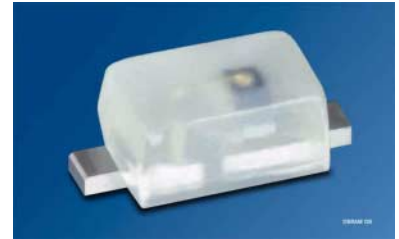


LG L890

Abgekündigt nach OS-PD-2005-003
Obsolete acc. to OS-PD-2005-003



Vorläufige Daten - Preliminary Data

Besondere Merkmale

- **Gehäusotyp:** SMT Gehäuse SCD 80, farbloser diffuser Verguss
- **Besonderheit des Bauteils:** kleinste Bauform 1,7 mm x 0,8 mm x 0,65 mm (LxBxH)
- **Wellenlänge:** 570 nm (grün)
- **Abstrahlwinkel:** extrem breite Abstrahlcharakteristik (160°)
- **Technologie:** GaAsP
- **optischer Wirkungsgrad:** 2,5 lm/W
- **Gruppierungsparameter:** Lichtstärke
- **Verarbeitungsmethode:** für alle SMT-Bestücktechniken geeignet
- **Lötmethode:** IR Reflow Löten und Wellenlöten (TTW)
- **Vorbehandlung:** nach JEDEC Level 2
- **Gurtung:** 8-mm Gurt mit 5000/Rolle bzw. 10000/Rolle, ø180 mm

Anwendungen

- Informationsanzeigen im Innenbereich
- optischer Indikator
- Flache Hinterleuchtung (LCD, Mobile Phone, Schalter, Display)
- Spielsachen

Features

- **package:** SMT package SCD 80, colorless diffused
- **feature of the device:** smallest package 1.7 mm x 0.8 mm x 0.65 mm (LxWxH)
- **wavelength:** 570 nm (green)
- **viewing angle:** extremely wide (160°)
- **technology:** GaAsP
- **optical efficiency:** 2.5 lm/W
- **grouping parameter:** luminous intensity
- **assembly methods:** suitable for all SMT assembly methods
- **soldering methods:** IR reflow soldering and TTW soldering
- **preconditioning:** acc. to JEDEC Level 2
- **taping:** 8 mm tape with 5000/reel resp. 10000/reel, ø180 mm

Applications

- indoor displays
- optical indicators
- flat backlighting (LCD, cellular phones, switches, displays)
- toys

Typ Type	Emissions- farbe Color of Emission	Lichtstärke Luminous Intensity $I_F = 20 \text{ mA}$ $I_V \text{ (mcd)}$	Lichtstrom Luminous Flux $I_F = 20 \text{ mA}$ $\Phi_V \text{ (lm)}$	Bestellnummer Ordering Code
■ LG L890-K1L1-1 ■ LG L890-L1M2-1	green	7.1 ... 14.0 11.2 ... 28.0	40 (typ.) 80 (typ.)	Q62703Q6022 Q62703Q6156

- Abgekündigt nach OS-PD-2005-003 - werden durch LG L29K RoHS Compliant ersetzt werden
 Obsolete acc. to OS-PD-2005-003 - will be replaced by LG L29K RoHS Compliant
 Letzte Bestellung / Last Order: 2005-08-31
 Letzte Lieferung / Last Delivery: 2006-02-28

Anm.: -1 gesamter Farbbereich (siehe **Seite 4**)

Die Standardlieferform von Serientypen beinhaltet eine untere bzw. eine obere Familiengruppe. Diese besteht aus 3 bzw. 4 Helligkeitshalbgruppen besteht. Einzelne Helligkeitshalbgruppen sind nicht bestellbar.

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

Note: -1 Total color tolerance range (see **page 4**)

The standard shipping format for serial types includes a lower or upper family group of 3 or 4 individual luminous intensity half groups. Individual luminous intensity half groups cannot be ordered.

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

Grenzwerte
Maximum Ratings

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Betriebstemperatur Operating temperature range	T_{op}	- 40 ... + 100	°C
Lagertemperatur Storage temperature range	T_{stg}	- 40 ... + 100	°C
Sperrschichttemperatur Junction temperature	T_j	+ 110	°C
Durchlassstrom Forward current ($T_A=25^{\circ}\text{C}$)	I_F	20	mA
Stoßstrom Surge current $t_p = 10 \mu\text{s}$, $D = 0.1$, $T_A=25^{\circ}\text{C}$	I_{FM}	100	mA
Sperrspannung ¹⁾ Reverse voltage ($T_A=25^{\circ}\text{C}$)	V_R	12	V
Leistungsaufnahme Power consumption ($T_A=25^{\circ}\text{C}$)	P_{tot}	95	mW
Wärmewiderstand Thermal resistance Sperrschicht/Umgebung ²⁾ Junction/ambient ²⁾	$R_{th JA}$	500	K/W
Sperrschicht/Lötpad Junction/solder point	$R_{th JS}$	290	K/W

