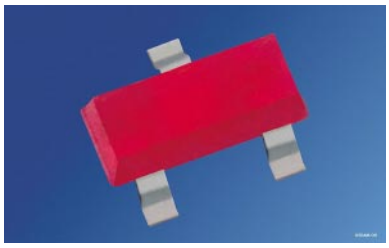
SOT-23 MULTILED®, Diffused

LU S250, LV S260, LW 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 × 2,6 × 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, 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 × 2.6 × 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, ø180 mm or 12000/reel, ø330 mm

Anwendungen

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

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 mA I_V (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 ±11 % ermittelt.

Luminous intensity is tested at a current pulse duration of 25 ms and an accuracy of ±11 %.

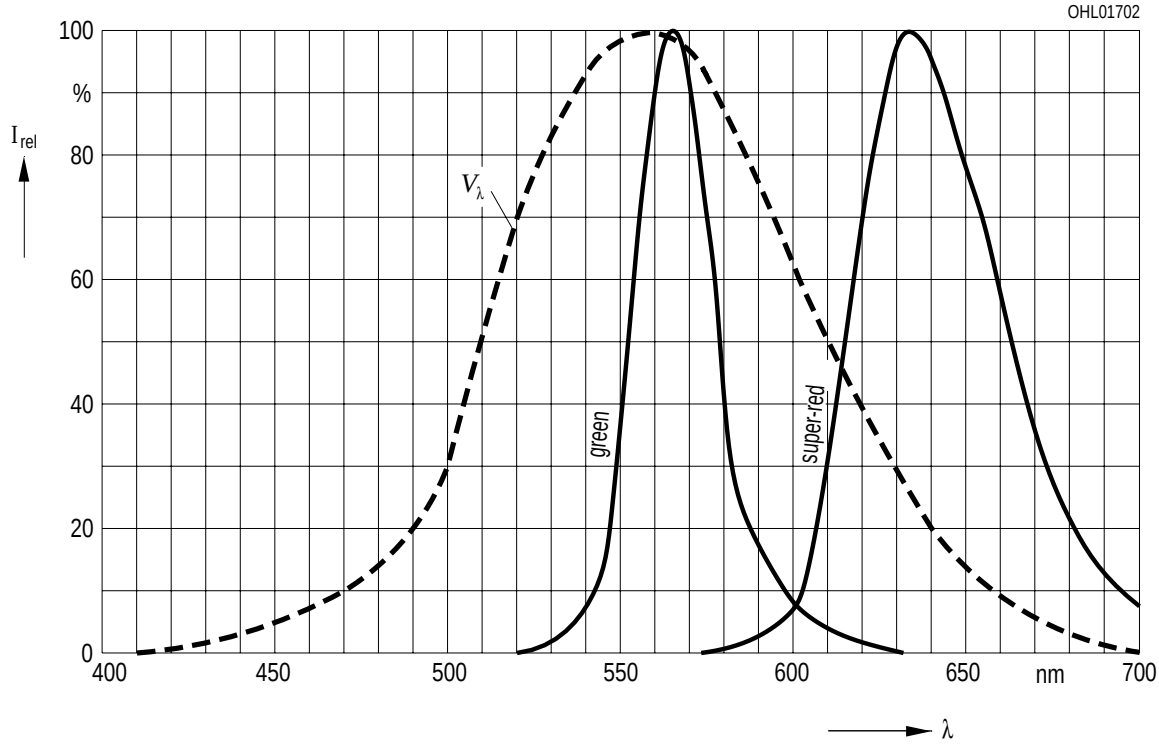
Grenzwerte
Maximum Ratings

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 $t \leq 10$ µs, $D = 0.005$	I_{FM}	0.5	A
Sperrspannung Reverse voltage	V_R	5	V
Leistungsaufnahme Power dissipation $T_A \leq 25$ °C	P_{tot}	95	mW
Wärmewiderstand Thermal resistance Sperrschicht/Umgebung Junction/ambient Sperrschicht/Lötpad Junction/soldering point Montage auf PC-Board FR 4 (Padgröße ≥ 16 mm²) mounted on PC board FR 4 (pad size ≥ 16 mm²)	 $R_{th\ JA}$ $R_{th\ JA}$ $R_{th\ JS}$ $R_{th\ JS}$	 750 (one chip on) 1020 (two chips on) 350 (one chip on) 480 (two chips on)	 K/W K/W K/W K/W

