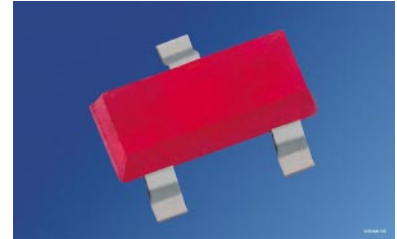


SOT-23 MULTILED[®], Diffused

LU S250, LV S260, LW S260



Nicht für Neuentwicklungen / Not for New Designs

Besondere Merkmale

- **Gehäusotyp:** eingefärbtes, diffuses SOT-23-Gehäuse
- **Besonderheit des Bauteils:** kleine Bauform im Industriestandard: $3,0 \times 2,6 \times 1,1$ mm mit 2 Chips
- **Wellenlänge:** 628 nm (super-rot), 570 nm (grün)
- **Abstrahlwinkel:** 140°
- **Technologie:** GaAlP
- **optischer Wirkungsgrad:** 1,5 lm/W (super-rot), 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, $\varnothing 180$ mm oder 12000/Rolle, $\varnothing 330$ mm

Anwendungen

- optischer Indikator
- Hinterleuchtung (LCD, Handy, Schalter, Tasten, Displays, Werbebeleuchtung, Allgemeinbeleuchtung)
- Leuchtdiodenchips getrennt ansteuerbar

Features

- **package:** colored, diffused SOT-23 package
- **feature of the device:** small package in industry standard $3.0 \times 2.6 \times 1.1$ mm with two chips
- **wavelength:** 628 nm (super-red), 570 nm (green)
- **viewing angle:** 140°
- **technology:** GaAlP
- **optical efficiency:** 1.5 lm/W (super-red), 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, $\varnothing 180$ mm or 12000/reel, $\varnothing 330$ mm

Applications

- optical indicators
- backlighting (LCD, cellular phones, switches, keys, displays, illuminated advertising, general lighting)
- LED chips can be controlled separately

Typ Type	Emissionsfarbe Color of Emission	Gehäusefarbe Color of Package	Lichtstärke Luminous Intensity $I_F = 10 \text{ mA}$ $I_V \text{ (mcd)}$	Bestellnummer Ordering Code
LU S250-DO	super-red/green	colorless diffused	≥ 0.45	Q62703-Q1642
LV S260-DO	super-red/ super-red	red diffused	≥ 0.45	Q62703-Q2067
LW S260-DO	green/green	green diffused	≥ 0.45	Q62703-Q1038

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	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	+ 100	°C
Durchlaßstrom Forward current	I_F	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}	95	mW
Wärmewiderstand Thermal resistance Sperrschicht/Umgebung Junction/ambient Sperrschicht/Lötpad Junction/soldering point Montage auf PC-Board FR 4 (Padgröße $\geq 16 \text{ mm}^2$) mounted on PC board FR 4 (pad size $\geq 16 \text{ mm}^2$)	$R_{th JA}$ $R_{th JA}$ $R_{th JS}$ $R_{th JS}$	750 (one chip on) 1020 (two chips on) 350 (one chip on) 480 (two chips on)	K/W K/W K/W K/W

Kennwerte ($T_A = 25\text{ °C}$)

