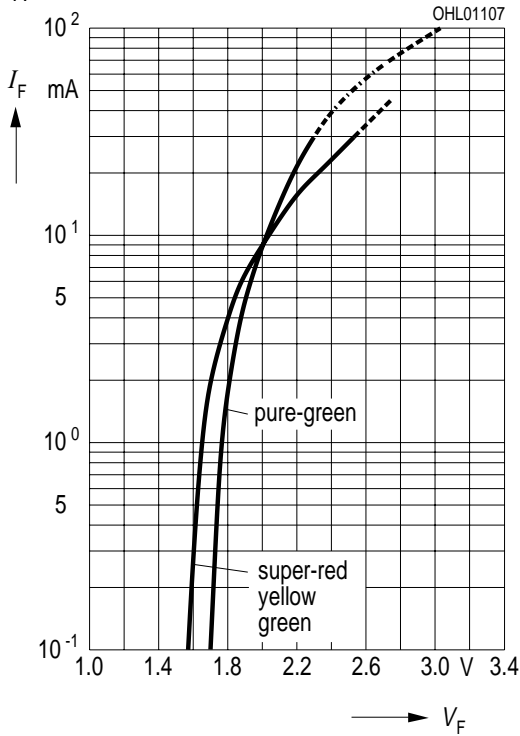
**Radiation Characteristic**



**Durchlaßstrom  $I_F = f(V_F)$**

**Forward Current**

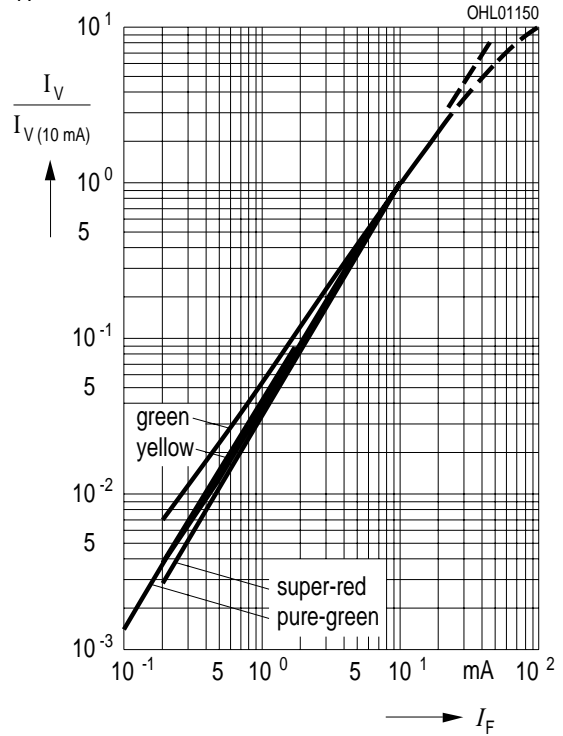
$T_A = 25\text{ °C}$



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

**Relative Luminous Intensity**

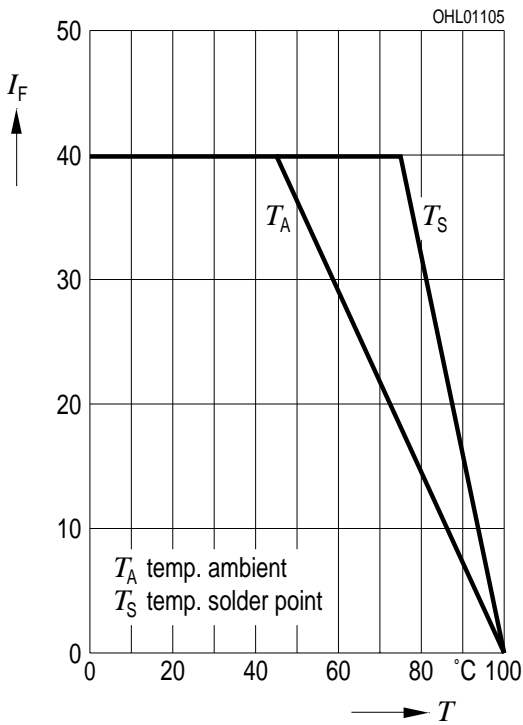
$T_A = 25\text{ °C}$