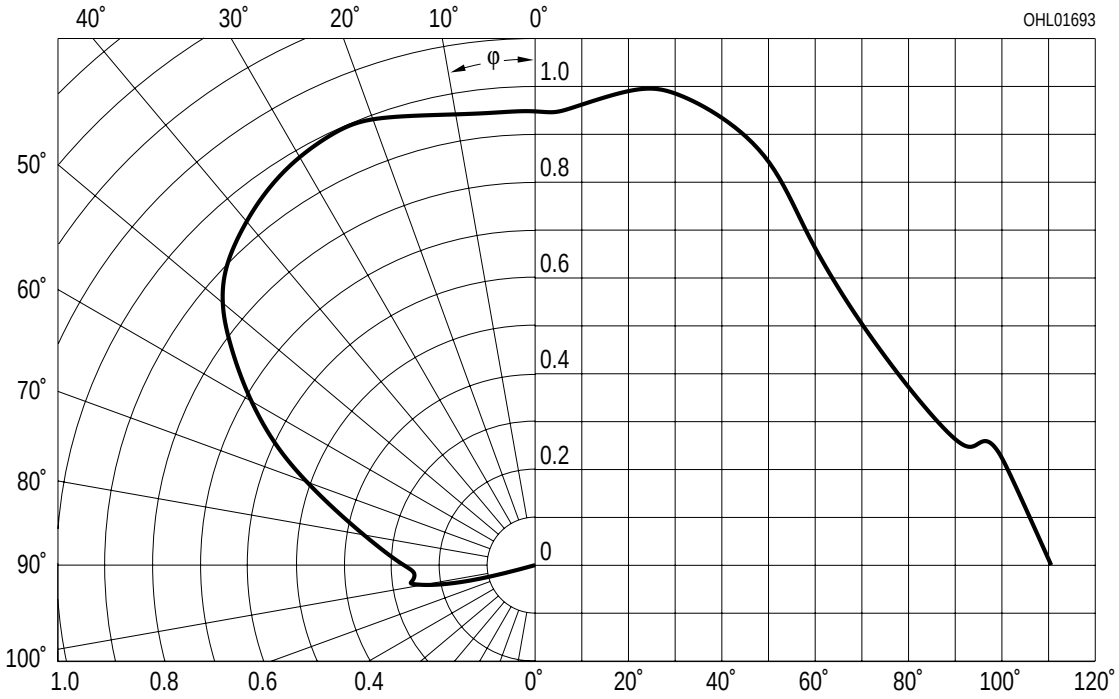
Kennwerte (T_A = 25 °C)
Characteristics

Bezeichnung **Parameter**		**Symbol** **Symbol**	**Wert** **Value**		**Einheit** **Unit**
			super-red	**green**	
Wellenlänge des emittierten Lichtes Wavelength at peak emission I_F = 10 mA	(typ.)	λ_{peak}	635	565	nm
Dominantwellenlänge Dominant wavelength I_F = 10 mA	(typ.)	λ_{dom}	628	570	nm
Spektrale Bandbreite bei 50% von $I_{rel\ max}$ Spectral bandwidth at 50% of $I_{rel\ max}$ I_F = 10 mA	(typ.)	$\Delta\lambda$	45	25	nm
Abstrahlwinkel bei 50 % I_V (Vollwinkel) Viewing angle at 50 % I_V	(typ.)	2φ	140	140	Grad deg.
Durchlaßspannung Forward voltage I_F = 10 mA	(typ.) (max.)	V_F V_F	2.0 2.6	2.0 2.6	V V
Sperrstrom Reverse current V_R = 5 V	(typ.) (max.)	I_R I_R	0.01 10	0.01 10	µA µA
Temperaturkoeffizient von λ_{peak} Temperature coefficient of λ_{peak} I_F = 10 mA	(typ.)	$TC_{\lambda peak}$	0.11	0.11	nm/K
Temperaturkoeffizient von λ_{dom} Temperature coefficient of λ_{dom} I_F = 10 mA	(typ.)	$TC_{\lambda dom}$	0.07	0.07	nm/K
Temperaturkoeffizient vonV_F Temperature coefficient of V_F I_F = 10 mA	(typ.)	TC_V	– 1.9	– 1.4	mV/K
Optischer Wirkungsgrad Optical efficiency I_F = 10 mA	(typ.)	η_{opt}	1.5	2.5	lm/W

