

Super ARGUS® LED

High-Current, 3 mm (T1) LED, Non Diffused

LG K382, LP K382



Besondere Merkmale

- **Gehäusotyp:** eingefärbtes, klares 3 mm (T1) Gehäuse mit spezieller Linse
- **Besonderheit des Bauteils:** mit Einsatz eines äußeren Reflektors zur Hinterleuchtung von Lichtfeldern und LCD-Anzeigen; Lötspieße mit Aufsetzebene; höherer zulässiger Betriebsstrom
- **Wellenlänge:** 570 nm (grün), 560 nm (pure green)
- **Abstrahlwinkel:** angepasst an Einsatz mit äußerem Reflektor, siehe Diagramm
- **Technologie:** GaAsP (grün), GaP (pure green)
- **optischer Wirkungsgrad:** 1,5 lm/W (grün), 0,6 lm/W (pure green)
- **Gruppierungsparameter:** Lichtstrom
- **Lötmethode:** Wellenlöten (TTW)
- **Verpackung:** Schüttgut, gegurtet lieferbar (2000/Rolle)

Anwendungen

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

Features

- **package:** colored, 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; higher permissible forward current
- **wavelength:** 570 nm (green), 560 nm (pure green)
- **viewing angle:** matched to use with external reflector, see diagram
- **technology:** GaAsP (green), GaP (pure green)
- **optical efficiency:** 1.5 lm/W (green), 0.6 lm/W (pure green)
- **grouping parameter:** luminous flux
- **soldering methods:** TTW soldering
- **packing:** bulk, available taped on reel (2000/reel)

Applications

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

Typ Type	Emissionsfarbe Color of Emission	Gehäusefarbe Color of Package	Lichtstrom Luminous Flux $I_F = 50 \text{ mA}$ $\Phi_V \text{ (lm)}$	Bestellnummer Ordering Code
■ LG K382-QT	green	green clear	71 ... 450	Q62703-Q2642
■ LG K382-R			112 ... 180	Q62703-Q2643
■ LG K382-S			180 ... 280	Q62703-Q2644
■ LG K382-T			280 ... 450	Q62703-Q2645
■ LG K382-RU			112 ... 710	Q62703-Q1959
■ LP K382-NR	pure green	colorless clear	28 ... 180	Q62703-Q2646
■ LP K382-P			45 ... 71	Q62703-Q2339
■ LP K382-Q			71 ... 112	Q62703-Q2338
■ LP K382-R			112 ... 180	Q62703-Q2337
■ LP K382-PS			45 ... 280	Q62703-Q2123

■ Nicht für Neuentwicklungen / Not for new designs.

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 a tolerance of $\pm 11 \%$.

Anm.: Die Standardlieferform von Serientypen beinhaltet eine untere bzw. eine obere Familiengruppe oder mindestens zwei Einzelgruppen.

In einer Verpackungseinheit / Gurt ist immer nur eine Helligkeitsgruppe enthalten.

Die technologiebedingte Helligkeits-Streuung der heutigen LED-Herstellprozesse über einen längeren Fertigungszeitraum (Halbleitermaterial - Chipherstellung - Montageprozess) erlaubt keine Zusage einer einzelnen Helligkeitsgruppe. Daher müssen mindestens zwei Helligkeitsgruppen vorgesehen werden!

Note: The standard shipping format for serial types includes a lower or upper family group or at least two individual groups.

No packing unit / tape ever contains more than one luminous intensity group.

Luminosity variations caused by the technology used in current LED manufacturing processes over a protracted manufacturing period (semiconductor material - chip fabrication - assembly process) mean that it is not possible to assign LEDs to a single luminous intensity group. For this reason at least two luminous intensity groups must be provided!

