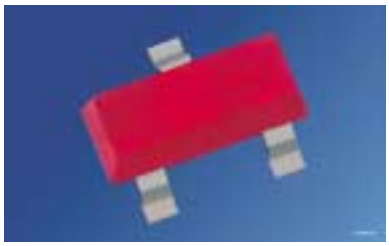
SOT-23 LED, Diffused

LS S260, LY S260, LG S260



Nicht für Neuentwicklungen / Not for New Designs

Besondere Merkmale

- **Gehäusetyp:** eingefärbtes, diffuses SOT-23-Gehäuse
- **Besonderheit des Bauteils:** kleine Bauform im Industriestandard 3,0 x 2,6 x 1,1 mm
- **Wellenlänge:** 628 nm (super-rot), 587 nm (gelb), 570 nm (grün)
- **Abstrahlwinkel:** 140°
- **Technologie:** GaAsP
- **optischer Wirkungsgrad:** 1,5 lm/W (super-rot, gelb), 2,5 lm/W (grün)
- **Gruppierungsparameter:** Lichtstärke
- **Verarbeitungsmethode:** für alle SMT-Bestücktechniken geeignet
- **Lötmethode:** IR Reflow Löten
- **Vorbehandlung:** nach JEDEC Level 2
- **Gurtung:** 8-mm Gurt mit 3000/Rolle, ø180 mm oder 12000/Rolle, ø330 mm

Features

- **package:** colored, diffused SOT-23 package
- **feature of the device:** small package in industry standard 3.0 x 2.6 x 1.1 mm
- **wavelength:** 628 nm (super-red), 587 nm (yellow), 570 nm (green)
- **viewing angle:** 140°
- **technology:** GaAsP
- **optical efficiency:** 1.5 lm/W (super-red, yellow), 2.5 lm/W (green)
- **grouping parameter:** luminous intensity
- **assembly methods:** suitable for all SMT assembly methods
- **soldering methods:** IR reflow soldering
- **preconditioning:** acc. to JEDEC Level 2
- **taping:** 8 mm tape with 3000/reel, ø180 mm or 12000/reel, ø330 mm

Anwendungen

- optischer Indikator
- Hinterleuchtung (LCD, Handy, Schalter, Tasten, Displays, Werbebeleuchtung, Allgemeinbeleuchtung

Applications

- optical indicators
- backlighting (LCD, cellular phones, switches, keys, displays, illuminated advertising, general lighting optical indicators

Typ Type	Emissionsfarbe Color of Emission	Lichtstärke Luminous Intensity I_F = 10 mA I_V (mcd)	Bestellnummer Ordering Code
LS S260-DO	super-red	≥ 0.45	Q62703Q1640
LY S260-DO	yellow	≥ 0.45	Q62703Q1657
LG S260-DO	green	≥ 0.45	Q62703Q1608

Helligkeitswerte werden mit einer Stromeinprägedauer von 25 ms und einer Genauigkeit von ±11 % ermittelt.
Luminous intensity is tested at a current pulse duration of 25 ms and a tolerance of ±11 %.

Anm.: Die Standardlieferform von Serientypen beinhaltet alle Gruppen. Einzelne Helligkeitsgruppen sind nicht bestellbar.
In einer Verpackungseinheit / Gurt ist immer nur eine Helligkeitsgruppe enthalten.

Note: The standard shipping format for serial types includes all luminous intensity groups. Individual luminous intensity groups cannot be ordered.
No packing unit / tape ever contains more than one luminous intensity group.

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 (T_A=25°C)	I_F	30	mA
Stoßstrom Surge current $t \leq 10$ µs, D = 0.005, T_A=25°C	I_{FM}	0.5	A
Sperrspannung[1)] Reverse voltage (T_A=25°C)	V_R	12	V
Leistungsaufnahme Power consumption (T_A=25°C)	P_{tot}	95	mW
Wärmewiderstand Thermal resistance Sperrschicht/Umgebung[2)] Junction/ambient[2)] Sperrschicht/Lötpad Junction/solder point Minimale Beinchenlänge Minimum lead length	 $R_{th\ JA}$ $R_{th\ JS}$	 750 350	 K/W K/W