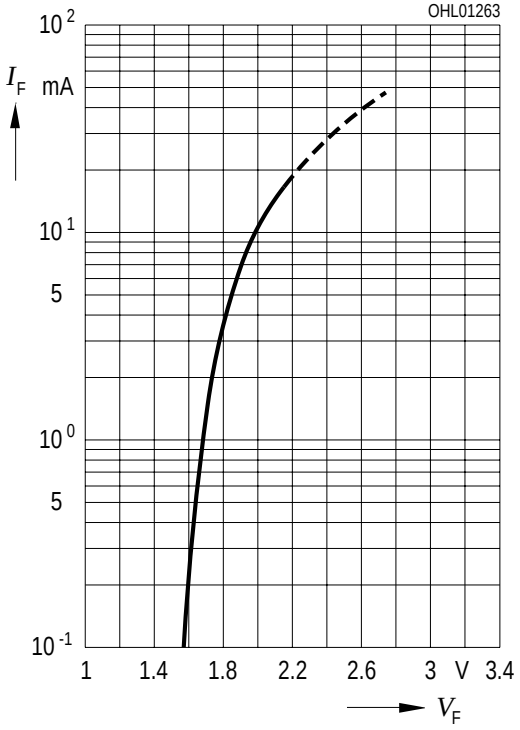
Releative spektrale Emission $I_{rel} = f(\lambda)$, T_A = 25 °C, I_F = 10 mA
Relative Spectral Emission
V(λ) = spektrale Augenempfindlichkeit
Standard eye response curve



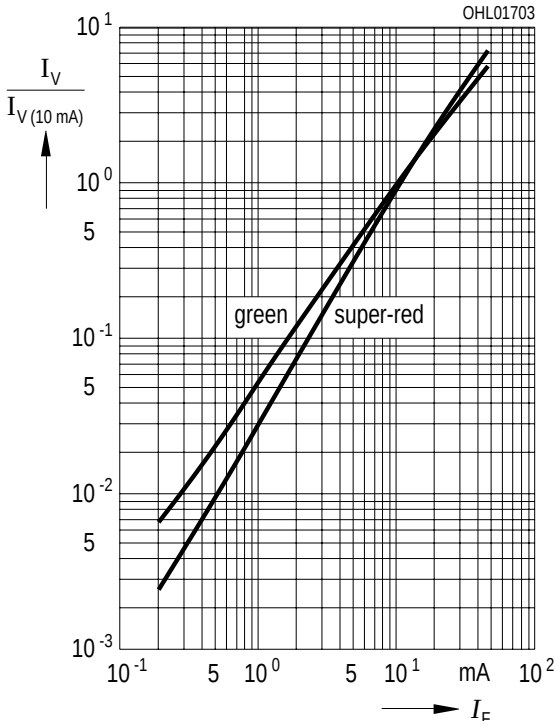
Abstrahlcharakteristik $I_{rel} = f(\varphi)$
Radiation Characteristic