Grenzwerte
Maximum Ratings

Bezeichnung Parameter	Symbol Symbol	Wert Value	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	75	mA
Stoßstrom Surge current $t \leq 10 \mu s, D = 0.005$	I_{FM}	1	A
Sperrspannung Reverse voltage	V_R	5	V
Leistungsaufnahme Power consumption $T_A \leq 25 \text{ °C}$	P_{tot}	270	mW
Wärmewiderstand Thermal resistance Sperrschicht/Umgebung Junction/air	$R_{th JA}$	250	K/W
Sperrschicht/Löt看 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	$R_{th JS}$	70	K/W

Kennwerte ($T_A = 25\text{ °C}$)

Characteristics

Bezeichnung Parameter	Symbol Symbol	Werte Values		Einheit Unit
		LG	LP	
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission $I_F = 50\text{ mA}$	λ_{peak}	572	557	nm
Dominantwellenlänge ¹⁾ (typ.) Dominant wavelength $I_F = 50\text{ mA}$	λ_{dom}	570	560	nm
Spektrale Bandbreite bei 50 % $\Phi_{\text{rel max}}$ (typ.) Spectral bandwidth at 50 % $\Phi_{\text{rel max}}$ $I_F = 50\text{ mA}$	$\Delta\lambda$	25	22	nm
Durchlassspannung ²⁾ (typ.) Forward voltage (max.) $I_F = 50\text{ mA}$	V_F V_F	2.6 3.1	2.6 3.1	V V
Sperrstrom (typ.) Reverse current (max.) $V_R = 5\text{ V}$	I_R I_R	0.01 10	0.01 10	μA μA
Temperaturkoeffizient von λ_{peak} (typ.) Temperature coefficient of λ_{peak} $I_F = 50\text{ mA}; -10\text{ °C} \leq T \leq 100\text{ °C}$	$TC_{\lambda_{\text{peak}}}$	0.11	0.11	nm/K
Temperaturkoeffizient von λ_{dom} (typ.) Temperature coefficient of λ_{dom} $I_F = 50\text{ mA}; -10\text{ °C} \leq T \leq 100\text{ °C}$	$TC_{\lambda_{\text{dom}}}$	0.07	0.05	nm/K
Temperaturkoeffizient von V_F (typ.) Temperature coefficient of V_F $I_F = 50\text{ mA}; -10\text{ °C} \leq T \leq 100\text{ °C}$	TC_V	-2.0	-2.0	mV/K
Optischer Wirkungsgrad (typ.) Optical efficiency $I_F = 50\text{ mA}$	η_{opt}	1.5	0.6	lm/W

¹⁾ Wellenlängen werden mit einer Stromeinprägungsdauer von 25 ms und einer Genauigkeit von $\pm 1\text{ nm}$ ermittelt.
Wavelengths are tested at a current pulse duration of 25 ms and a tolerance of $\pm 1\text{ nm}$.

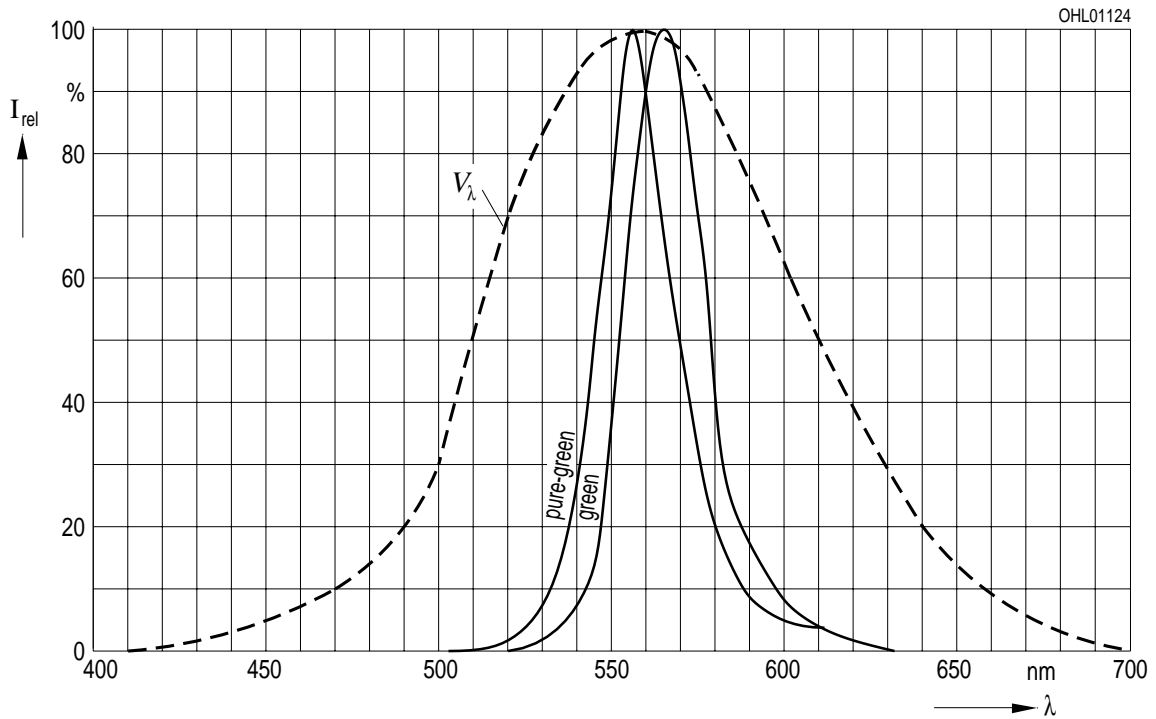
²⁾ Spannungswerte werden mit einer Stromeinprägungsdauer von 1 ms und einer Genauigkeit von $\pm 0.1\text{ V}$ ermittelt.
Voltages are tested at a current pulse duration of 1 ms and a tolerance of $\pm 0.1\text{ V}$.