¹⁾ für kurzzeitigen Betrieb geeignet / suitable for short term application

²⁾ Montage auf PC-Board FR 4 (Padgröße $\geq 5 \text{ mm}^2$)
mounted on PC board FR 4 (pad size $\geq 5 \text{ mm}^2$)

Kennwerte ($T_A = 25\text{ °C}$)
Characteristics

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission $I_F = 20\text{ mA}$	λ_{peak}	572	nm
Dominantwellenlänge ¹⁾ Dominant wavelength $I_F = 20\text{ mA}$	λ_{dom}	570 ± 6	nm
Spektrale Bandbreite (typ.) Spectral bandwidth $I_F = 20\text{ mA}$	$\Delta\lambda$	25	nm
Abstrahlwinkel bei 50 % I_V (Vollwinkel) (typ.) Viewing angle at 50 % I_V	2ϕ	160	Grad deg.
Durchlassspannung ²⁾ (typ.) Forward voltage (max.) $I_F = 20\text{ mA}$	V_F V_F	2.2 2.5	V V
Sperrstrom (typ.) Reverse current (max.) $V_R = 12\text{ V}$	I_R I_R	0.01 10	μA μA
Temperaturkoeffizient von λ_{peak} (typ.) Temperature coefficient of λ_{peak} $I_F = 20\text{ mA}; -10^\circ\text{C} \leq T \leq 100^\circ\text{C}$	$TC_{\lambda_{\text{peak}}}$	0.11	nm/K
Temperaturkoeffizient von λ_{dom} (typ.) Temperature coefficient of λ_{dom} $I_F = 20\text{ mA}; -10^\circ\text{C} \leq T \leq 100^\circ\text{C}$	$TC_{\lambda_{\text{dom}}}$	0.07	nm/K
Temperaturkoeffizient von V_F (typ.) Temperature coefficient of V_F $I_F = 20\text{ mA}; -10^\circ\text{C} \leq T \leq 100^\circ\text{C}$	TC_V	- 1.4	mV/K
Optischer Wirkungsgrad (typ.) Optical efficiency $I_F = 20\text{ mA}$	η_{opt}	2.5	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 $\pm 0.1\text{ V}$.

Helligkeits-Gruppierungsschema Luminous Intensity Groups

Lichtgruppe Luminous Intensity Group	Lichtstärke Luminous Intensity I_v (mcd)	Lichtstrom Luminous Flux Φ_v (lm)
K1	7.1 ... 9.0	30 (typ.)
K2	9.0 ... 11.2	40 (typ.)
L1	11.2 ... 14.0	50 (typ.)
L2	14.0 ... 18.0	65 (typ.)
M1	18.0 ... 22.4	80 (typ.)
M2	22.4 ... 28.0	100 (typ.)

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 $\pm 11\%$.

Gruppenbezeichnung auf Etikett Group Name on Label

Beispiel: K1

Example: K1

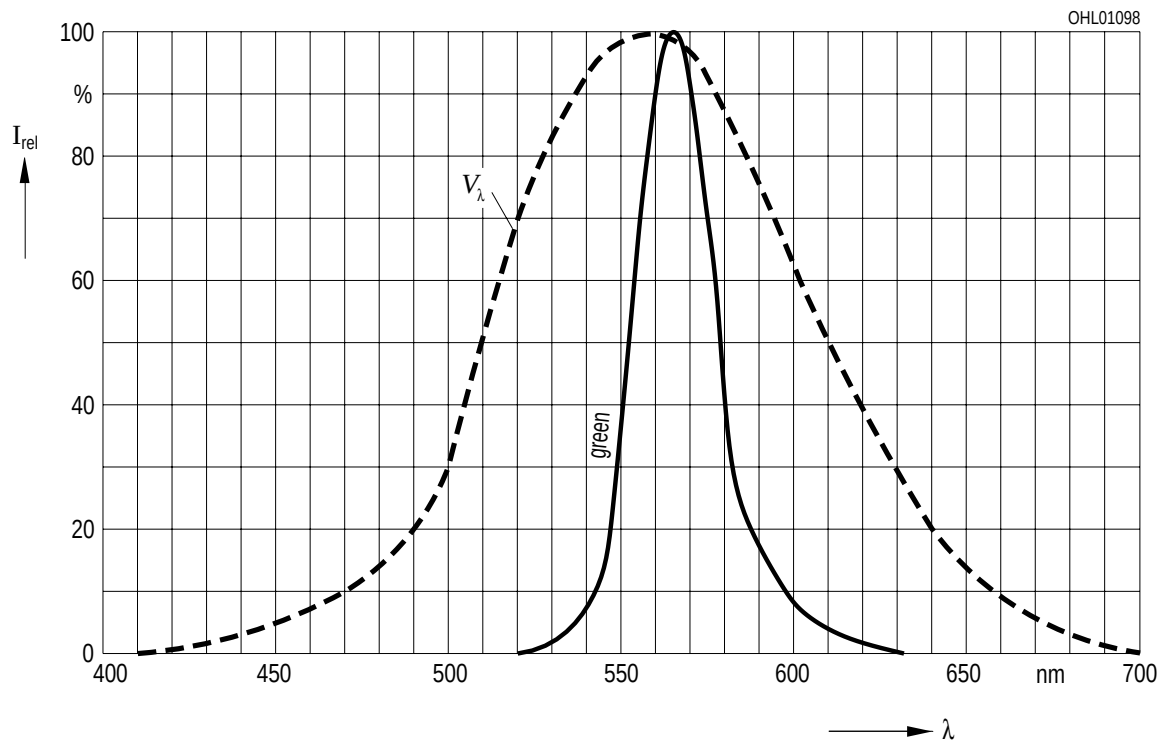
Lichtgruppe Luminous Intensity Group	Halbgruppe Half Group
K	1