Characteristics

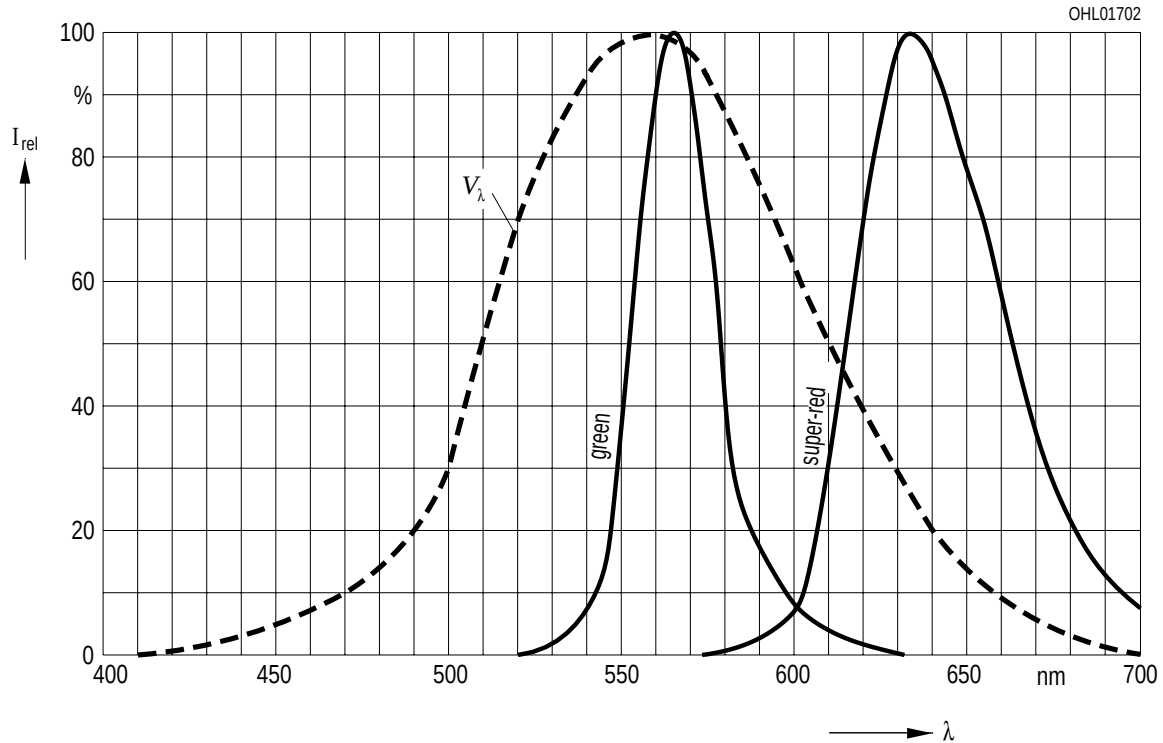
Bezeichnung Parameter	Symbol Symbol	Wert Value		Einheit Unit
		super-red	green	
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission $I_F = 10\text{ mA}$	λ_{peak}	635	565	nm
Dominantwellenlänge (typ.) Dominant wavelength $I_F = 10\text{ mA}$	λ_{dom}	628	570	nm
Spektrale Bandbreite bei 50% von $I_{\text{rel max}}$ (typ.) Spectral bandwidth at 50% of $I_{\text{rel max}}$ $I_F = 10\text{ mA}$	$\Delta\lambda$	45	25	nm
Abstrahlwinkel bei 50 % I_V (Vollwinkel) (typ.) Viewing angle at 50 % I_V	2ϕ	140	140	Grad deg.
Durchlaßspannung (typ.) Forward voltage (max.) $I_F = 10\text{ mA}$	V_F V_F	2.0 2.6	2.0 2.6	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} $I_F = 10\text{ mA}$	$TC_{\lambda_{\text{peak}}}$	0.11	0.11	nm/K
Temperaturkoeffizient von λ_{dom} (typ.) Temperature coefficient of λ_{dom} $I_F = 10\text{ mA}$	$TC_{\lambda_{\text{dom}}}$	0.07	0.07	nm/K
Temperaturkoeffizient von V_F (typ.) Temperature coefficient of V_F $I_F = 10\text{ mA}$	TC_V	- 1.9	- 1.4	mV/K
Optischer Wirkungsgrad (typ.) Optical efficiency $I_F = 10\text{ mA}$	η_{opt}	1.5	2.5	lm/W

