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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Hyper ARGUS® LED

Hyper-Bright, 3mm (T1) LED, Non Diffused

LS K376, LA K376, LO K376, LY K376



Besondere Merkmale

- **Gehäusotyp:** nicht eingefärbtes, klares 3 mm (T1) Gehäuse mit spezieller Linse
- **Besonderheit des Bauteils:** mit Einsatz eines äußeren Reflektors zur Hinterleuchtung von Leuchtfeldern und LCD-Anzeigen; Lötspieße mit Aufsetzebene
- **Wellenlänge:** 632 nm (super-rot), 615 nm (amber), 605 nm (orange), 587 nm (gelb)
- **Abstrahlwinkel:** angepaßt an Einsatz mit äußerem Reflektor, siehe Diagramm
- **Technologie:** InGaAlP
- **optischer Wirkungsgrad:** 11 lm/W (gelb, orange, amber), 7 lm/W (super-rot)
- **Gruppierungsparameter:** Lichtstrom
- **Lötmethode:** Wellenlöten (TTW)
- **Verpackung:** Schüttgut, gegurtet lieferbar

Anwendungen

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

Features

- **package:** colorless, clear 3 mm (T1) package with specially shaped lens
- **feature of the device:** for backlighting and LCDs with use of a reflector; solder leads with stand-off
- **wavelength:** 632 nm (super-red), 615 (amber), 605 nm (orange), 587 nm (yellow)
- **viewing angle:** matched to use with external reflector, see diagram
- **technology:** InGaAlP
- **optical efficiency:** 11 lm/W (yellow, orange, amber), 7 lm/W (super-red)
- **grouping parameter:** luminous flux
- **soldering methods:** TTW soldering
- **packing:** bulk, available taped on reel

Applications

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

LS K376, LA K376, LO K376, LY K376,

Typ Type	Emissions- farbe Color of Emission	Gehäusefarbe Color of Package	Lichtstrom Luminous Flux $I_F = 20 \text{ mA}$ $\Phi_V \text{ (mlm)}$	Bestellnummer Ordering Code
LS K376-QT LS K376-R LS K376-S LS K376-T LS K376-RU	super-red	colorless clear	71 ... 450 112 ... 180 180 ... 280 280 ... 450 112 ... 710	Q62703-Q3467 Q62703-Q3468 Q62703-Q3469 Q62703-Q3470 Q62703-Q3471
LA K376-RU LA K376-S LA K376-T LA K376-U LA K376-SV	amber	colorless clear	112 ... 710 180 ... 280 280 ... 450 450 ... 710 180 ... 1120	Q62703-Q3735 Q62703-Q3737 Q62703-Q3738 Q62703-Q3739 Q62703-Q3736
LO K376-RU LO K376-S LO K376-T LO K376-U LO K376-SV	orange	colorless clear	112 ... 710 180 ... 280 280 ... 450 450 ... 710 180 ... 1120	Q62703-Q3472 Q62703-Q3473 Q62703-Q3474 Q62703-Q3475 Q62703-Q3476
LY K376-RU LY K376-S LY K376-T LY K376-U LY K376-SV	yellow	colorless clear	112 ... 710 180 ... 280 280 ... 450 450 ... 710 180 ... 1120	Q62703-Q3477 Q62703-Q3478 Q62703-Q3479 Q62703-Q3480 Q62703-Q3481

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 $\pm 11 \%$.

Grenzwerte
Maximum Ratings

Bezeichnung Parameter	Symbol Symbol	Werte Values		Einheit Unit
		LS, LO, LA	LY	
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	30		mA
Stoßstrom Surge current $t \leq 10 \mu s, D = 0.005$	I_{FM}	1	0.2	A
Sperrspannung Reverse voltage	V_R	3		V
Leistungsaufnahme Power dissipation $T_A \leq 25 \text{ °C}$	P_{tot}	80		mW
Wärmewiderstand Thermal resistance Sperrschicht/Umgebung Junction/ambient	$R_{th JA}$	500		K/W
Sperrschicht/Lötpad 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	$R_{th JS}$	280		K/W