**Maximal zulässiger Durchlaßstrom  $I_F = f(T)$**

**Max. Permissible Forward Current**

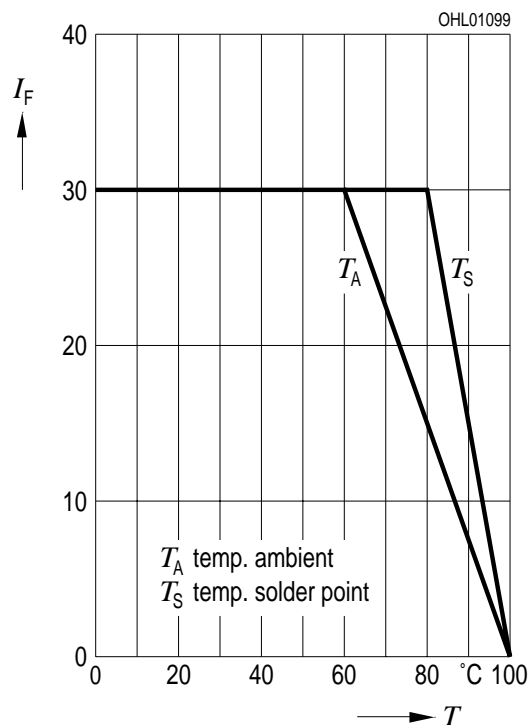
**LS, LY, LG**



**Maximal zulässiger Durchlaßstrom  $I_F = f(T)$**

**Max. Permissible Forward Current**

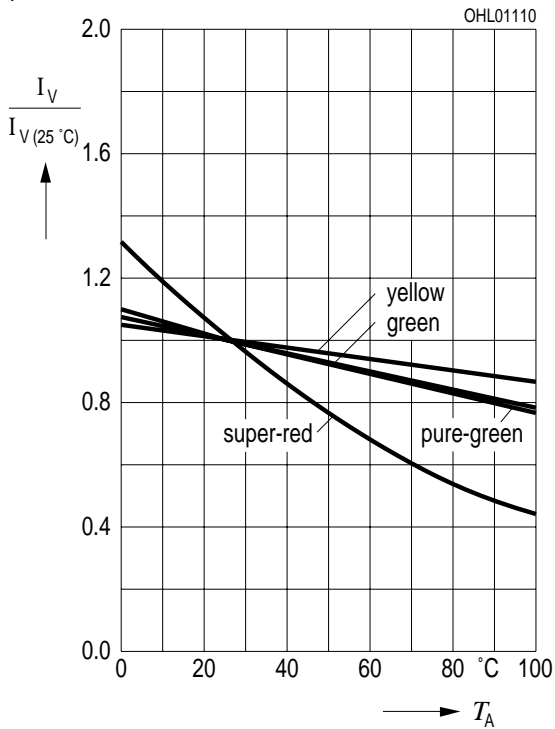
**LP**



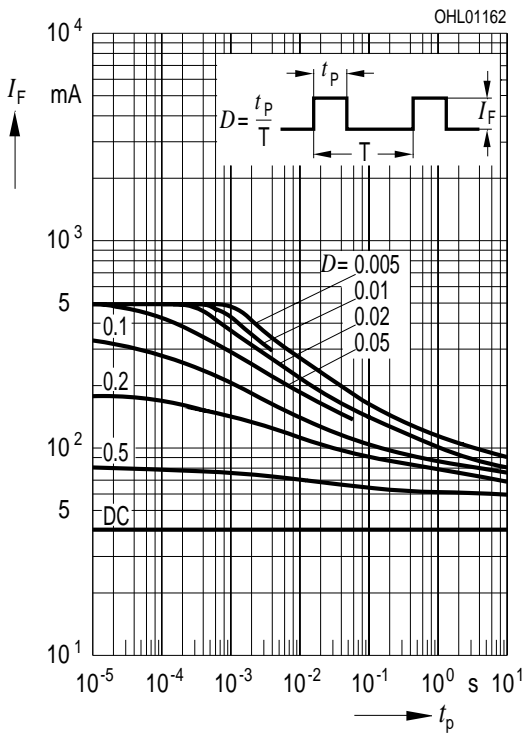
Relative Lichtstärke  $I_V/I_{V(25^\circ\text{C})} = f(T_A)$