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

2) Montage auf PC-Board FR 4 (Padgröße ≥ 16 mm^2)
mounted on PC board FR 4 (pad size ≥ 16 mm^2)

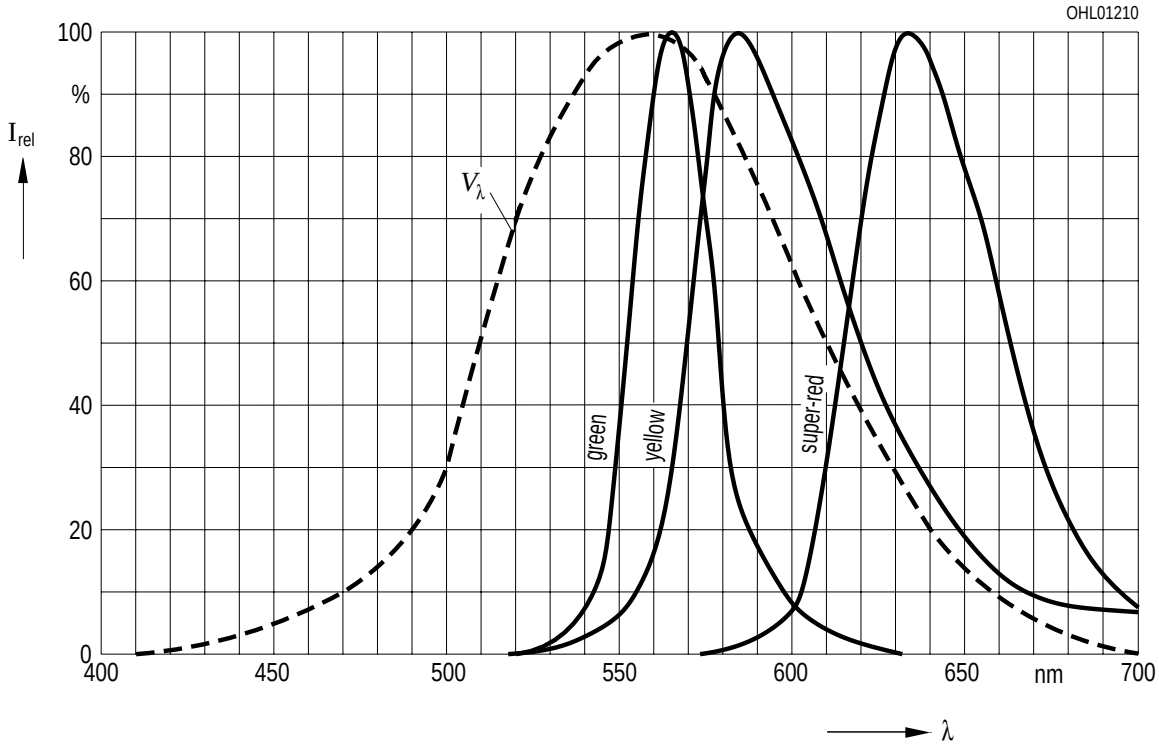
Kennwerte (T_A = 25 °C)
Characteristics

Bezeichnung **Parameter**		**Symbol** **Symbol**	**Wert** **Value**			**Einheit** **Unit**
			LS	**LY**	**LG**	
Wellenlänge des emittierten Lichtes Wavelength at peak emission I_F = 10 mA	(typ.)	λ_{peak}	635	586	572	nm
Dominantwellenlänge[1] Dominant wavelength I_F = 10 mA		λ_{dom}	628	587	570	nm
Spektrale Bandbreite bei 50 % $I_{rel\ max}$ Spectral bandwidth at 50 % $I_{rel\ max}$ I_F = 10 mA	(typ.)	$\Delta\lambda$	45	45	25	nm
Abstrahlwinkel bei 50 % I_V (Vollwinkel) Vewing angle at 50 % I_V	(typ.)	2φ	140	140	140	Grad deg.
Durchlassspannung[2] Forward voltage I_F = 10 mA	(typ.) (max.)	V_F V_F	2.0 2.5	2.0 2.5	2.0 2.5	V V
Sperrstrom Reverse current V_R = 12 V	(typ.) (max.)	I_R I_R	0.01 10	0.01 10	0.01 10	µA µA
Temperaturkoeffizient von λ_{peak} Temperature coefficient of λ_{peak} I_F = 10 mA; –10°C ≤ T ≤ 100°C	(typ.)	$TC_{\lambda peak}$	0.11	0.10	0.11	nm/K
Temperaturkoeffizient von λ_{dom} Temperature coefficient of λ_{dom} I_F = 10 mA; –10°C ≤ T ≤ 100°C	(typ.)	$TC_{\lambda dom}$	0.07	0.07	0.07	nm/K
Temperaturkoeffizient von V_F Temperature coefficient of V_F I_F = 10 mA; –10°C ≤ T ≤ 100°C	(typ.)	TC_V	–1.9	–1.9	–1.4	mV/K
Optischer Wirkungsgrad Optical efficiency I_F = 10 mA	(typ.)	η_{opt}	1.5	1.5	2.5	lm/W

