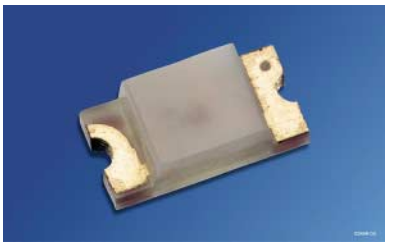
CHIPLED

LG N971, LY N971



Besondere Merkmale

- **Gehäusetyp:** 1206
- **Besonderheit des Bauteils:** extrem kleine Bauform 3,2 mm x 1,6 mm x 1,1 mm
- **Wellenlänge:** 570 nm (grün), 587 nm (gelb)
- **Abstrahlwinkel:** Lambertscher Strahler (160°)
- **Technologie:** GaP (grün), GaAsP (gelb)
- **optischer Wirkungsgrad:** 2,5 lm/W (grün), 1,5 lm/W (gelb)
- **Verarbeitungsmethode:** für alle SMT-Bestücktechniken geeignet
- **Lötmethode:** IR Reflow Löten
- **Vorbehandlung:** nach JEDEC Level 2
- **Gurtung:** 8 mm Gurt mit 3000/Rolle, ø180 mm

Anwendungen

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

Features

- **package:** 1206
- **feature of the device:** extremely small package 3.2 mm x 1.6 mm x 1.1 mm
- **wavelength:** 570 nm (green), 587 nm (yellow)
- **viewing angle:** Lambertian Emitter (160°)
- **technology:** GaP (green), GaAsP (yellow)
- **optical efficiency:** 2.5 lm/W (green), 1.5 lm/W (yellow)
- **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

Applications

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

Typ Type	Emissionsfarbe Color of Emission	Farbe der Lichtaustritts-fläche Color of the Light Emitting Area	Lichtstärke Luminous Intensity I_F = 20 mA I_V (mcd)		Bestellnummer Ordering Code
			min.	typ.	
LG N971	green	colorless diffused	7.1	10	Q62702-P5191
LY N971	yellow	colorless diffused	2.8	6	Q62702-P5193

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 Gruppen sind nicht erhältlich.
In einer Verpackungseinheit / Gurt ist immer nur eine Gruppe enthalten.

Note: The standard shipping format for serial types includes all groups. Individual groups are not available.
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}	– 30 … + 85	°C
Lagertemperatur Storage temperature range	T_{stg}	– 40 … + 85	°C
Sperrschichttemperatur Junction temperature	T_j	+ 95	°C
Durchlassstrom Forward current	I_F	25 (green) 20 (yellow)	mA
Stoßstrom Surge current $t_p = 10$ µs, $D = 0.1$	I_{FM}	0.1	A
Sperrspannung Reverse voltage	V_R	5	V
Leistungsaufnahme Power consumption	P_{tot}	65	mW
Wärmewiderstand Thermal resistance Sperrschicht/Umgebung Junction/ambient Sperrschicht/Lötpad Junction/solder point Montage auf PC-Board FR 4 (Padgröße ≥ 5 mm²) mounted on PC board FR 4 (pad size ≥ 5 mm²)	 $R_{th\ JA}$ $R_{th\ JS}$	 750 430	 K/W K/W