Relative Luminous Intensity

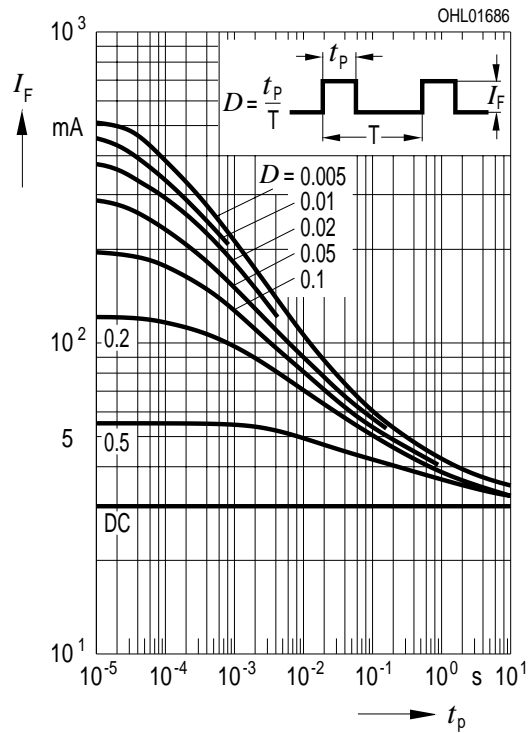
$I_F = 10 \text{ mA}$



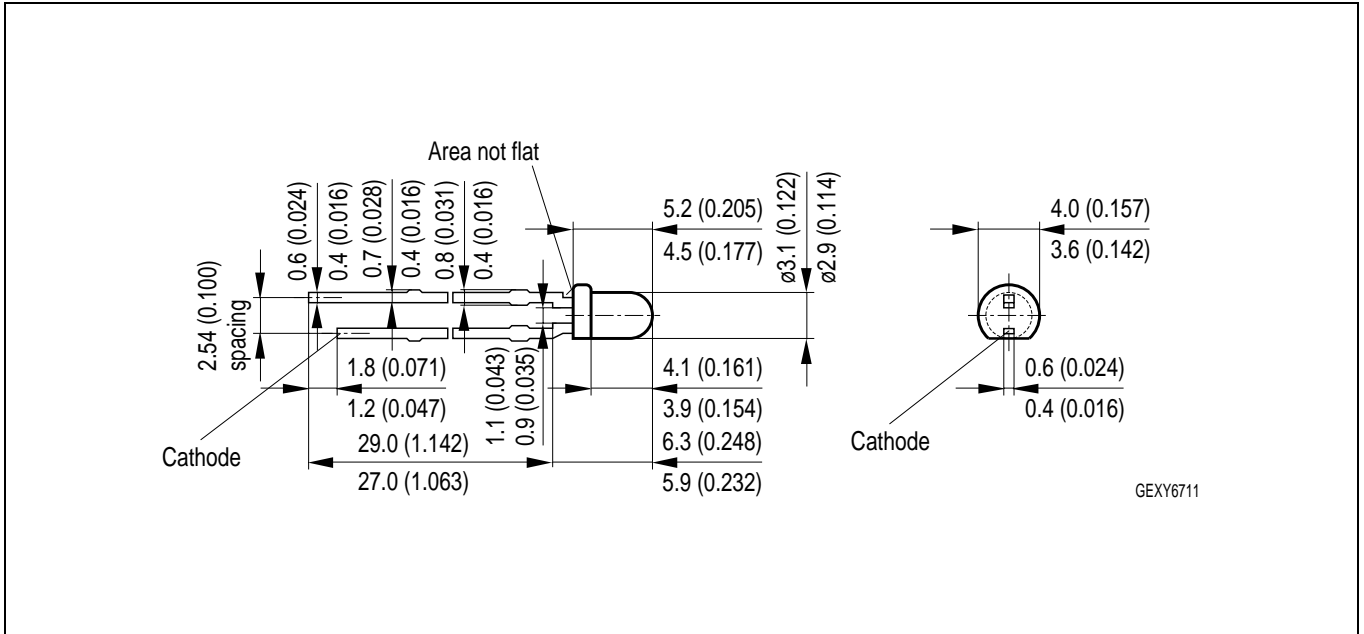
Zulässige Impulsbelastbarkeit  $I_F = f(t_p)$   
 Permissible Pulse Handling Capability  
 Duty cycle  $D = \text{parameter}$ ,  $T_A = 25^\circ\text{C}$   
 LS, LY, LG



Zulässige Impulsbelastbarkeit  $I_F = f(t_p)$   
 Permissible Pulse Handling Capability  
 Duty cycle  $D = \text{parameter}$ ,  $T_A = 25^\circ\text{C}$   
 LP