Relative spektrale Emission $I_{rel} = f(\lambda)$, $T_A = 25\text{ °C}$, $I_F = 50\text{ mA}$

Relative Spectral Emission

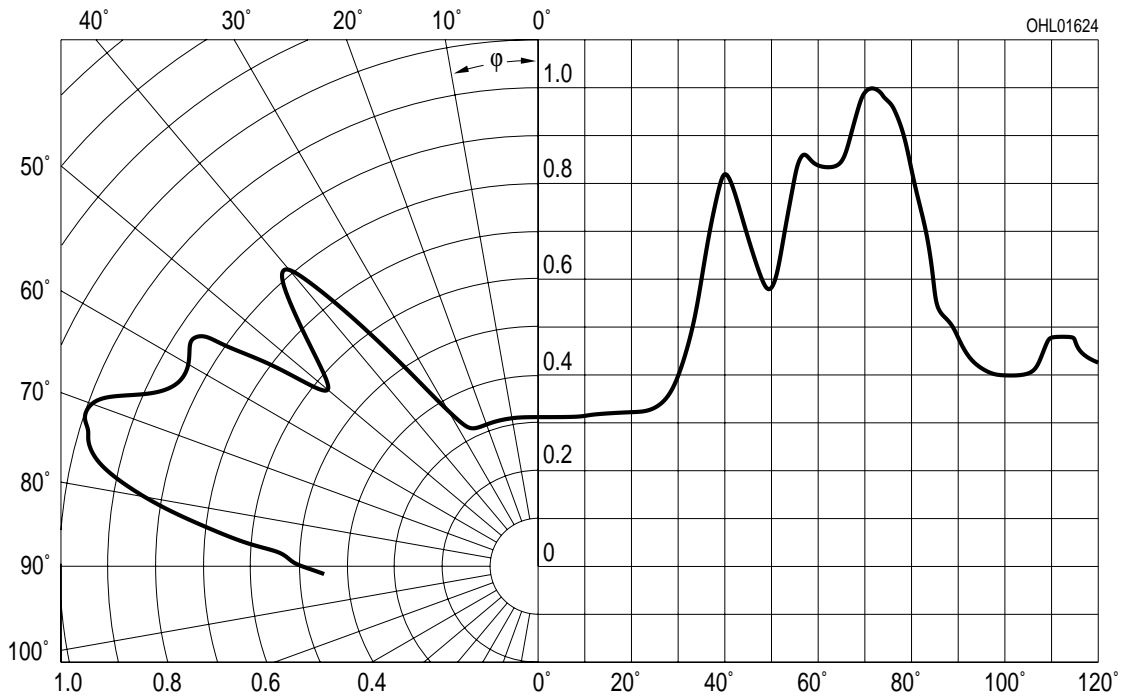
$V(\lambda)$ = spektrale Augenempfindlichkeit