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

Relative Spectral Emission

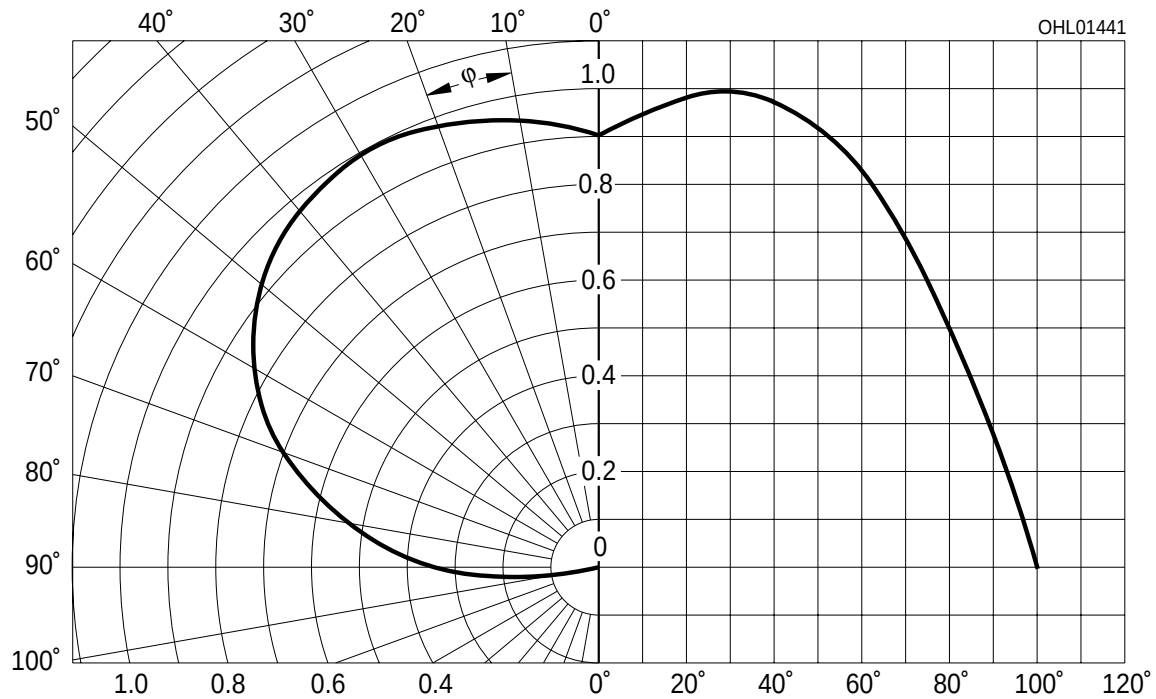
$V(\lambda)$ = spektrale Augenempfindlichkeit