Maßzeichnung  
Package Outlines



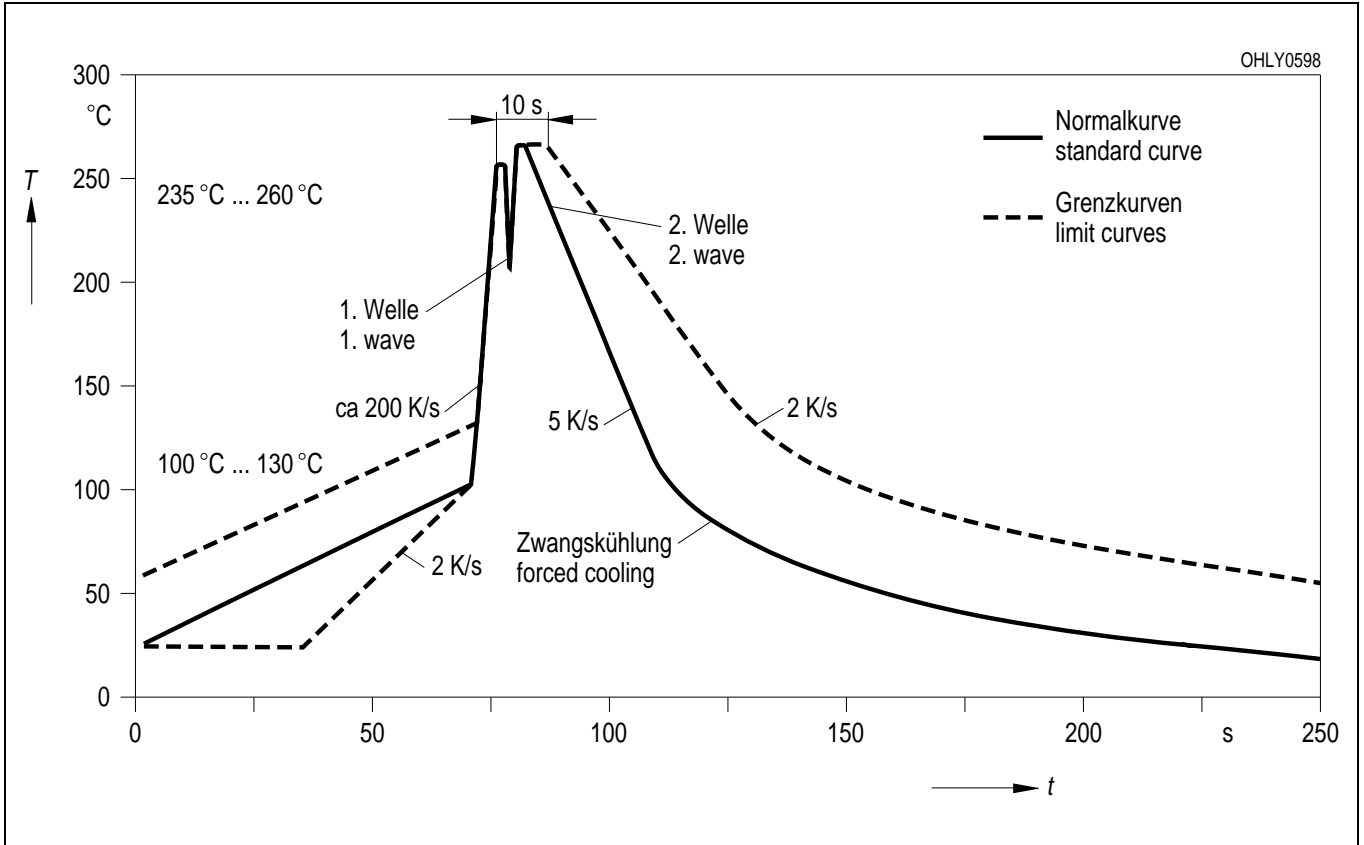
Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

- Kathodenkennung:** kürzerer Lötspieß
- Cathode mark:** short solder lead
- Gewicht / Approx. weight:** 0.15 g



**Lötbedingungen**  
**Soldering Conditions**

**Wellenlöten (TTW)** (nach CECC 00802)  
**TTW Soldering** (acc. to CECC 00802)



**Empfohlenes Lötpaddesign** Wellenlöten (TTW)  
**Recommended Solder Pad** TTW Soldering