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

Relative Spectral Emission

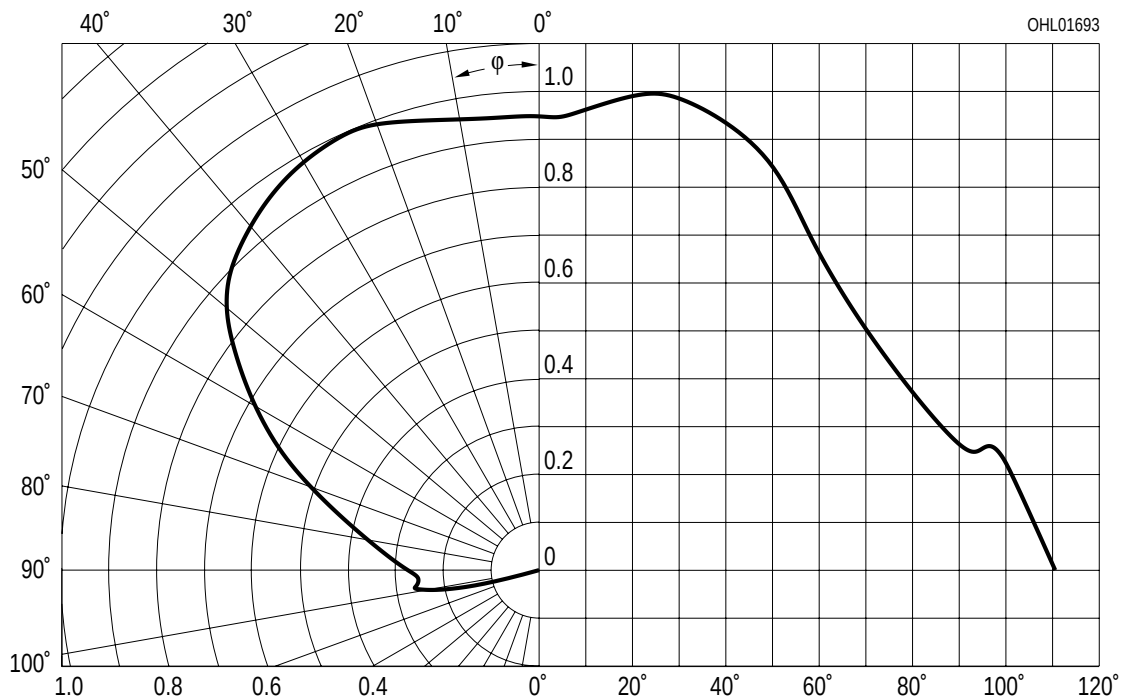
$V(\lambda)$ = spektrale Augenempfindlichkeit