Standard eye response curve



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

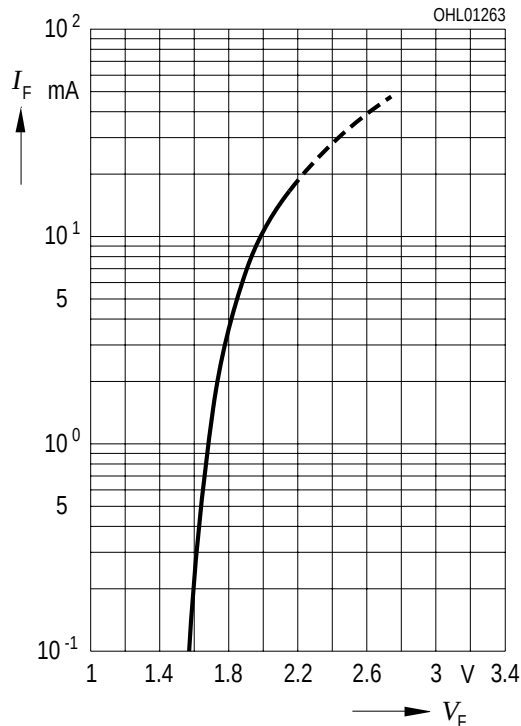
Radiation Characteristic



Durchlassstrom $I_F = f(V_F)$

Forward Current

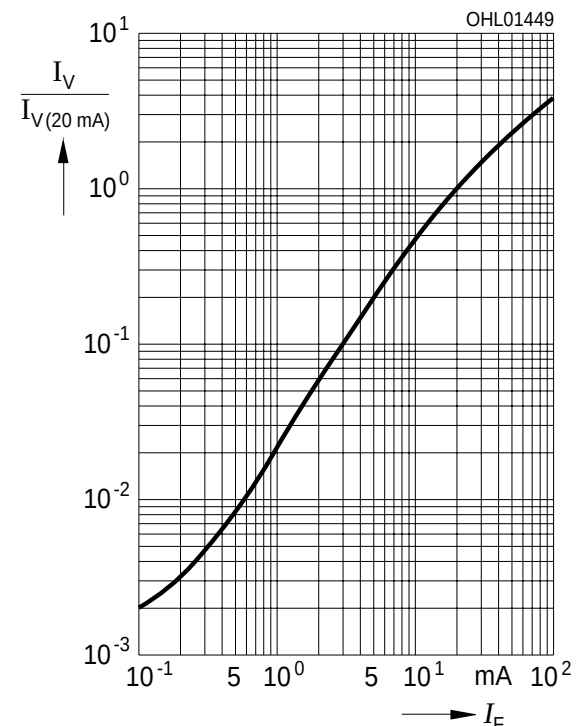
$T_A = 25\text{ °C}$



Relative Lichtstärke $I_V/I_{V(20\text{ mA})} = f(I_F)$

Relative Luminous Intensity

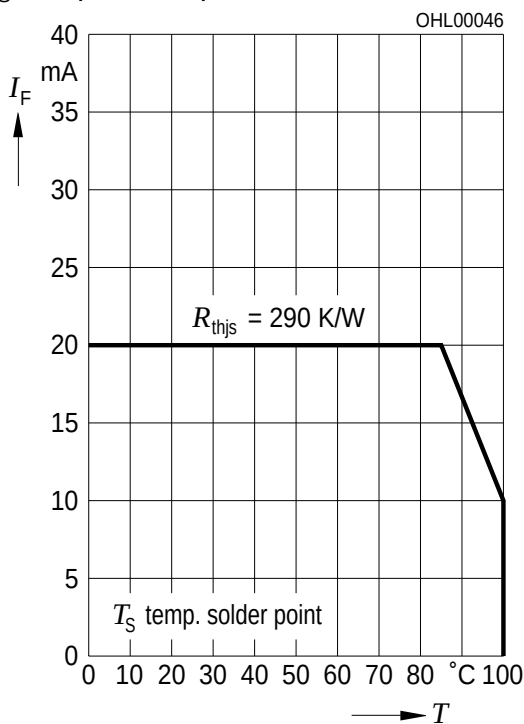
$T_A = 25\text{ °C}$



Maximal zulässiger Durchlassstrom $I_F = f(T_A)$

Max. Permissible Forward Current

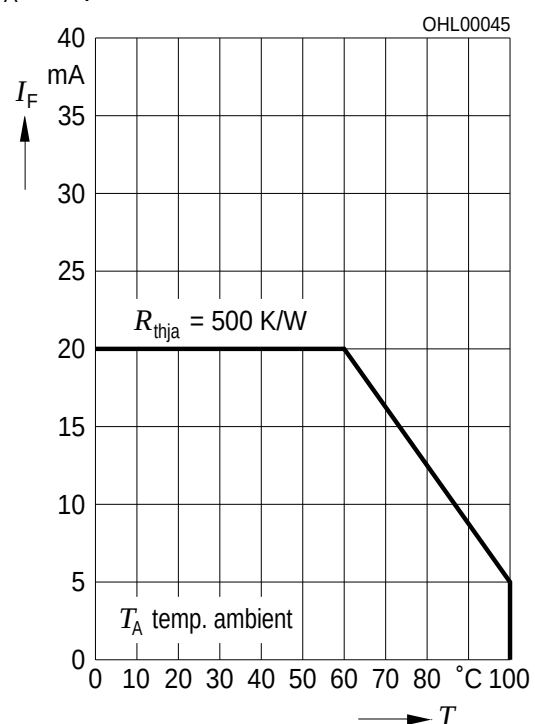
T_S : temp. solder point