Kennwerte ($T_A = 25\text{ °C}$)

Characteristics

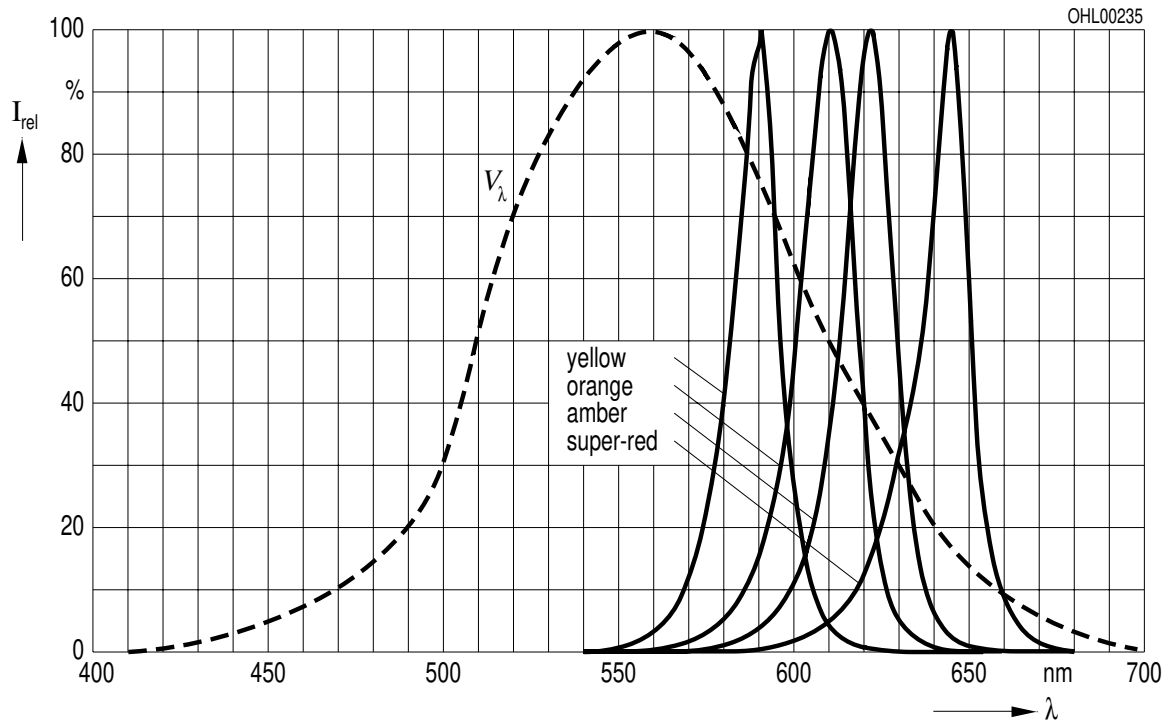
Bezeichnung Parameter	Symbol Symbol	Werte Values				Einheit Unit
		LS	LA	LO	LY	
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission $I_F = 20\text{ mA}$	λ_{peak}	645	622	610	591	nm
Dominantwellenlänge (typ.) Dominant wavelength $I_F = 20\text{ mA}$	λ_{dom}	632	615	605	587	nm
Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$ (typ.) Spectral bandwidth at 50 % $I_{\text{rel max}}$ $I_F = 20\text{ mA}$	$\Delta\lambda$	16	16	16	15	nm
Durchlassspannung (typ.) Forward voltage (max.) $I_F = 20\text{ mA}$	V_F V_F	2.0 2.5	2.0 2.5	2.0 2.5	2.0 2.5	V V
Sperrstrom (typ.) Reverse current (max.) $V_R = 3\text{ V}$	I_R I_R	0.01 10	0.01 10	0.01 10	0.01 10	μA μA
Temperaturkoeffizient von λ_{peak} (typ.) Temperature coefficient of λ_{peak} $I_F = 20\text{ mA}$	$TC_{\lambda_{\text{peak}}}$	0.14	0.13	0.13	0.13	nm/K
Temperaturkoeffizient von λ_{dom} (typ.) Temperature coefficient of λ_{dom} $I_F = 20\text{ mA}$	$TC_{\lambda_{\text{dom}}}$	0.01	0.06	0.07	0.10	nm/K
Temperaturkoeffizient von V_F (typ.) Temperature coefficient of V_F $I_F = 20\text{ mA}$	TC_V	-2.0	-1.8	-1.7	-2.5	mV/K
Optischer Wirkungsgrad (typ.) Optical efficiency $I_F = 20\text{ mA}$	η_{opt}	7	11	11	11	lm/W