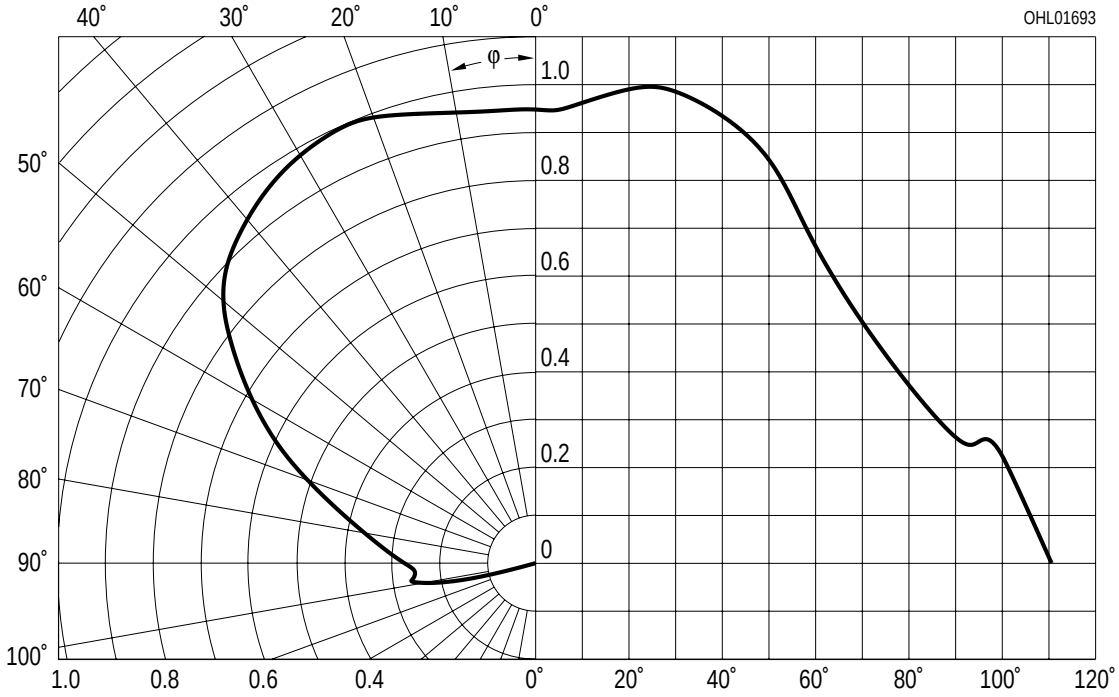
[1] Wellenlängen werden mit einer Stromeinprägedauer von 25 ms und einer Genauigkeit von ±1 nm ermittelt.
Wavelengths are tested at a current pulse duration of 25 ms and a tolerance of ±1 nm.

[2] Spannungswerte werden mit einer Stromeinprägedauer von 1 ms und einer Genauigkeit von ±0,1 V ermittelt.
Voltages are tested at a current pulse duration of 1 ms and a tolerance of ±0.1 V.