Maximal zulässiger Durchlassstrom $I_F = f(T_A)$

Max. Permissible Forward Current

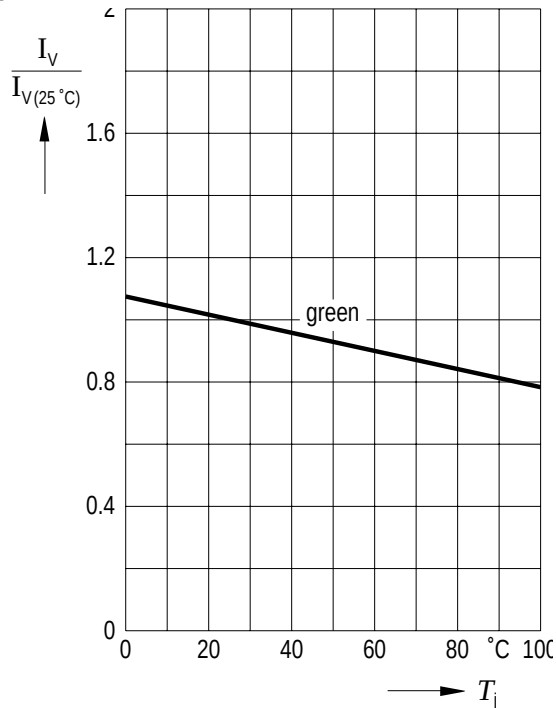
T_A : temp. ambient



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

Relative Luminous Intensity

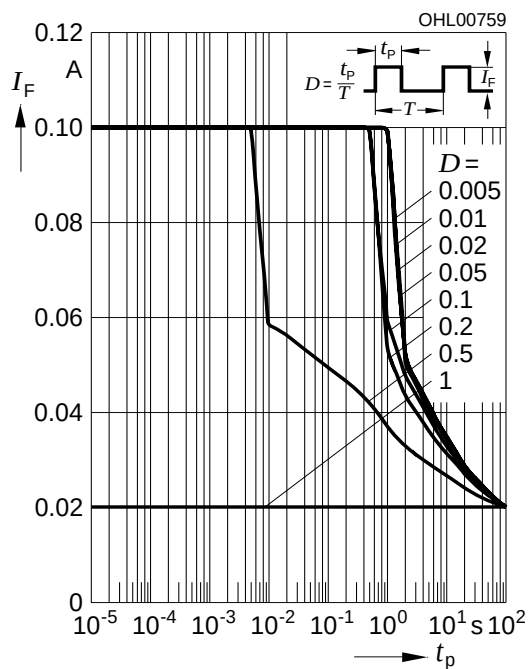
$I_F = 20 \text{ mA}$



Zulässige Impulsbelastbarkeit $I_F = f(t_p)$

Permissible Pulse Handling Capability

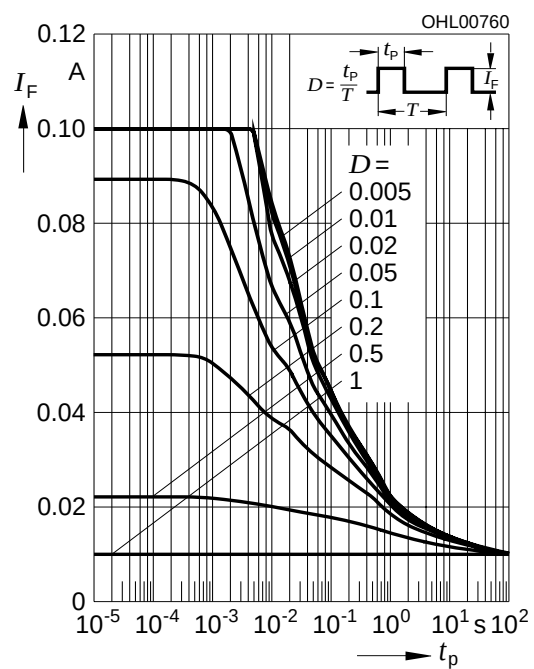
Duty cycle $D = \text{parameter}$, $T_A = 25^\circ\text{C}$



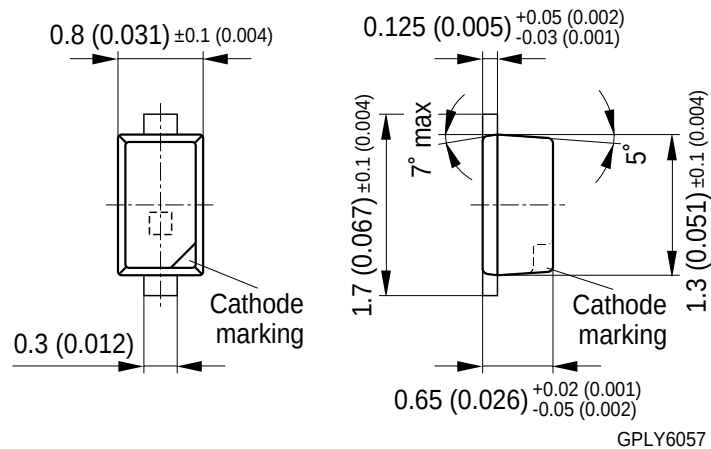
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$