Standard eye response curve



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

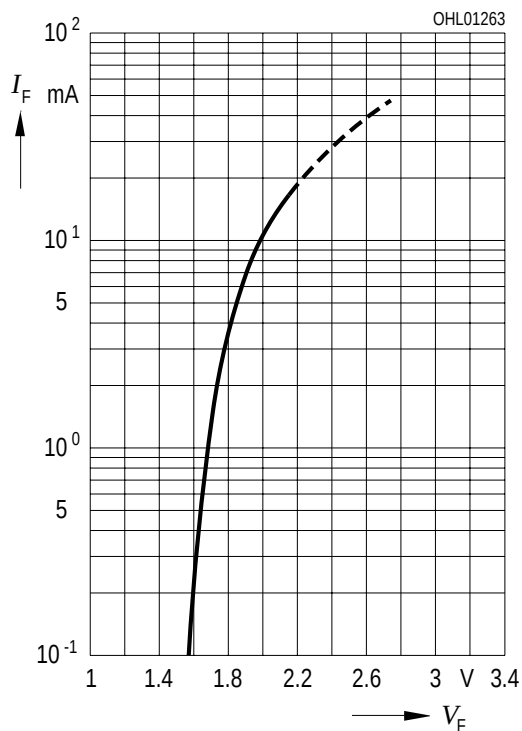
Radiation Characteristic



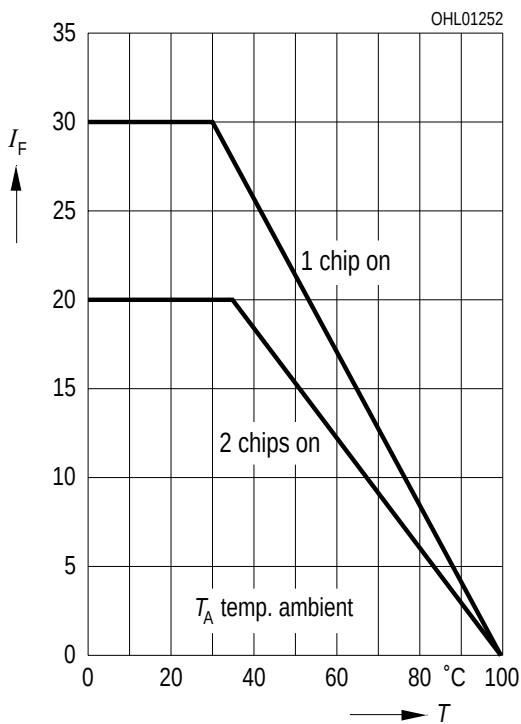
Durchlaßstrom $I_F = f(V_F)$

Forward Current

$T_A = 25^\circ\text{C}$



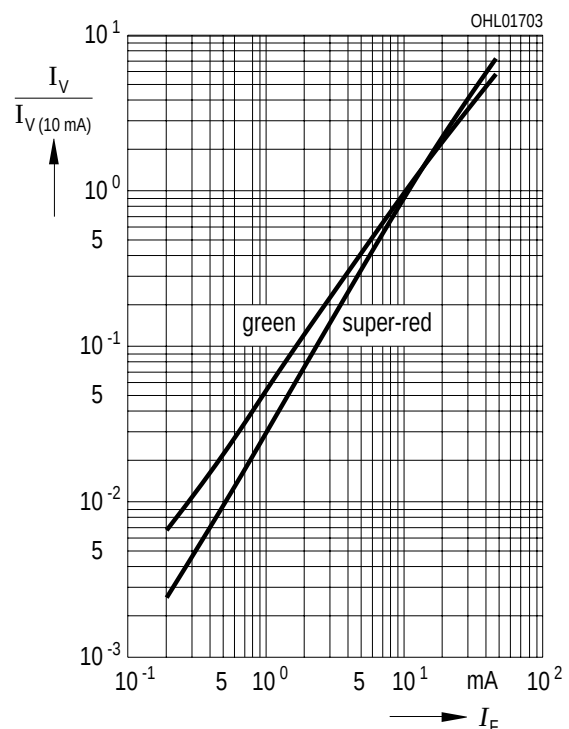
Maximal zulässiger Durchlaßstrom $I_F = f(T)$
Max. Permissible Forward Current



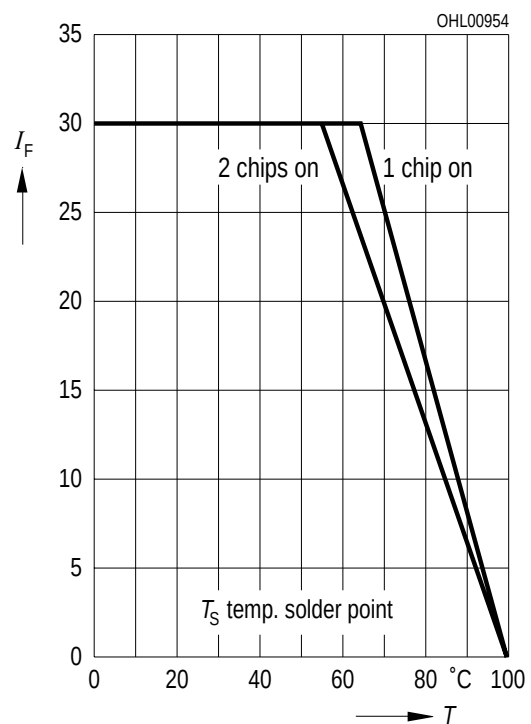
Relative Lichtstärke $I_V/I_{V(10\text{ mA})} = f(I_F)$

Relative Luminous Intensity

$T_A = 25^\circ\text{C}$



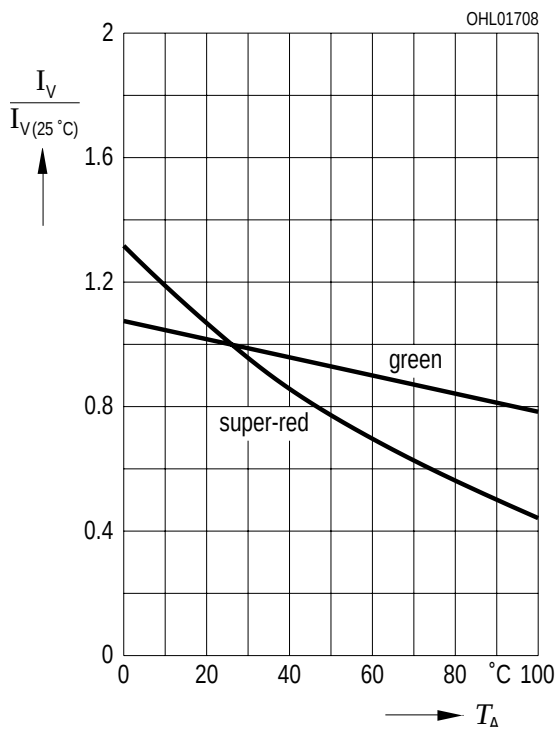
Maximal zulässiger Durchlaßstrom $I_F = f(T)$
Max. Permissible Forward Current