Standard eye response curve



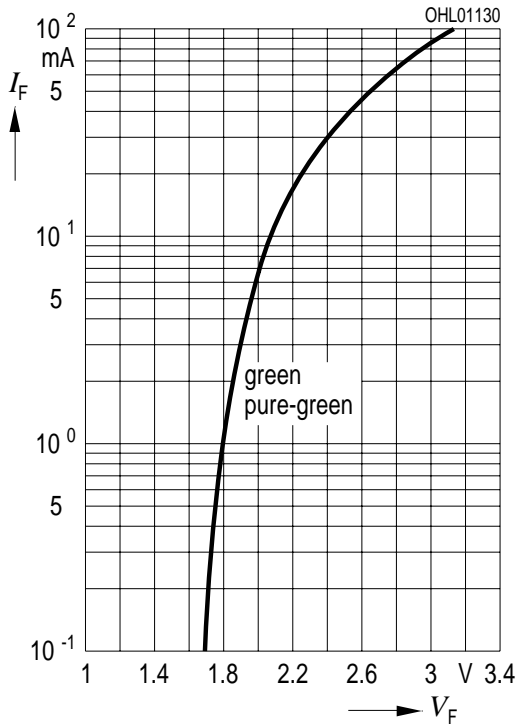
Abstrahlcharakteristik $I_{rel} = f(\varphi)$

Radiation Characteristic



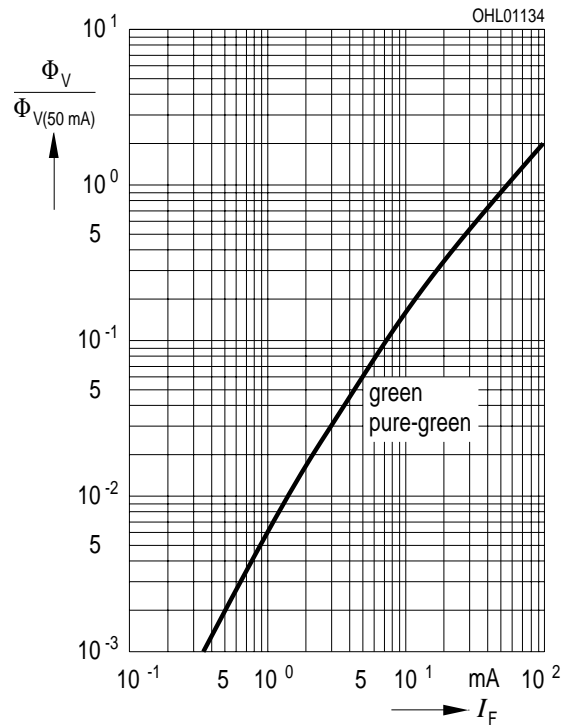
Durchlassstrom $I_F = f(V_F)$
Forward Current

$T_A = 25\text{ °C}$

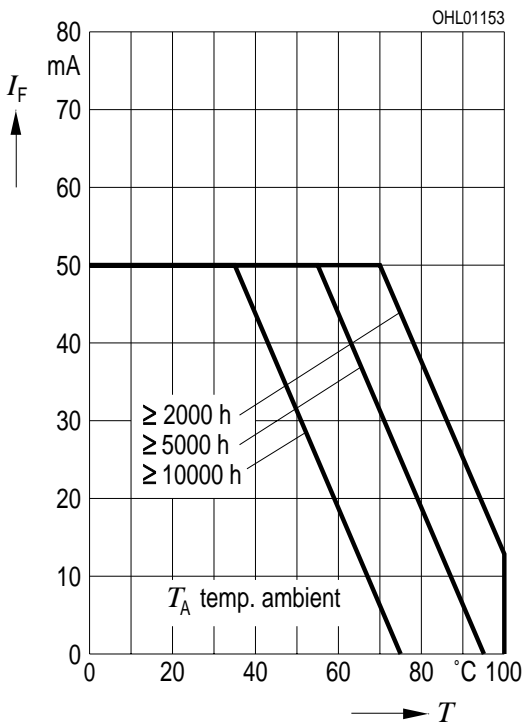


Relativer Lichtstrom $\Phi_V/\Phi_{V(50\text{ mA})} = f(I_F)$
Relative Luminous Flux