Permissible Pulse Handling Capability

Duty cycle $D = \text{parameter}$, $T_A = 85^\circ\text{C}$



**Maßzeichnung
Package Outlines**

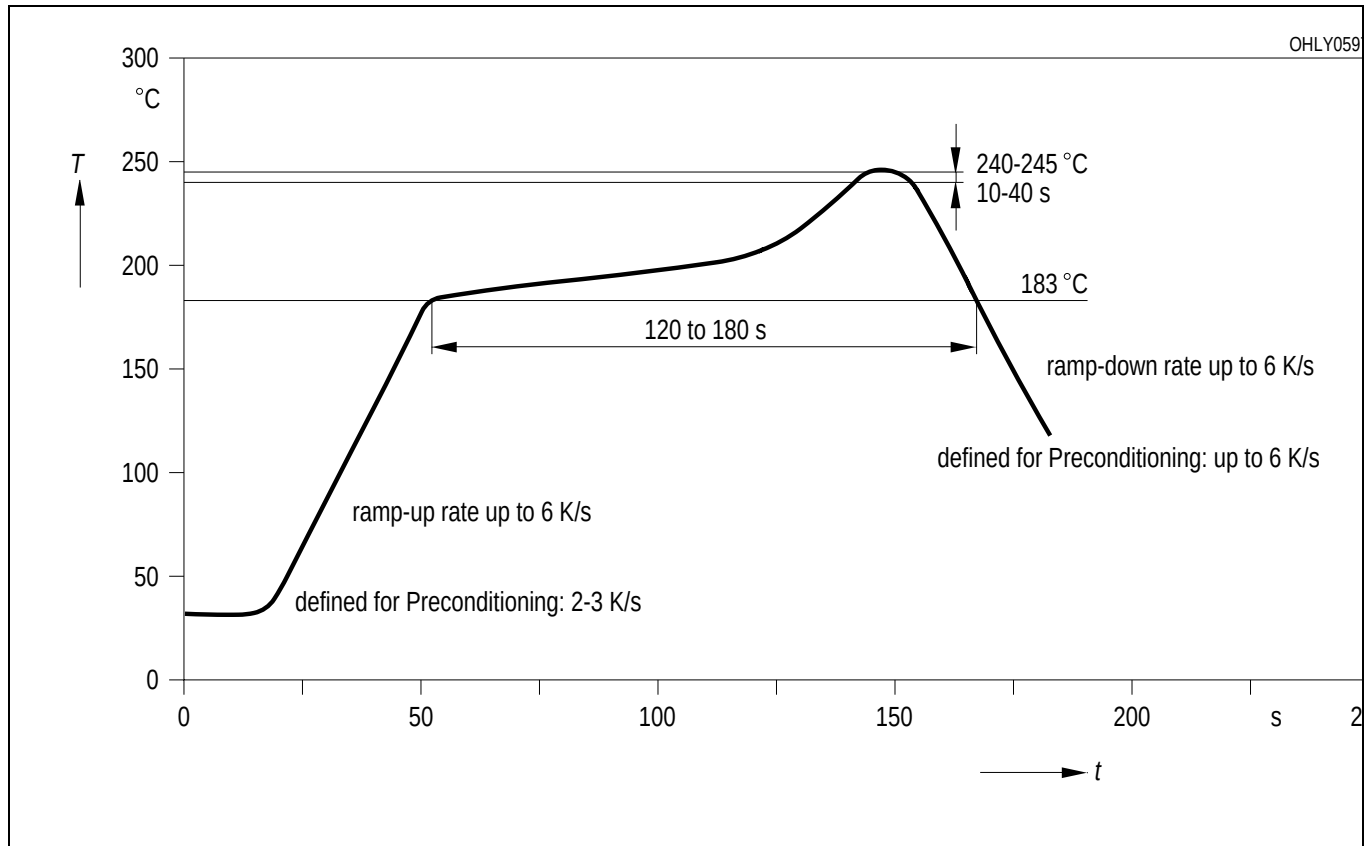


Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

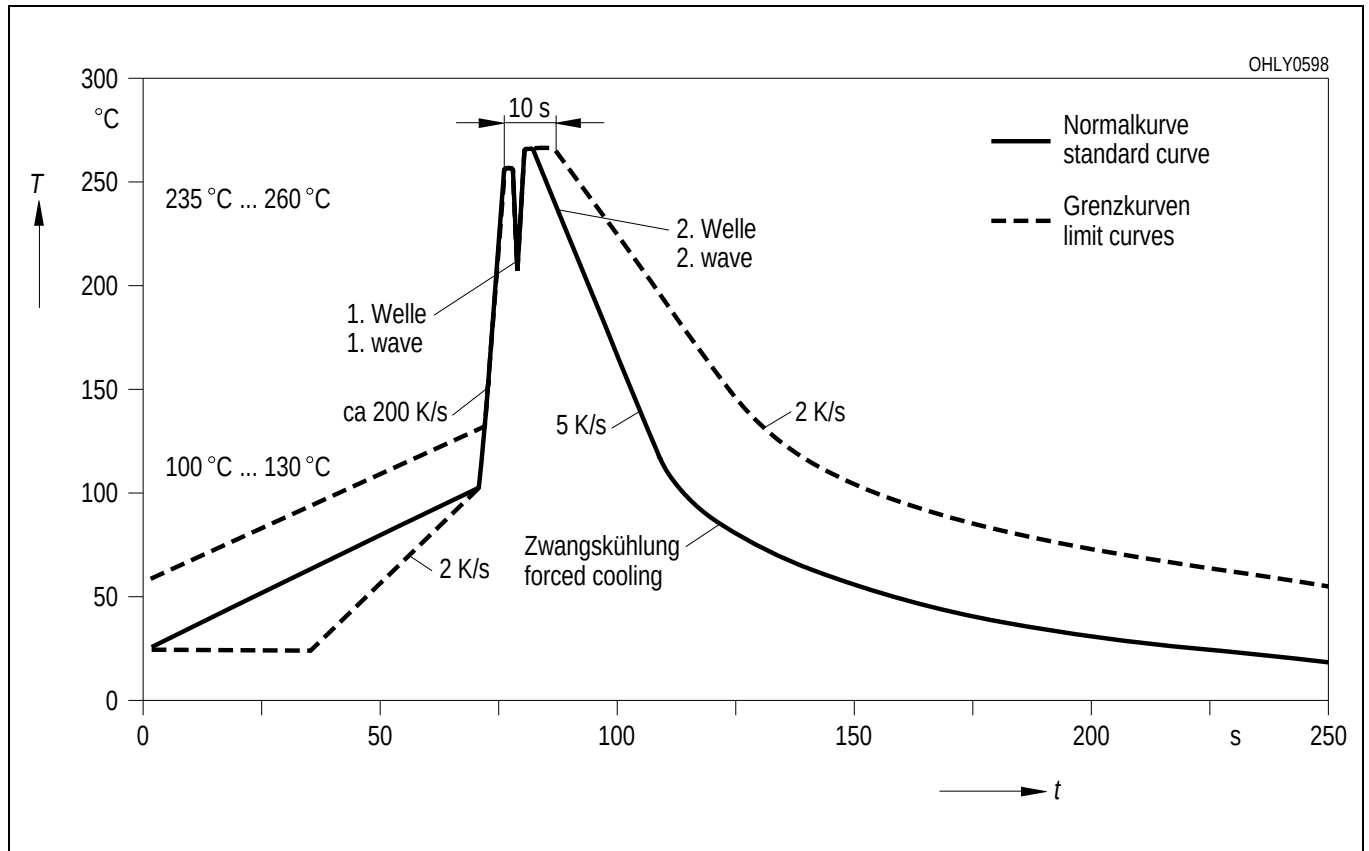
Gewicht / Approx. weight: 1.4 mg

Lötbedingungen Vorbehandlung nach JEDEC Level 2