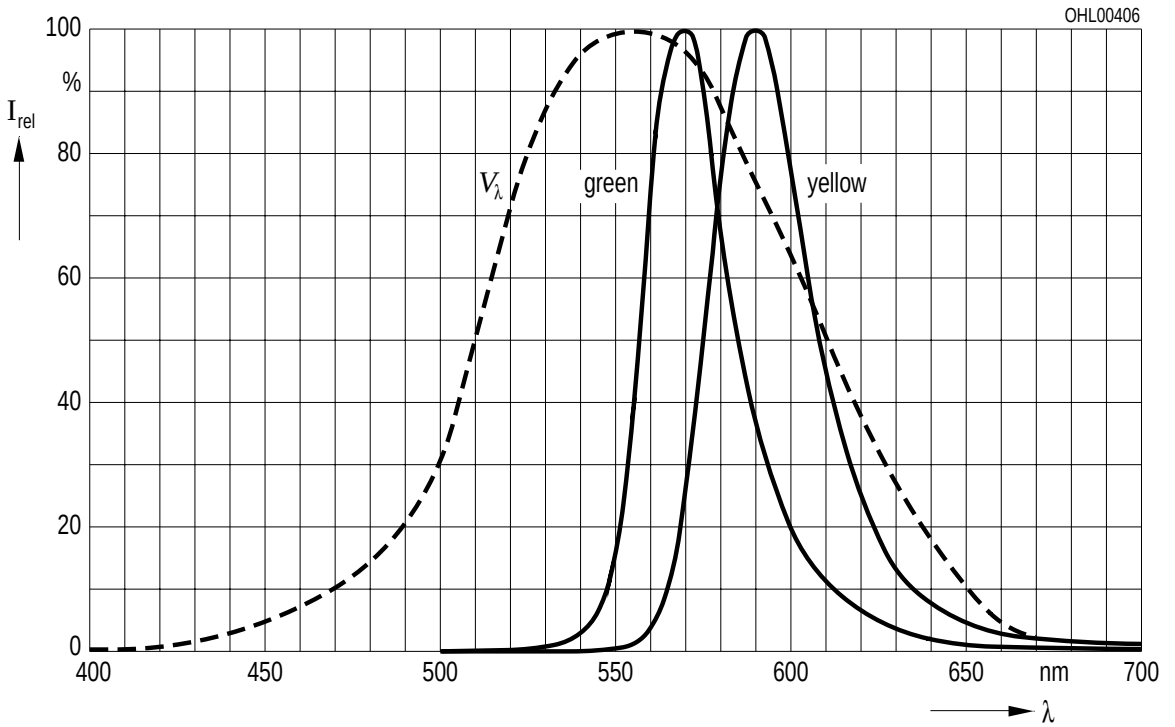
Kennwerte (T_A = 25 °C)
Characteristics

Bezeichnung **Parameter**		**Symbol** **Symbol**	**Werte** **Values**		**Einheit** **Unit**
			LG	**LY**	
Wellenlänge des emittierten Lichtes Wavelength at peak emission I_F = 20 mA	(typ.)	λ_{peak}	572	589	nm
Dominantwellenlänge [1] Dominant wavelength [1] I_F = 20 mA	(typ.)	λ_{dom}	570	587	nm
Spektrale Bandbreite Spectral bandwidth I_F = 20 mA	(typ.)	$\Delta\lambda$	30	40	nm
Abstrahlwinkel bei 50 % I_V (Vollwinkel) Viewing angle at 50 % I_V	(typ.)	2φ	160	160	Grad deg.
Durchlassspannung [2] Forward voltage [2] I_F = 20 mA	(typ.) (max.)	V_F V_F	2.2 2.6	2.2 2.6	V V
Sperrstrom Reverse current V_R = 5 V	(typ.) (max.)	I_R I_R	0.02 100	0.02 100	µA µA
Temperaturkoeffizient von λ_{peak} Temperature coefficient of λ_{peak} I_F =20 mA; –10°C ≤ T ≤ 100°C	(typ.)	$TC_{\lambda peak}$	0.10	0.11	nm/K
Temperaturkoeffizient von λ_{dom} Temperature coefficient of λ_{dom} I_F = 20 mA; –10°C ≤ T ≤ 100°C	(typ.)	$TC_{\lambda dom}$	0.06	0.08	nm/K
Temperaturkoeffizient von V_F Temperature coefficient of V_F I_F = 20 mA; –10°C ≤ T ≤ 100°C	(typ.)	TC_V	– 1.4	– 1.7	mV/K
Optischer Wirkungsgrad Optical efficiency I_F = 20 mA	(typ.)	η_{opt}	2.5	1.5	lm/W