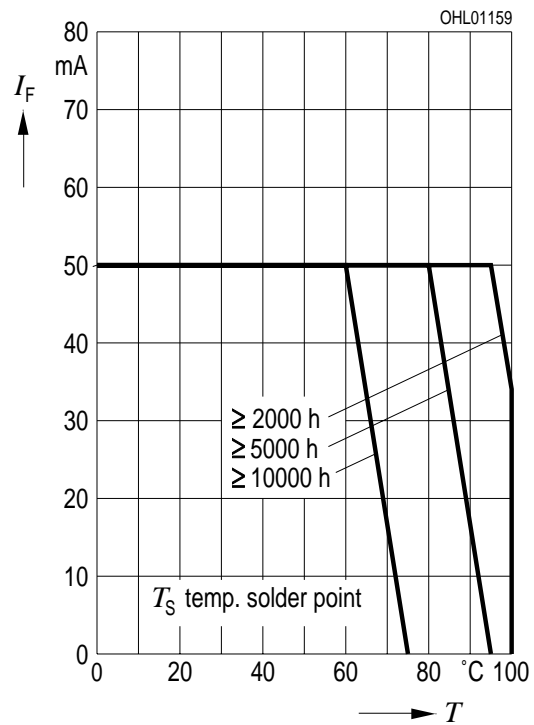
$T_A = 25\text{ °C}$



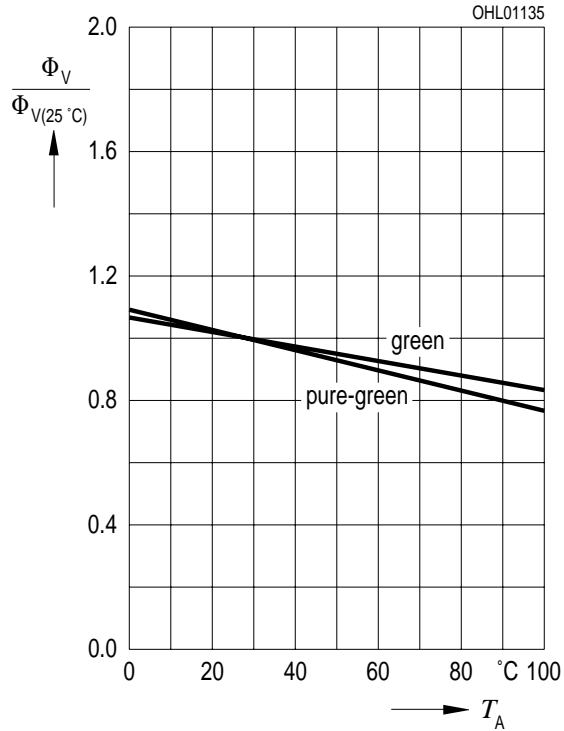
Maximal zulässiger Durchlassstrom $I_F = f(T)$
Max. Permissible Forward Current



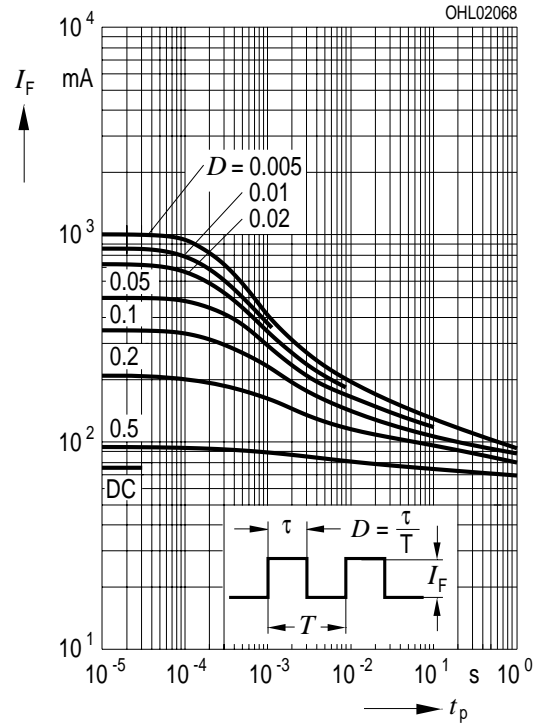
Maximal zulässiger Durchlassstrom $I_F = f(T)$
Max. Permissible Forward Current