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

Relative Spectral Emission

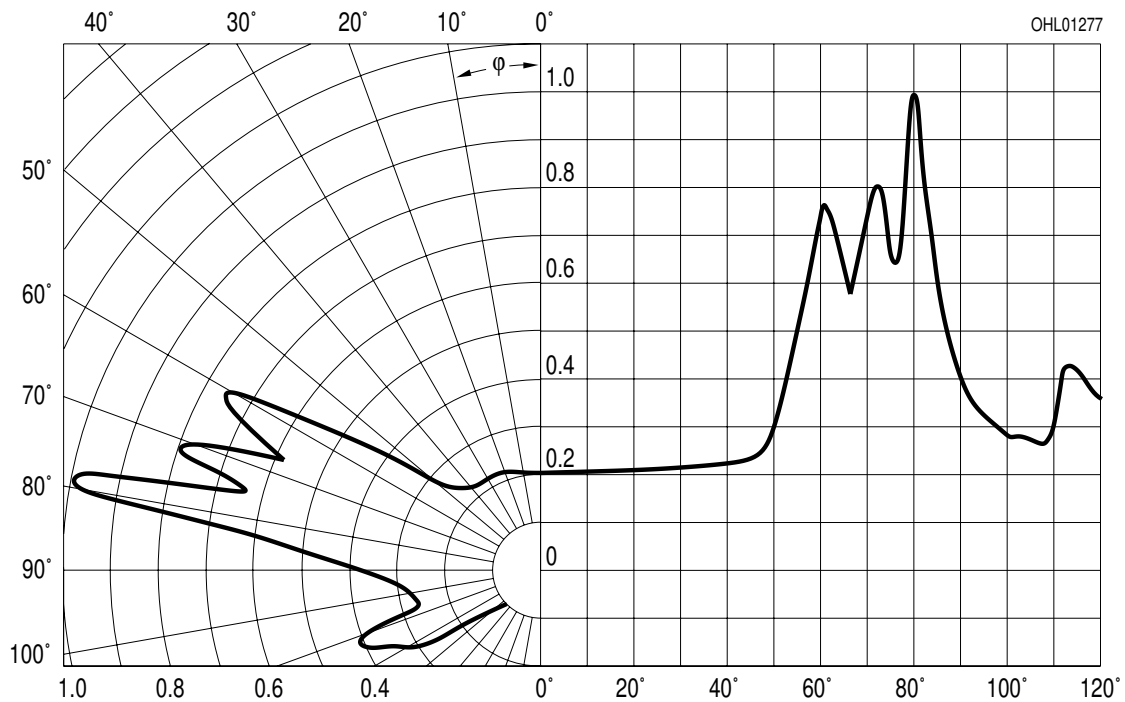
$V(\lambda)$ = spektrale Augenempfindlichkeit