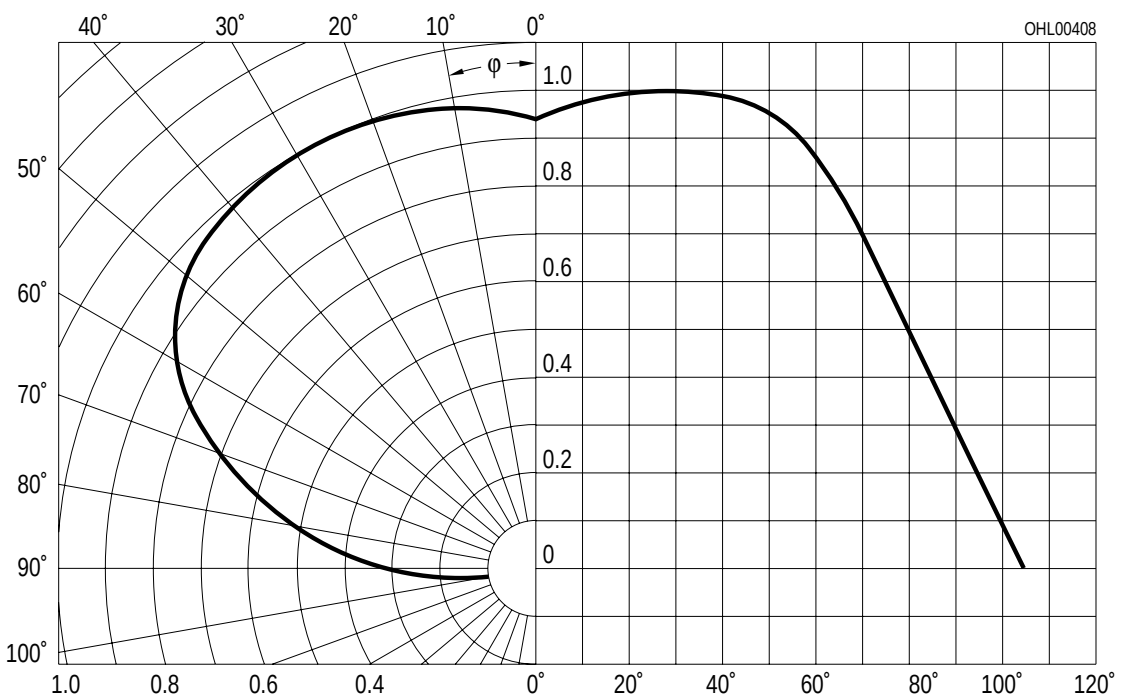
[1] Wellenlängengruppen werden mit einer Stromeinprägedauer von 25 ms und einer Genauigkeit von ±1 nm ermittelt.
Wavelength groups are tested at a current pulse duration of 25 ms and a tolerance of ±1 nm.

[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.

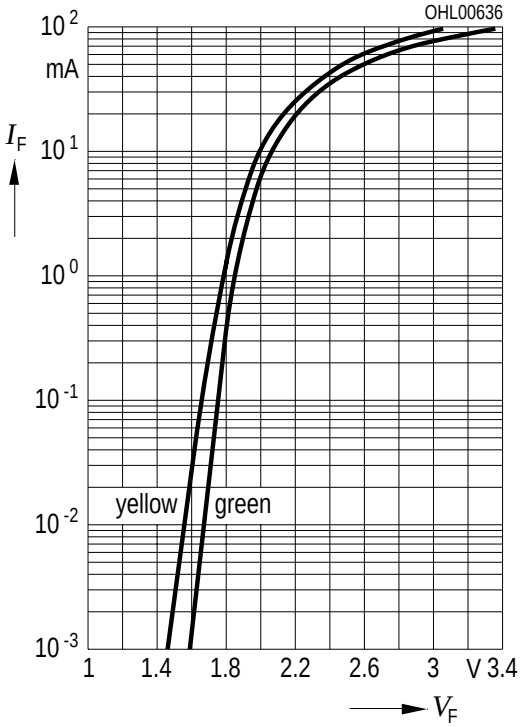
Relative spektrale Emission $I_{rel} = f(\lambda)$, T_A = 25 °C, I_F = 20 mA
Relative Spectral Emission
V(λ) = spektrale Augenempfindlichkeit
Standard eye response curve