Soldering Conditions Preconditioning acc. to JEDEC Level 2

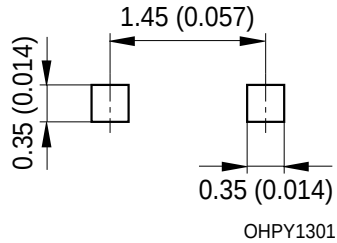
IR-Reflow Lötprofil (nach IPC 9501)
IR Reflow Soldering Profile (acc. to IPC 9501)



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

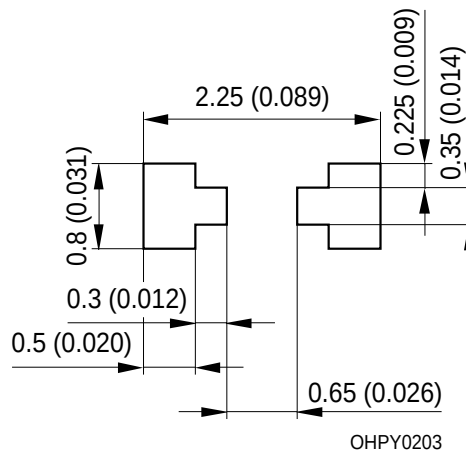


Empfohlenes Lötpaddesign IR Reflow Löten
Recommended Solder Pad IR Reflow Soldering