Standard eye response curve



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

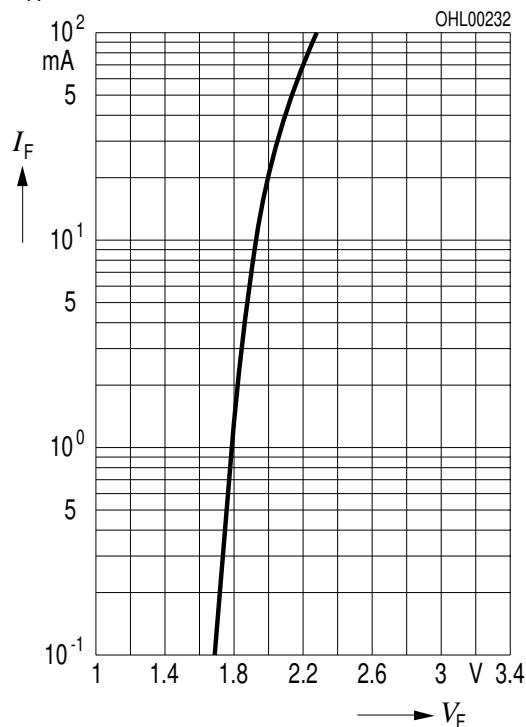
Radiation Characteristic



Durchlassstrom $I_F = f(V_F)$

Forward Current

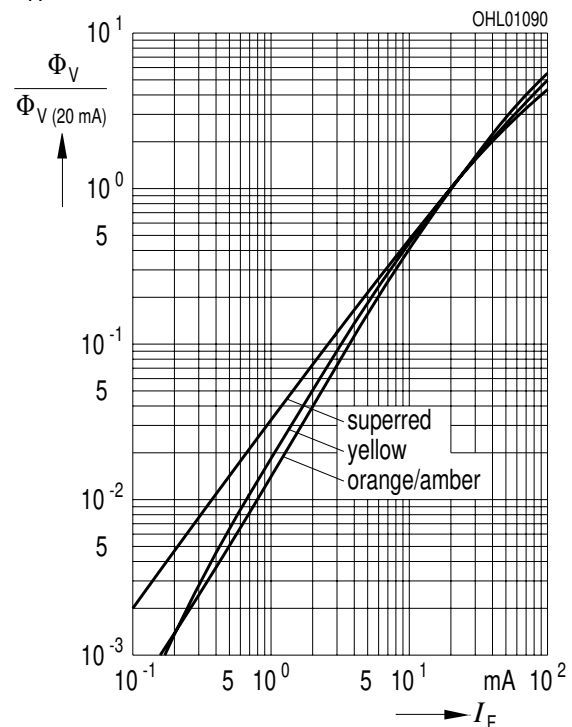
$T_A = 25\text{ °C}$



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