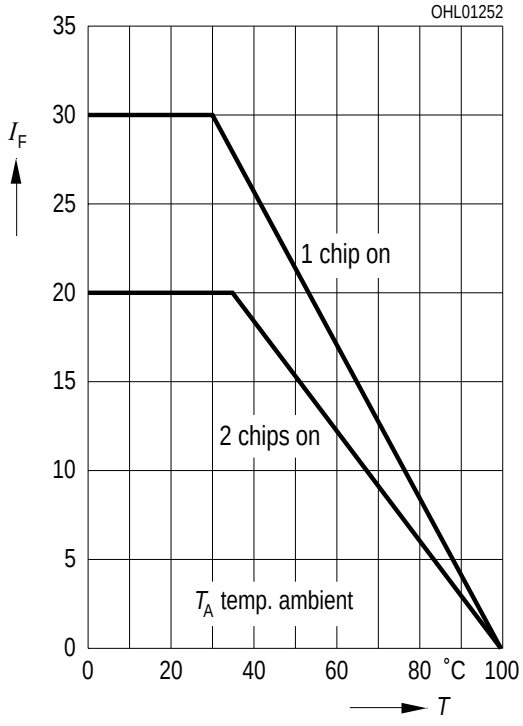
Durchlaßstrom $I_F = f(V_F)$
Forward Current
T_A = 25 °C



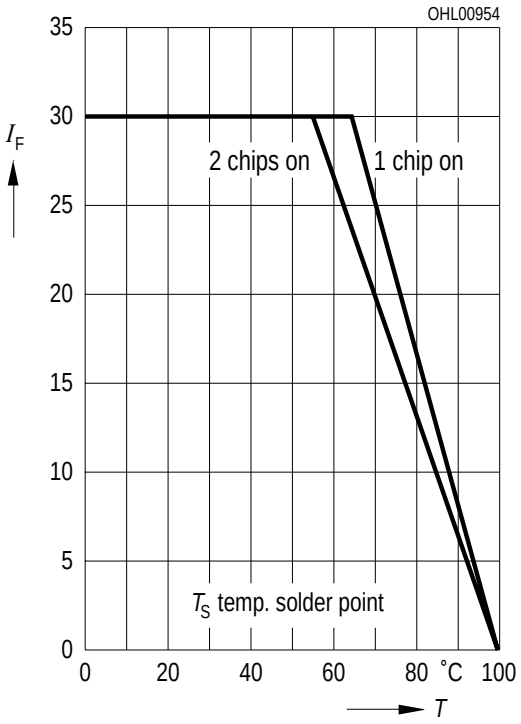
Relative Lichtstärke $I_V/I_{V(10\ mA)} = f(I_F)$
Relative Luminous Intensity
T_A = 25 °C



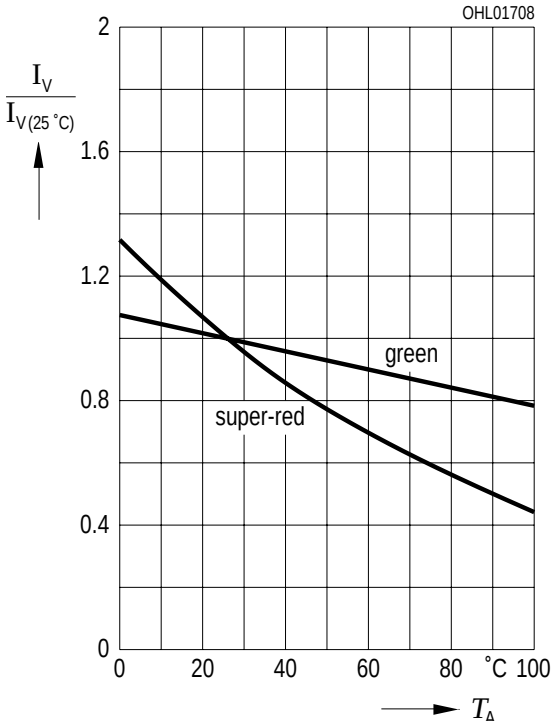
Maximal zulässiger Durchlaßstrom $I_F = f(T)$
Max. Permissible Forward Current