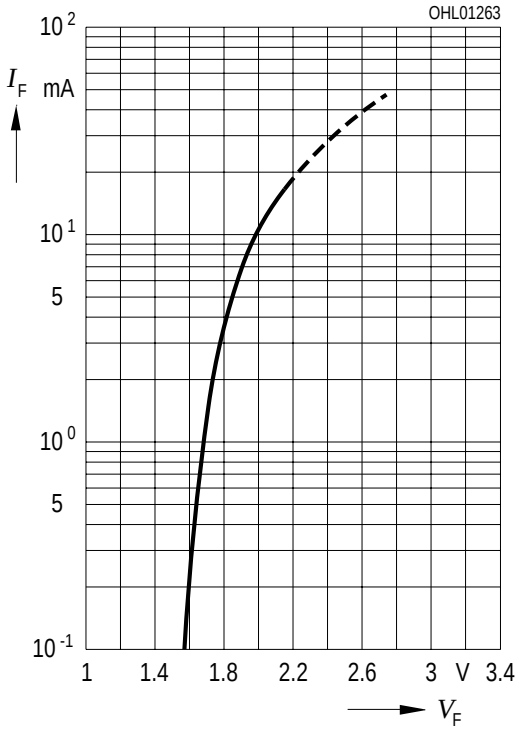
Relative spektrale Emission $I_{rel} = f(\lambda)$, T_A = 25 °C, I_F = 10 mA
Relative Spectral Emission
V(λ) = spektrale Augenempfindlichkeit
Standard eye response curve



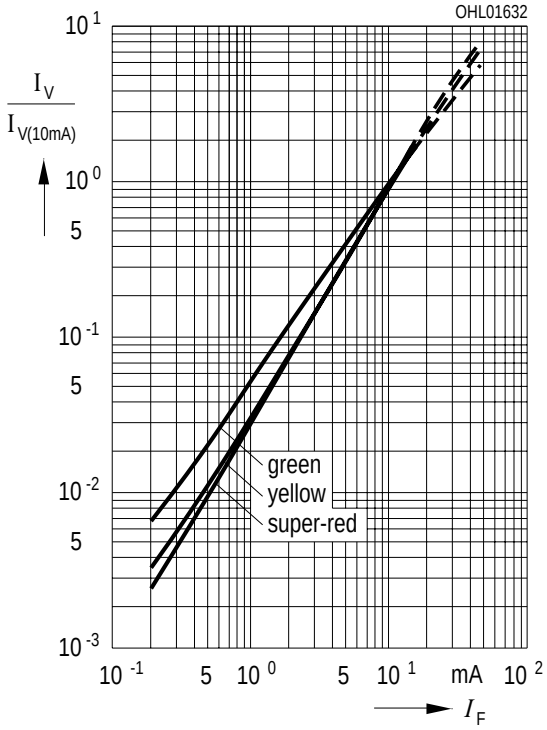
Abstrahlcharakteristik $I_{rel} = f(\varphi)$
Radiation Characteristic



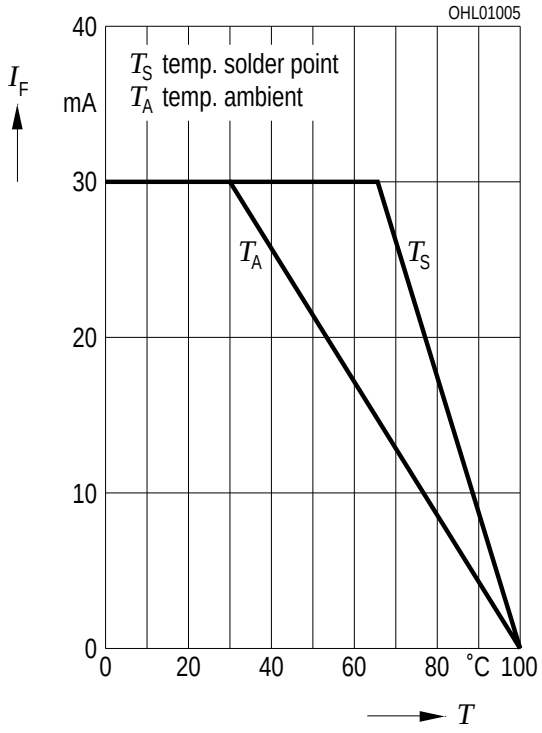
Durchlssstrom $I_F = f(V_F)$
Forward Current
T_A = 25 °C