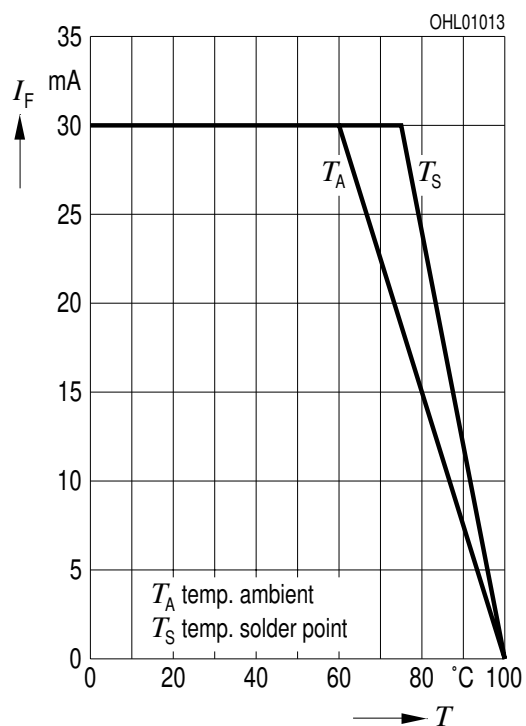
Relative Luminous Flux

$T_A = 25\text{ °C}$



Maximal zulässiger Durchlassstrom $I_F = f(T)$

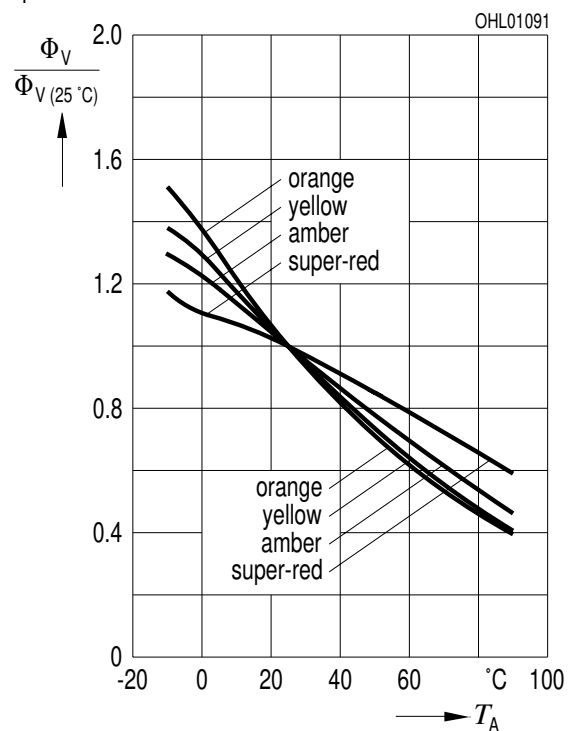
Max. Permissible Forward Current



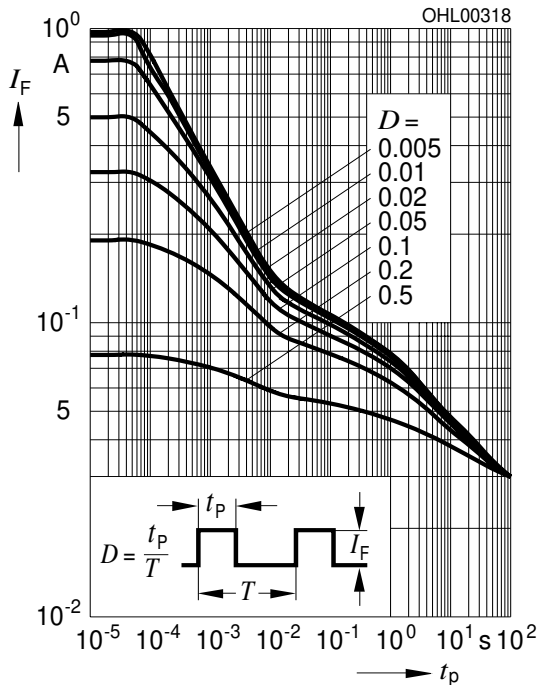
Relativer Lichtstrom $\Phi_V/\Phi_{V(25\text{ °C})} = f(T_A)$