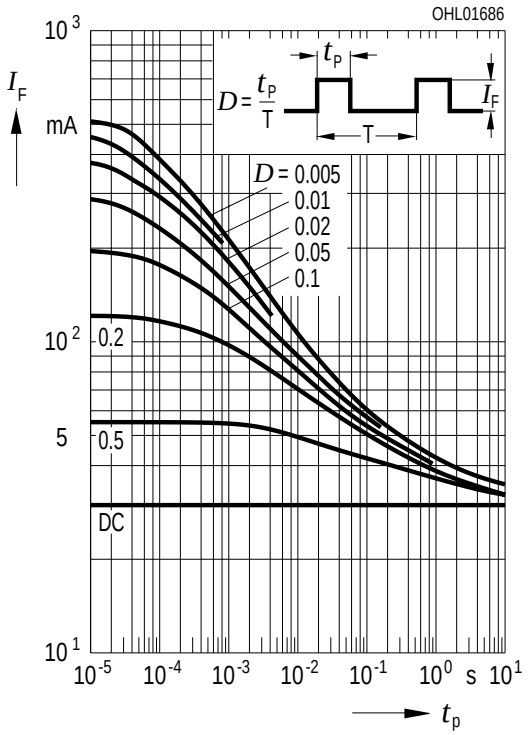
Maximal zulässiger Durchlaßstrom $I_F = f(T)$
Max. Permissible Forward Current



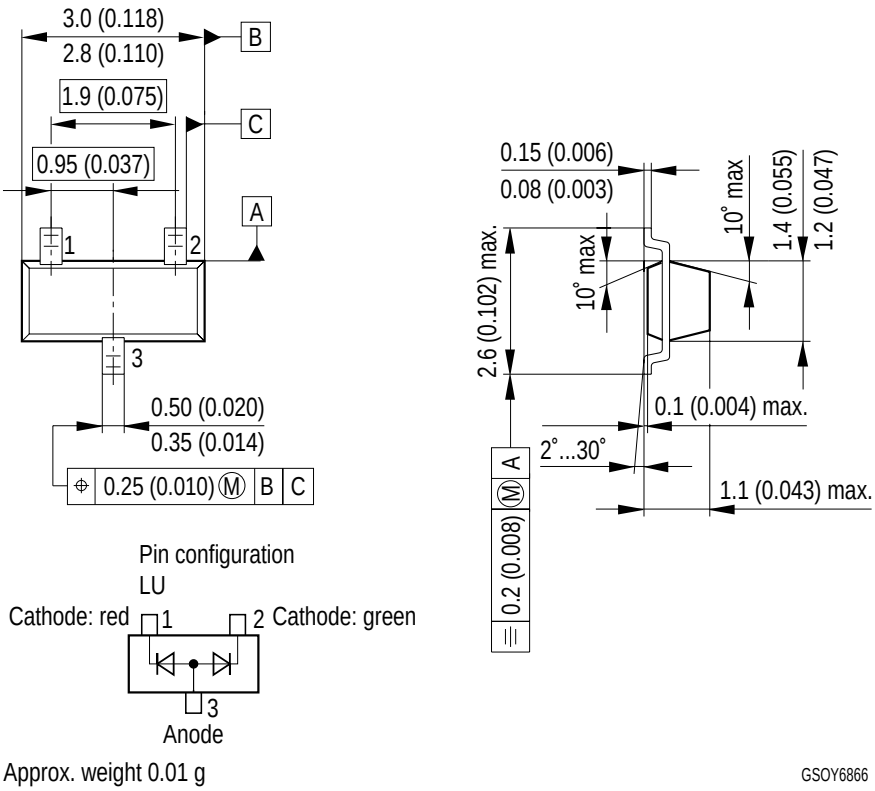
Relative Lichtstärke $I_V/I_{V(25\,°C)} = f(T_A)$
Relative Luminous Intensity
I_F = 10 mA