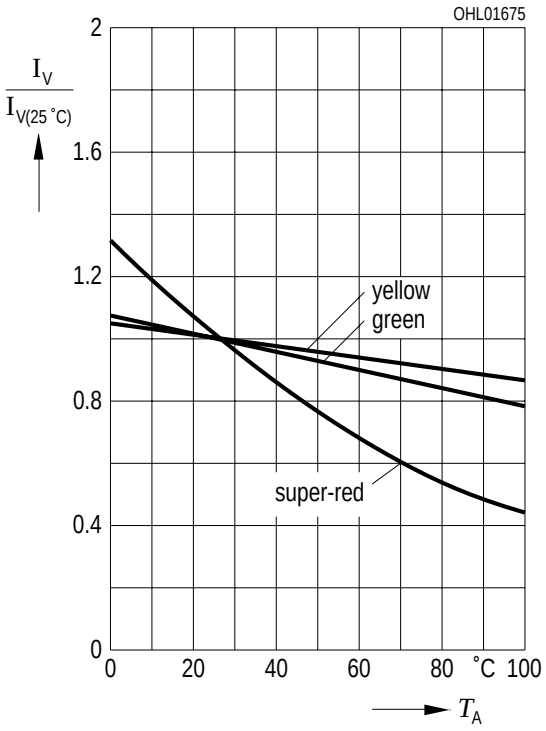
Relative Lichtstärke $I_V/I_{V(10\ mA)} = f(I_F)$
Relative Luminous Intensity
T_A = 25 °C



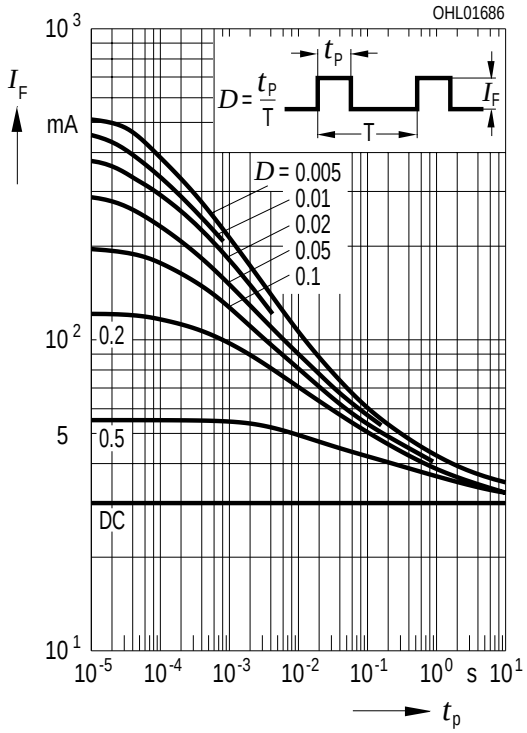
Maximal zulässiger Durchlassstrom $I_F = f(T)$
Max. Permissible Forward Current



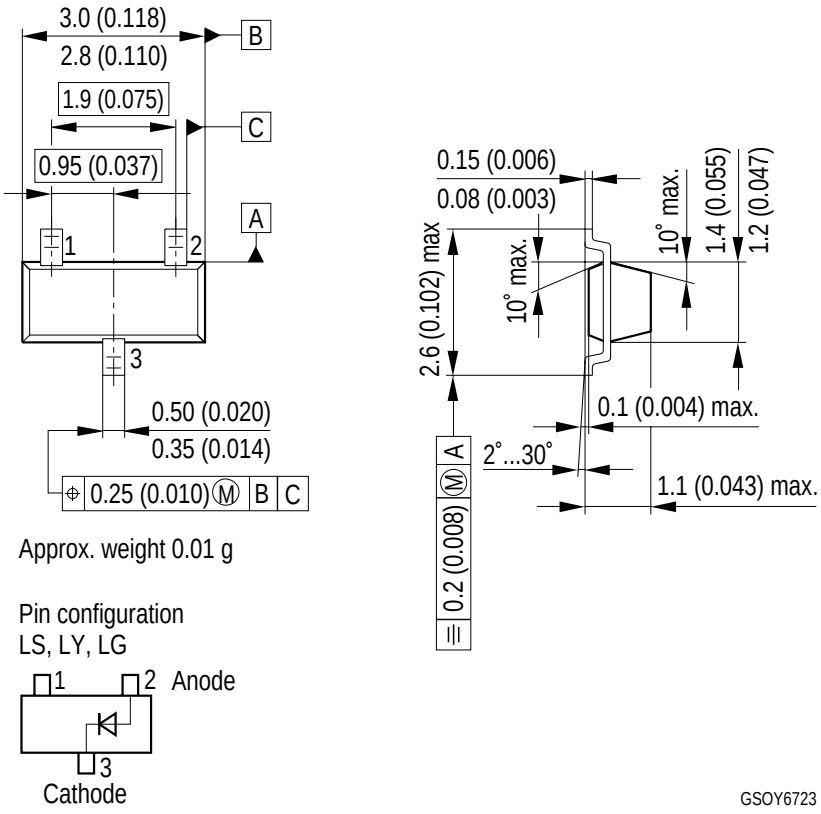
Relative Lichtstärke $I_V/I_{V(25\ °C)} = f(T_A)$
Relative Luminous Intensity
I_F = 10 mA