Relative Luminous Flux

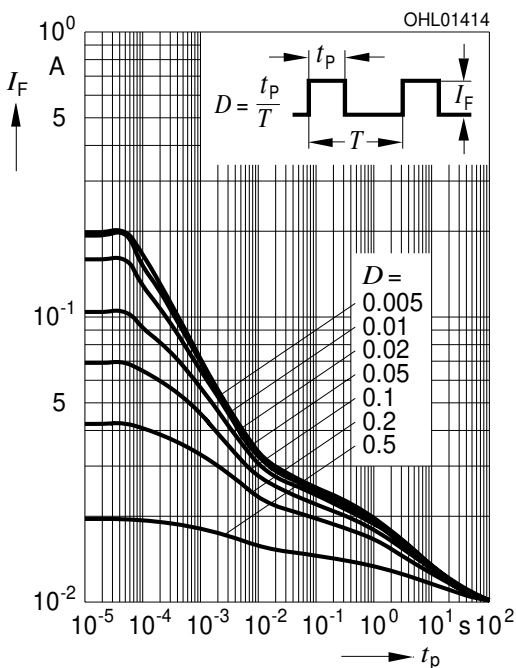
$I_F = 20\text{ mA}$



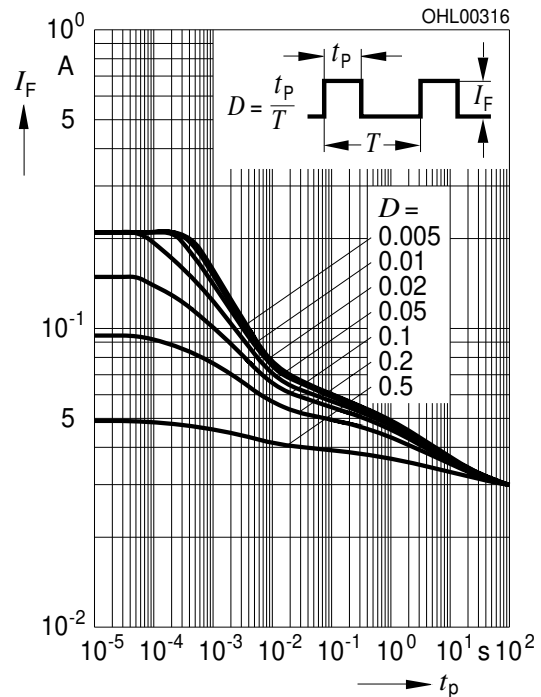
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$
Permissible Pulse Handling Capability
 Duty cycle $D = \text{parameter}$, $T_A = 25^\circ\text{C}$
LS, LA, LO



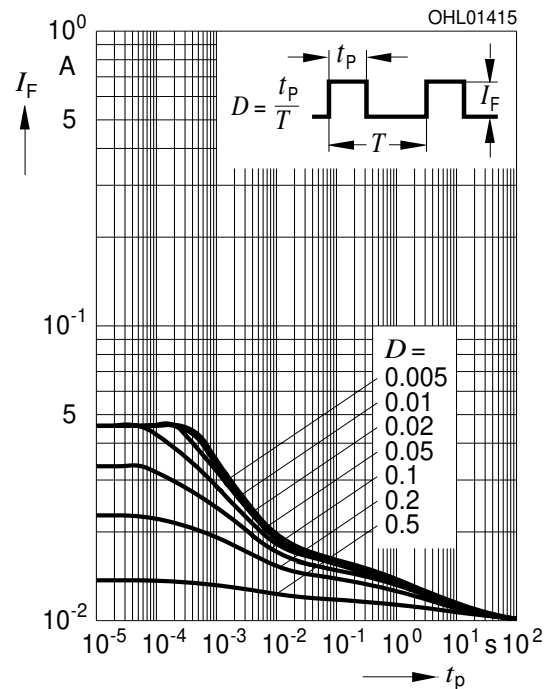