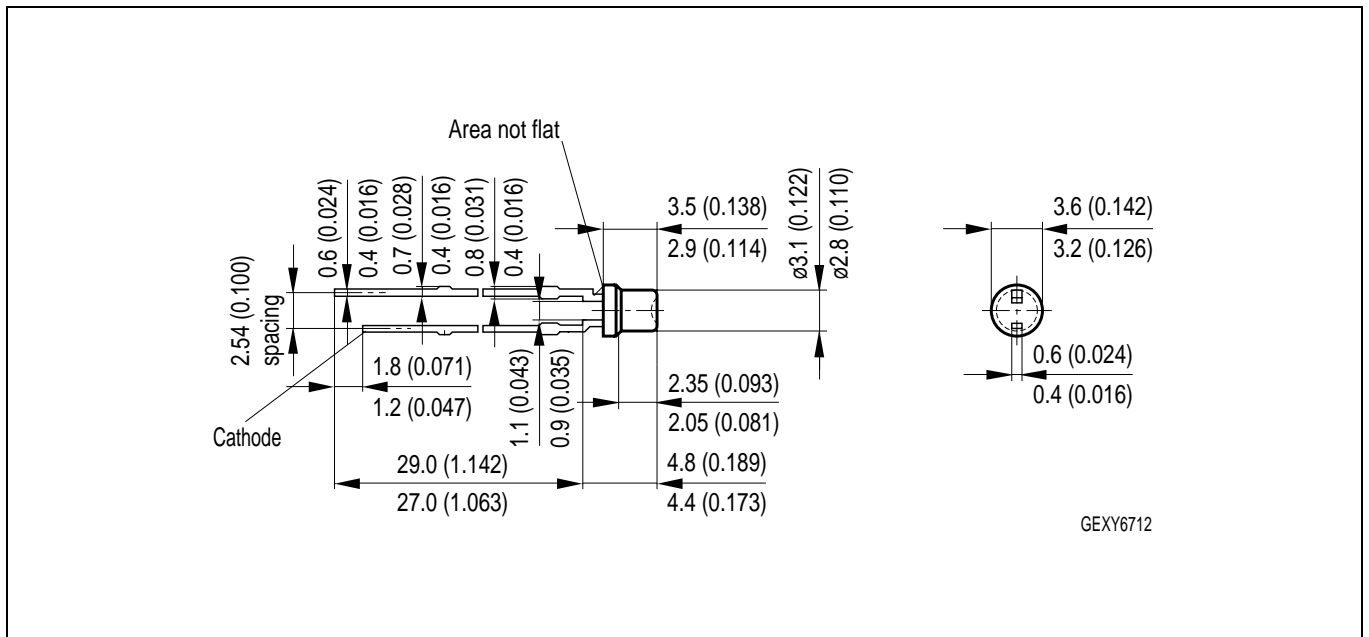
Relativer Lichtstrom $\Phi_V/\Phi_{V(25\text{ °C})} = f(T_A)$
Relative Luminous Flux
 $I_F = 50\text{ mA}$