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

Relative Luminous Intensity

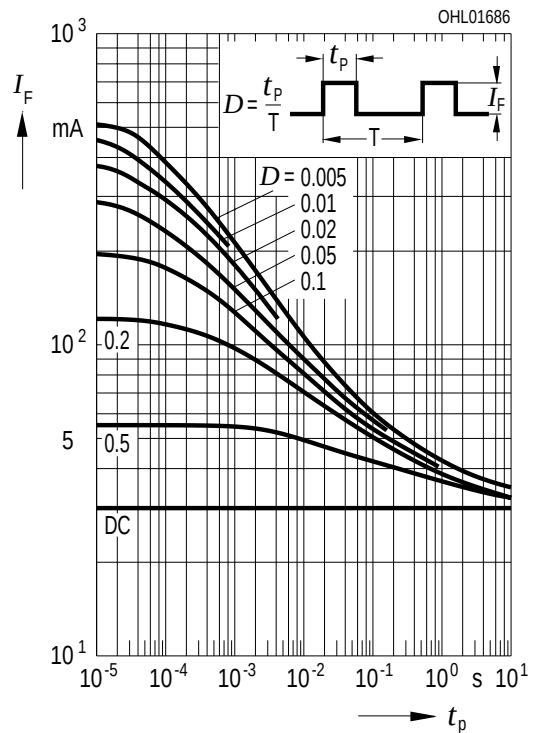
$I_F = 10 \text{ mA}$



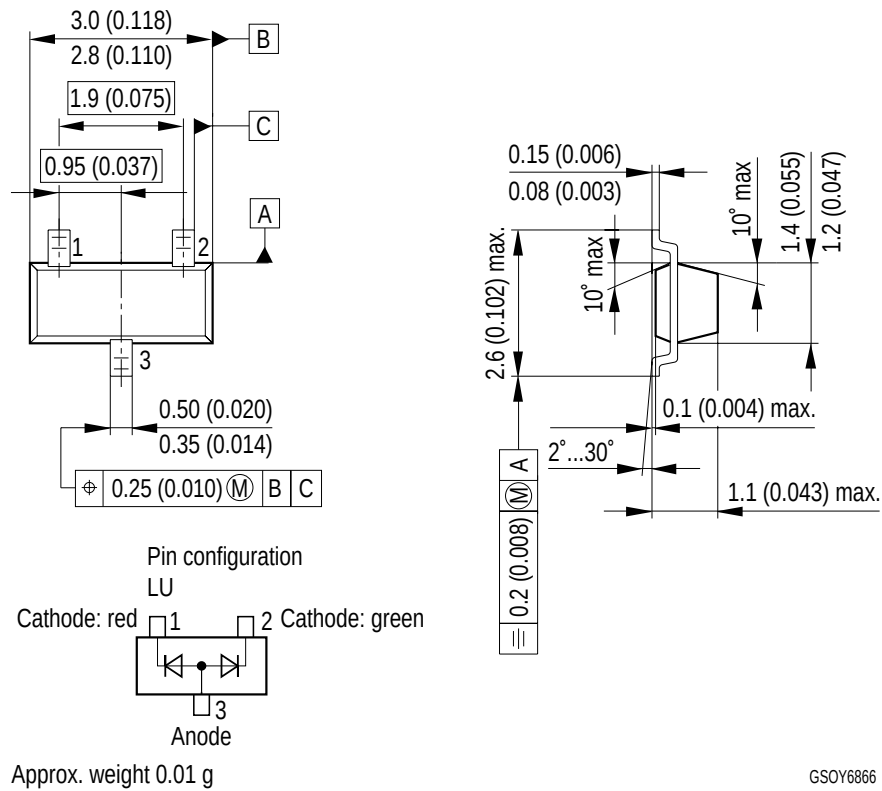
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$