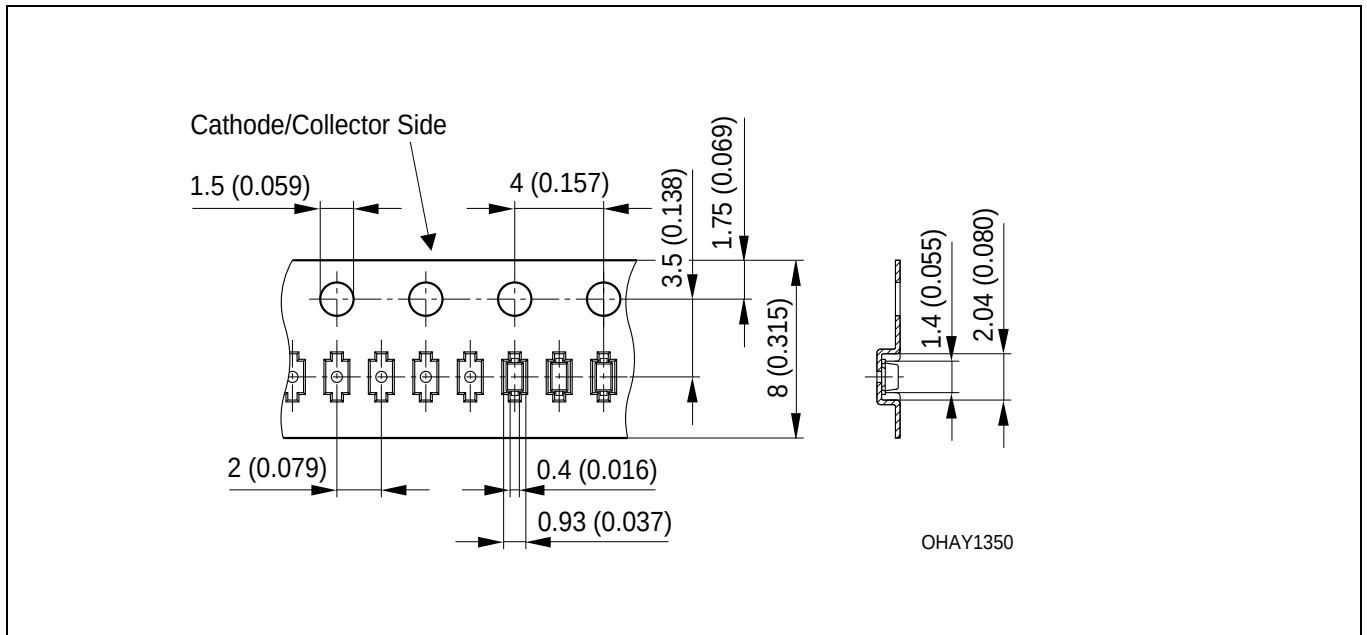
Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).
 Gehäuse hält TTW-Löthitze aus / Package able to withstand TTW-soldering heat

Empfohlenes Lötpaddesign verwendbar für SmartLED® und Chipled - Bauform 0603
 IR Reflow Löten
Recommended Solder Pad useable for SmartLED® and Chipled - Package 0603
 IR Reflow Soldering



Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).
 Empfohlene Lötpastendicke: 120 µm/ recommended thickness of solder paste: 120 µm
 Gehäuse für Wellenlöten (TTW) geeignet / Package suitable for TTW-soldering

Gurtung / Polarität und Lage Method of Taping / Polarity and Orientation



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

Verpackungseinheit:

- 8 mm Gurt mit 5000/Rolle, $\varnothing 180$ mm
- 8 mm Gurt mit 10000/Rolle, $\varnothing 180$ mm (auf Anfrage)

Packing unit:

- 8 mm tape with 5000/reel, $\varnothing 180$ mm
- 8 mm tape with 10000/reel, $\varnothing 180$ mm (on request)

Anm.: Bezüglich Trockenverpackung finden Sie weitere Hinweise im Internet und in unserem Short Form Catalog im Kapitel "Gurtung und Verpackung" unter dem Punkt "Trockenverpackung". Hier sind Normenbezüge, unter anderem ein Auszug der JEDEC-Norm, enthalten.

Note: Regarding dry pack you will find further information in the internet and in the Short Form Catalog in chapter "Tape and Reel" under the topic "Dry Pack". Here you will also find the normative references like JEDEC.

Revision History: 2004-03-02		Date of change
Previous Version: 2004-01-29		
Page	Subjects (major changes since last revision)	
2	changed resin from colorless clear to colorless diffused	
12	recommended solder pad	
9	Package Outlines	
3	pad size from 16 mm ² to 5 mm ²	
3	Surge current	
9	Permissible Pulse Handling Capability	
15	annotations	2002-07-23
3, 4	value (reverse voltage from 5 V to 12 V)	2002-09-18
1, 14	tape with 5000/reel and 10000/reel instead of 10000	2002-12-10
14	note: dry pack	2003-09-03
1	ESD norm	2003-09-03
3	ambient temperature	2003-09-03
all	not for new designs	2004-01-29
all	Product Discontinuation	2005-03-02

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Packing

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You must bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

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.

¹ A critical component is a component used in a life-support device or system whose failure can reasonably be expected to cause the failure of that life-support device or system, or to affect its safety or the effectiveness of that device or system.

² Life support devices or systems are intended (a) to be implanted in the human body, or (b) to support and/or maintain and sustain human life. If they fail, it is reasonable to assume that the health of the user may be endangered.