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$
Permissible Pulse Handling Capability
 Duty cycle $D = \text{parameter}$, $T_A = 85^\circ\text{C}$
LS, LA, LO



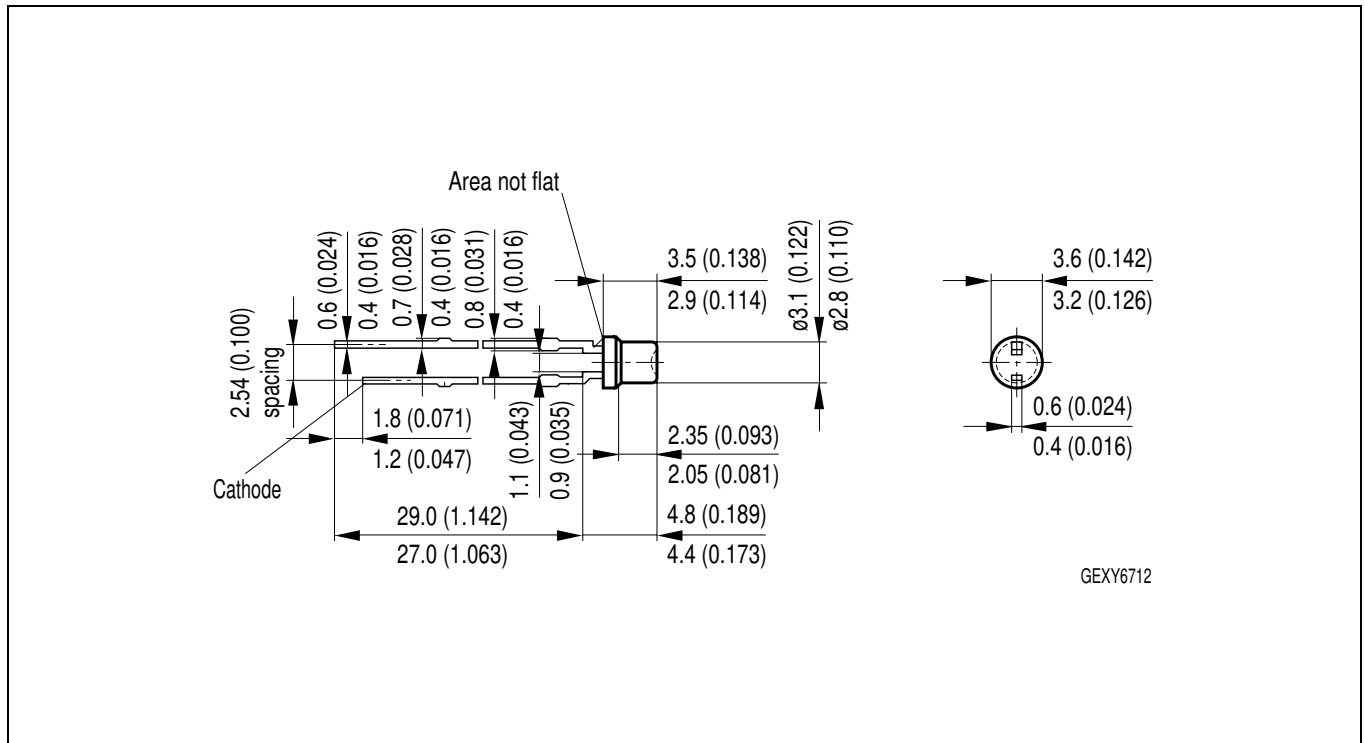
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$
Permissible Pulse Handling Capability
 Duty cycle $D = \text{parameter}$, $T_A = 25^\circ\text{C}$
LY