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



Maßzeichnung
Package Outlines

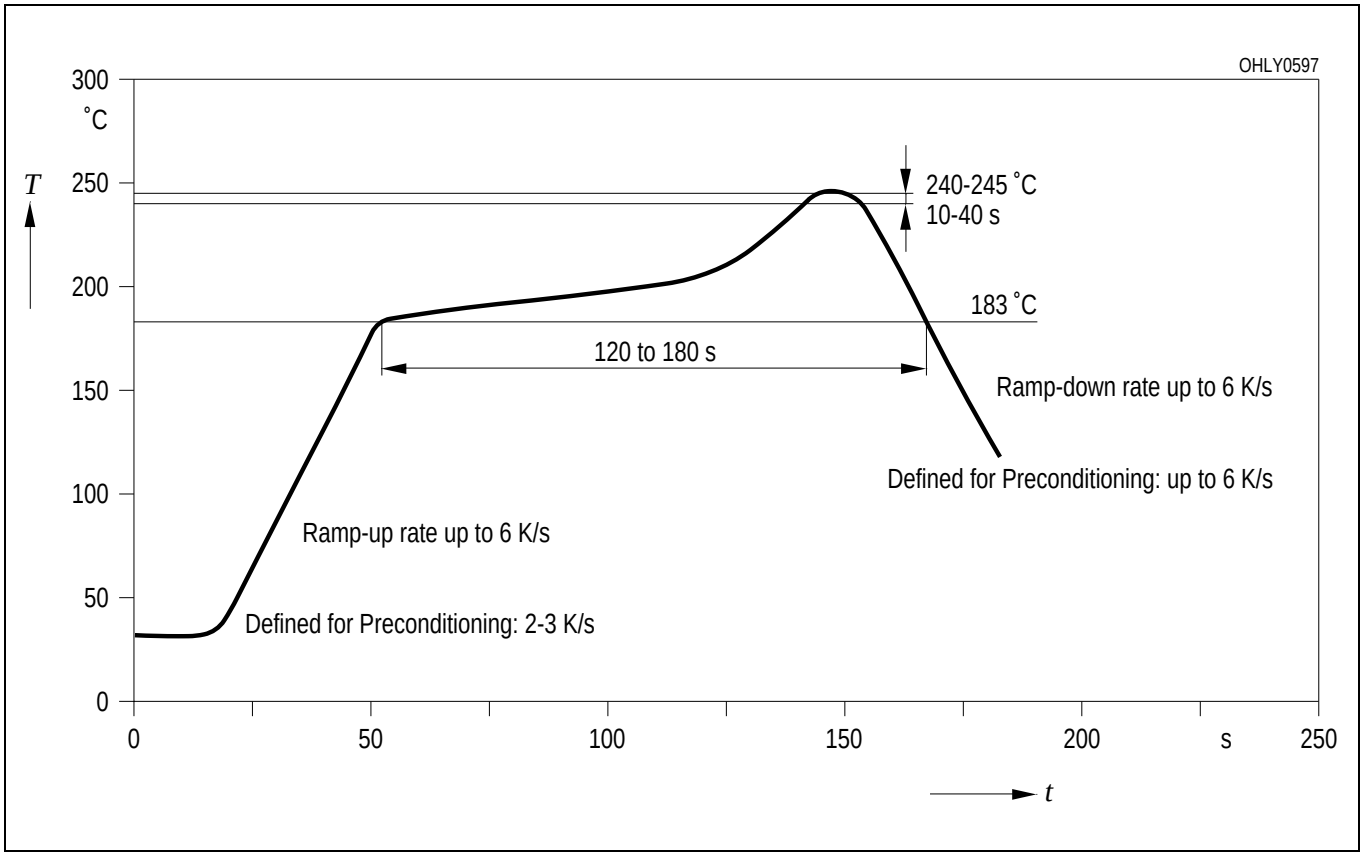


Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

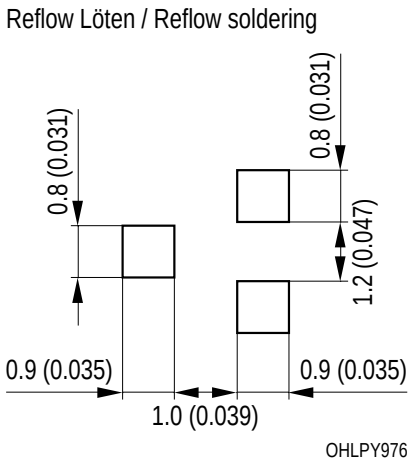
Anschlußbelegung: (Draufsicht)
Pin configuration: (top view)
Gewicht / Approx. weight: 10 mg

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)

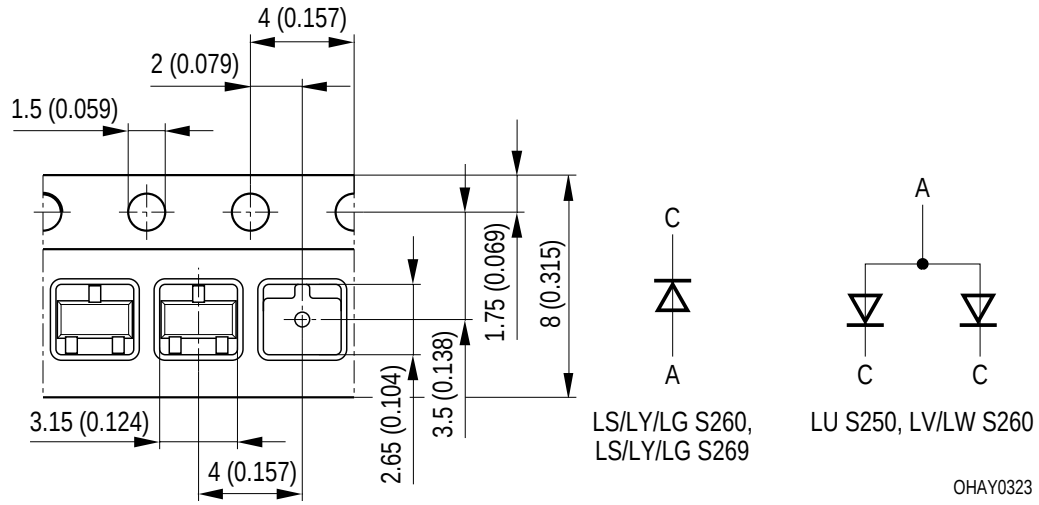


Empfohlenes Lötpaddesign IR Reflow Löten
Recommended Solder Pad IR Reflow Soldering



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

Gurtung / Polarität und Lage	Verpackungseinheit 3000/Rolle, ø180 mm oder 12000/Rolle, ø330 mm
Method of Taping / Polarity and Orientation	Packing unit 3000/reel, ø180 mm or 12000/reel, ø330 mm



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

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: 2003-09-04		Date of change
Previous Version: 2002-09-18		
Page	**Subjects (major changes since last revision)**	
11	annotations	2002-07-23
3, 4	value (reverse voltage from 5 V to 12 V)	2002-09-18
14	note: dry pack	2003-09-04
3	ambient temperature	2003-09-04

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Attention please!
The information describes the type of component and shall not be considered as assured characteristics.
All typical data and graphs are basing on representative samples, but don't represent the production range. If requested, e.g. because of technical improvements, these typ. data will be changed without any further notice.
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If printed or downloaded, please find the latest version in the Internet.
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.