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



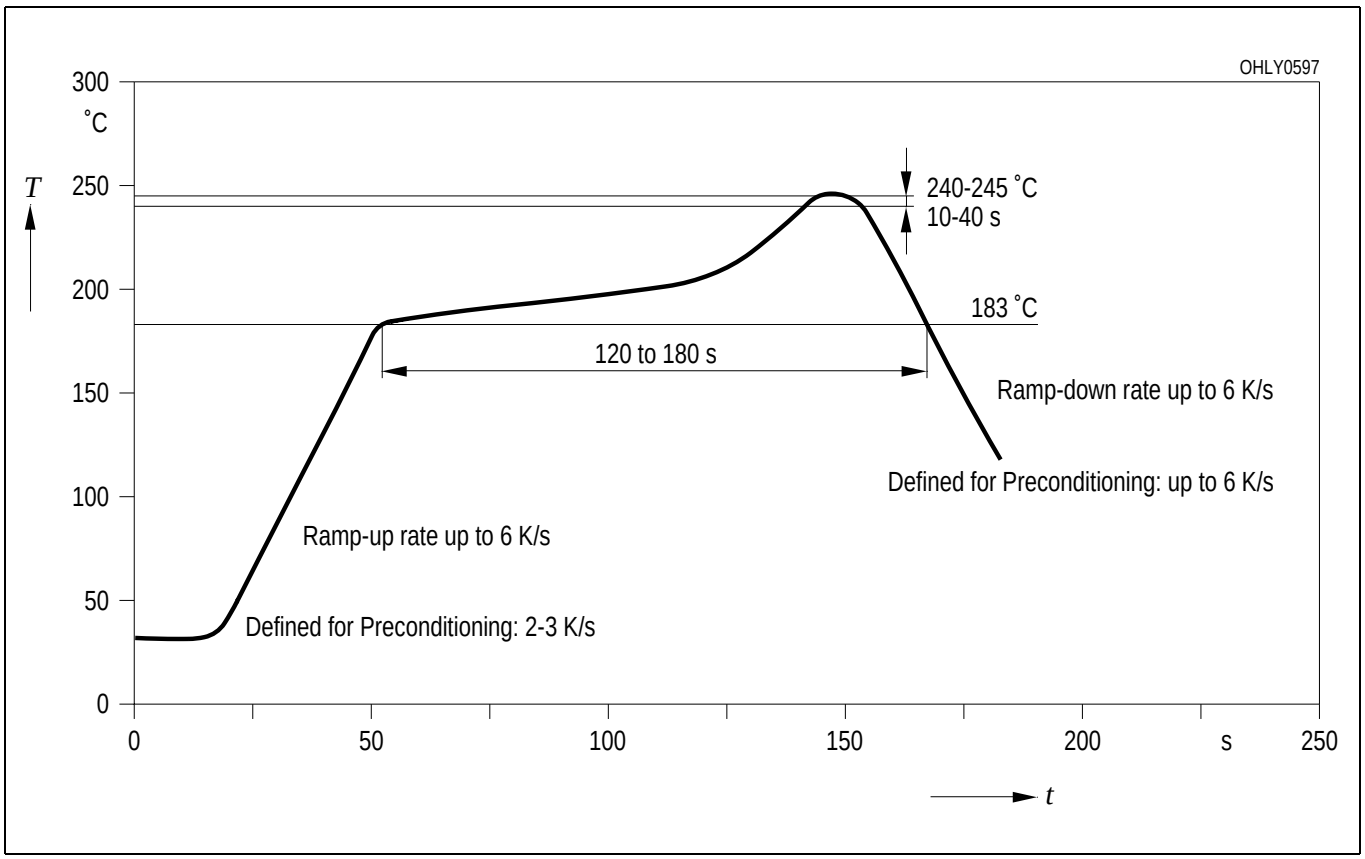
Maßzeichnung
Package Outlines



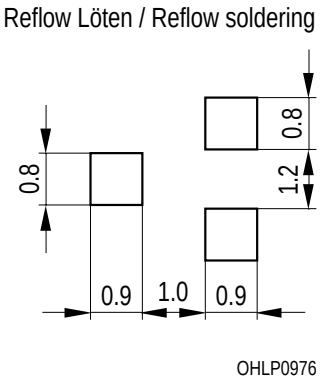
Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

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



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