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



Maßzeichnung
Package Outlines

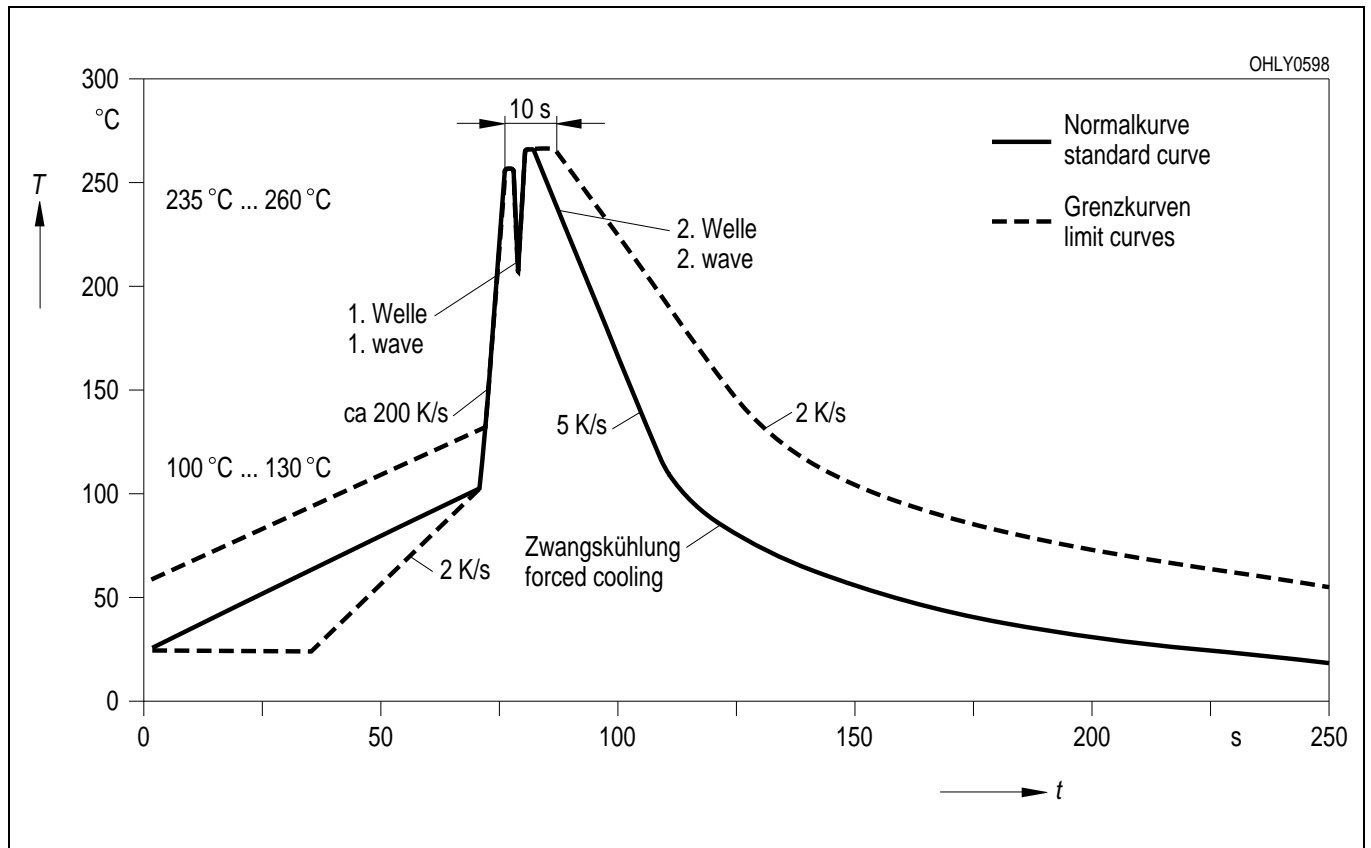


Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

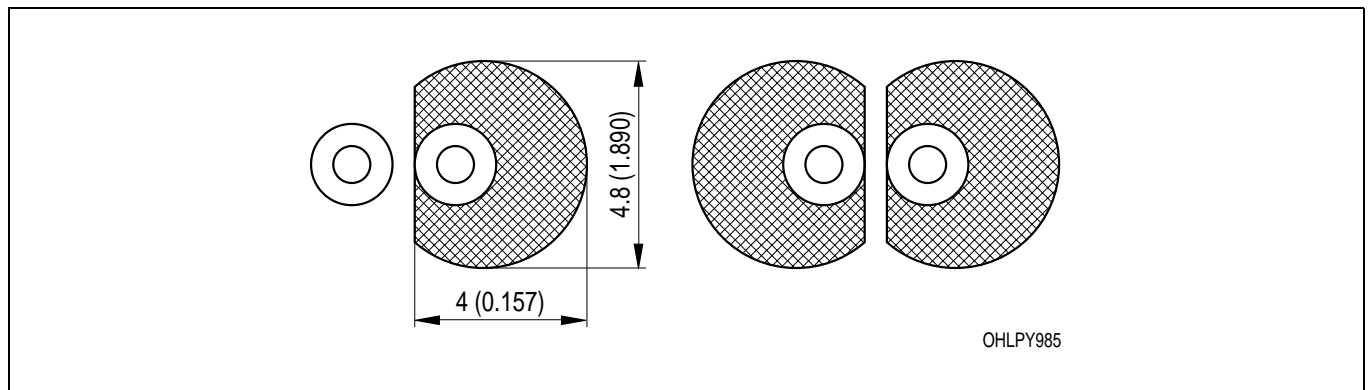
Kathodenkennung: kürzerer Lötspieß
Cathode mark: short solder lead
Gewicht / Approx. weight: 160 mg

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).

Revision History: 2001-03-12

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Page	Subjects (major changes since last revision)

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Components used in life-support devices or systems must be expressly authorized for such purpose! Critical components ¹ may only be used in life-support devices or systems ² with the express written approval of OSRAM OS.

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