Permissible Pulse Handling Capability

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



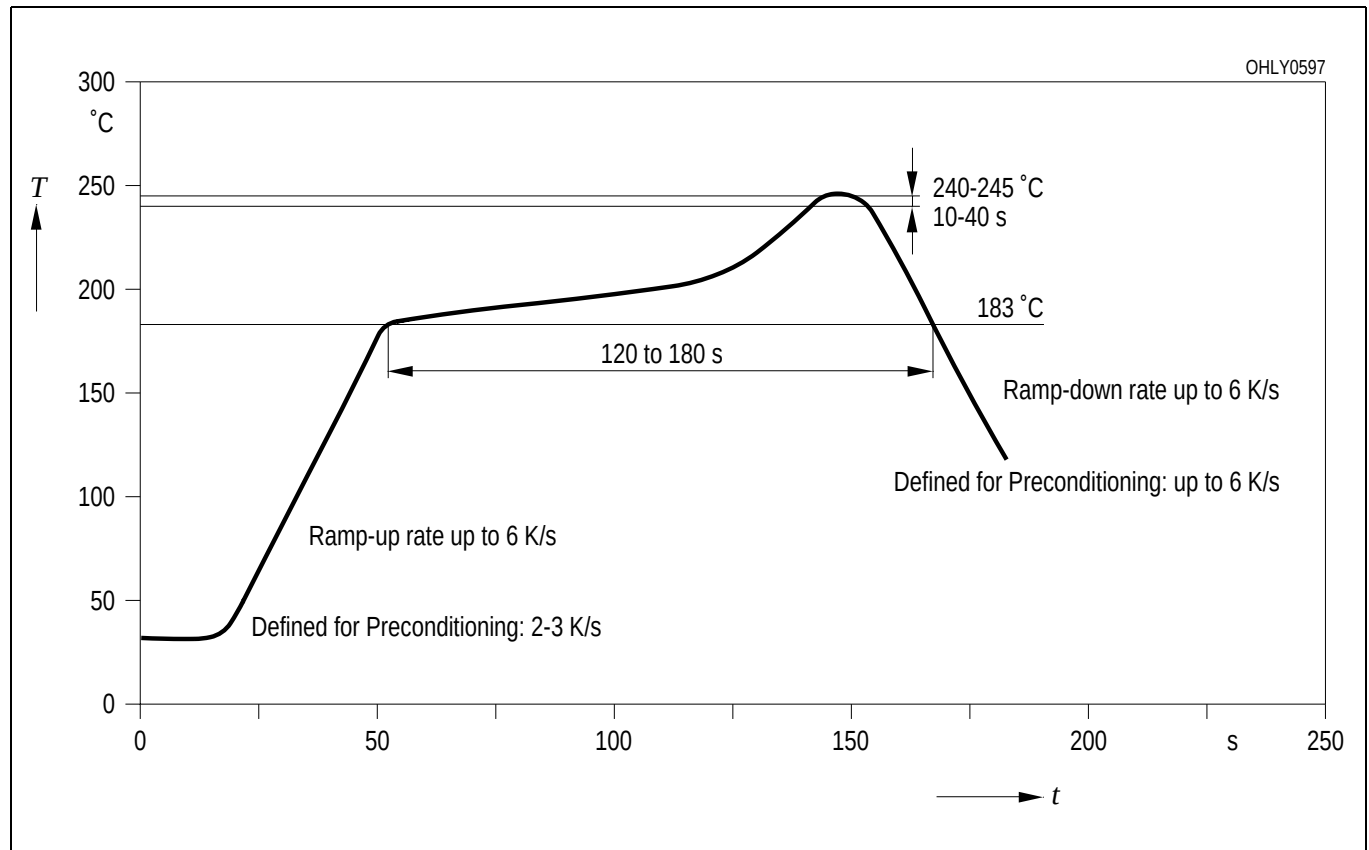
Maßzeichnung
Package Outlines



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

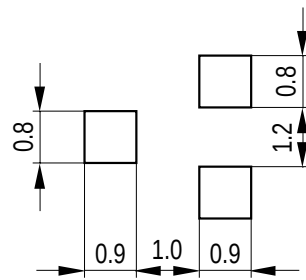
Lötbedingungen Vorbehandlung nach JEDEC Level 2
Soldering Conditions Preconditioning acc. to JEDEC Level 2

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



Empfohlenes Lötpad Design IR Reflow Lötten
Recommended Solder Pad IR Reflow Soldering

Reflow Lötten / Reflow soldering



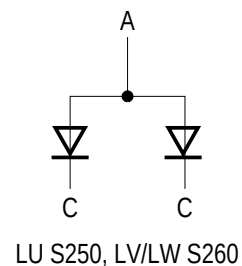
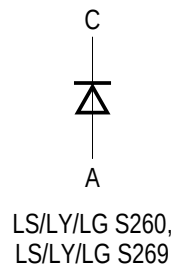
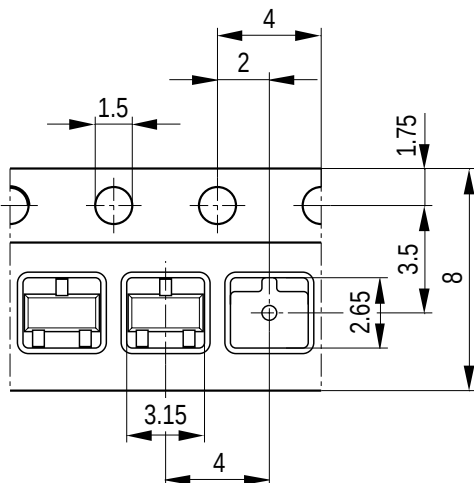
OHLP0976

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



OHA00323