Zulässige Impulsbelastbarkeit $I_F = f(t_p)$
Permissible Pulse Handling Capability
 Duty cycle $D = \text{parameter}$, $T_A = 85^\circ\text{C}$
LY



**Maßzeichnung
Package Outlines**

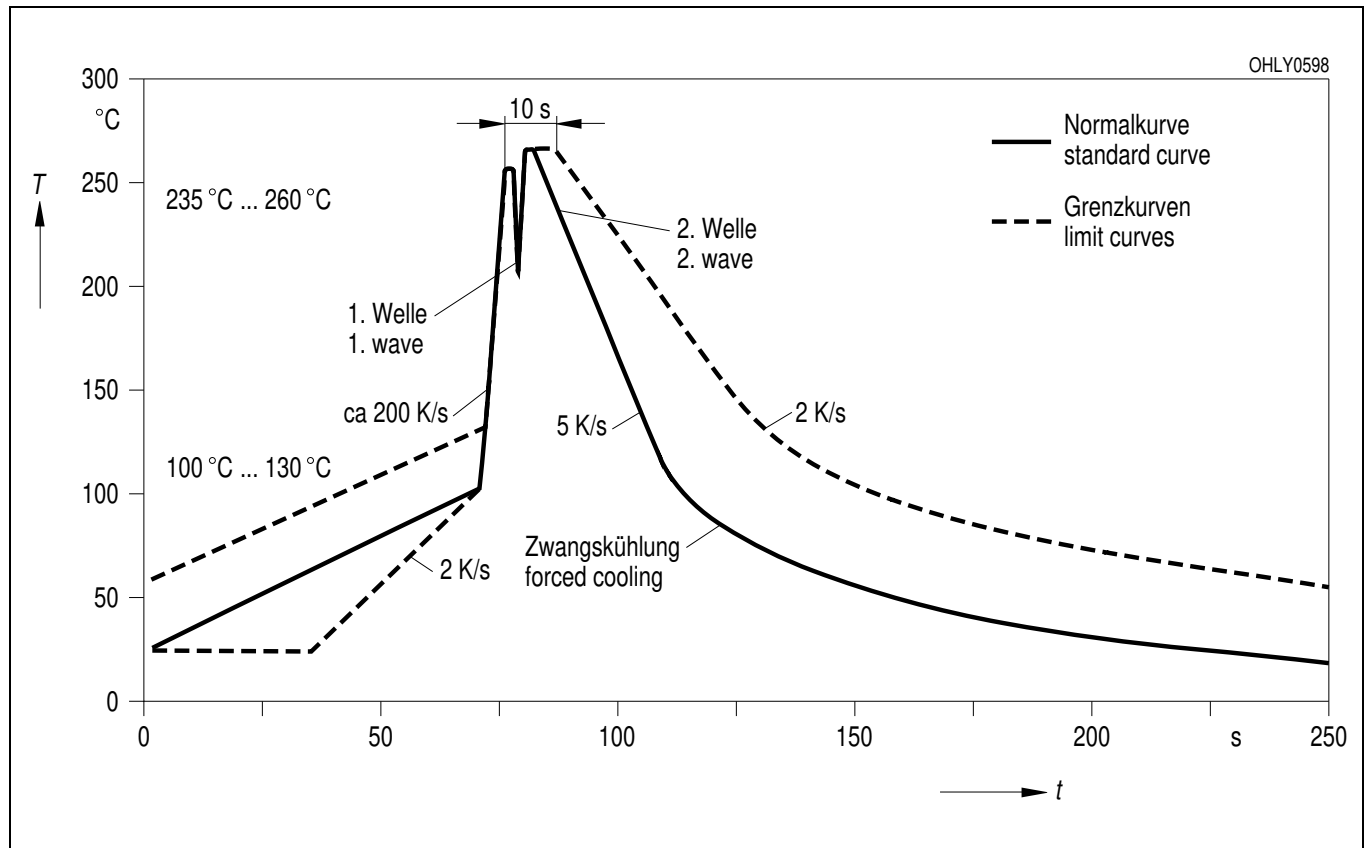


Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

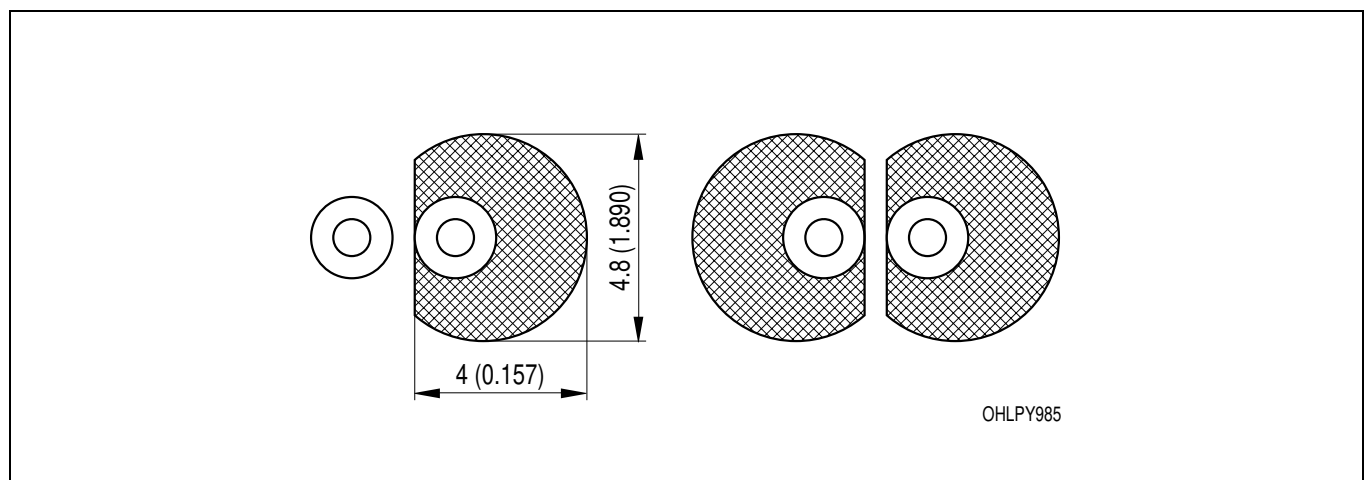
Kathodenkennung: kürzerer Lötspieß
Cathode mark: short solder lead
Gewicht / Approx. weight: 0.2 g

Lötbedingungen Soldering Conditions

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



Empfohlenes Lötpaddesign Wellenlöten (TTW)
Recommended Solder Pad TTW Soldering



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