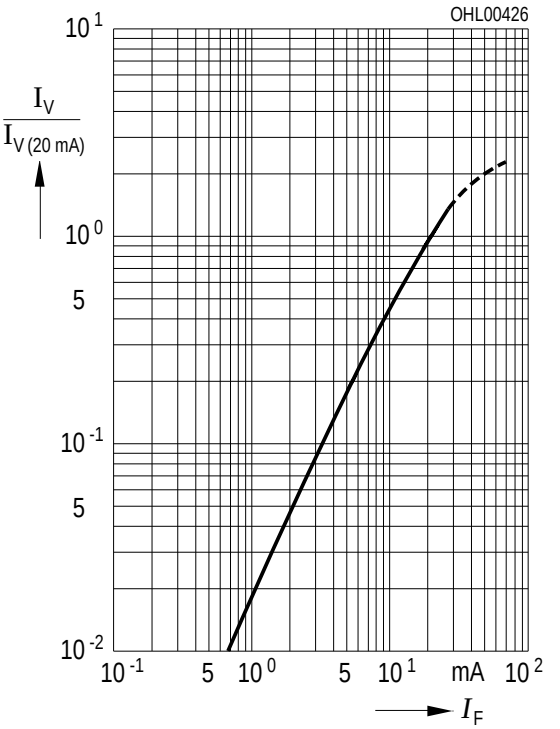
Abstrahlcharakteristik $I_{rel} = f(\varphi)$
Radiation Characteristic



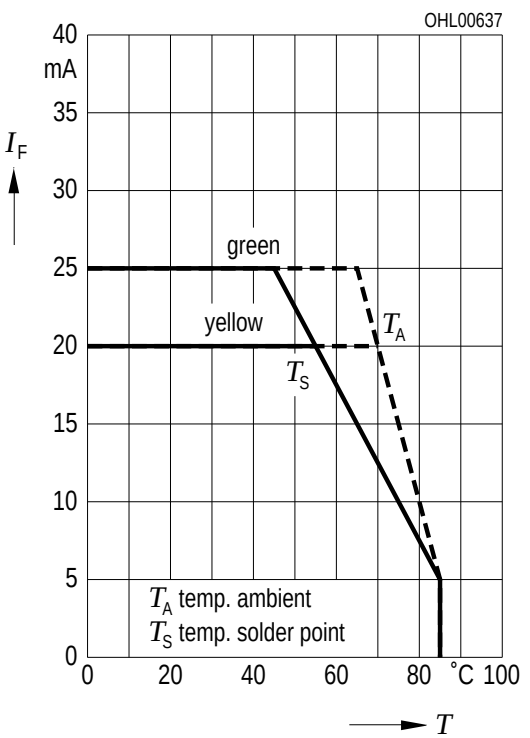
Durchlassstrom $I_F = f(V_F)$
Forward Current
T_A = 25 °C



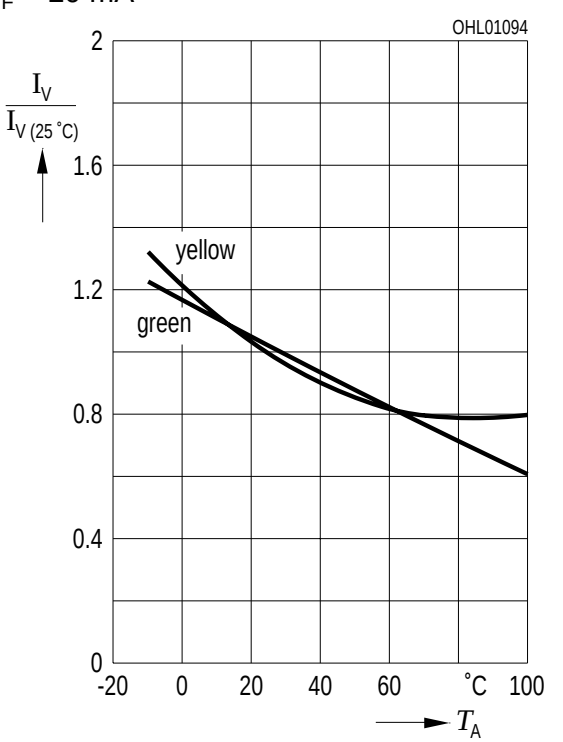
Relative Lichtstärke $I_V/I_{V(20\ mA)} = f(I_F)$
Relative Luminous Intensity
T_A = 25 °C



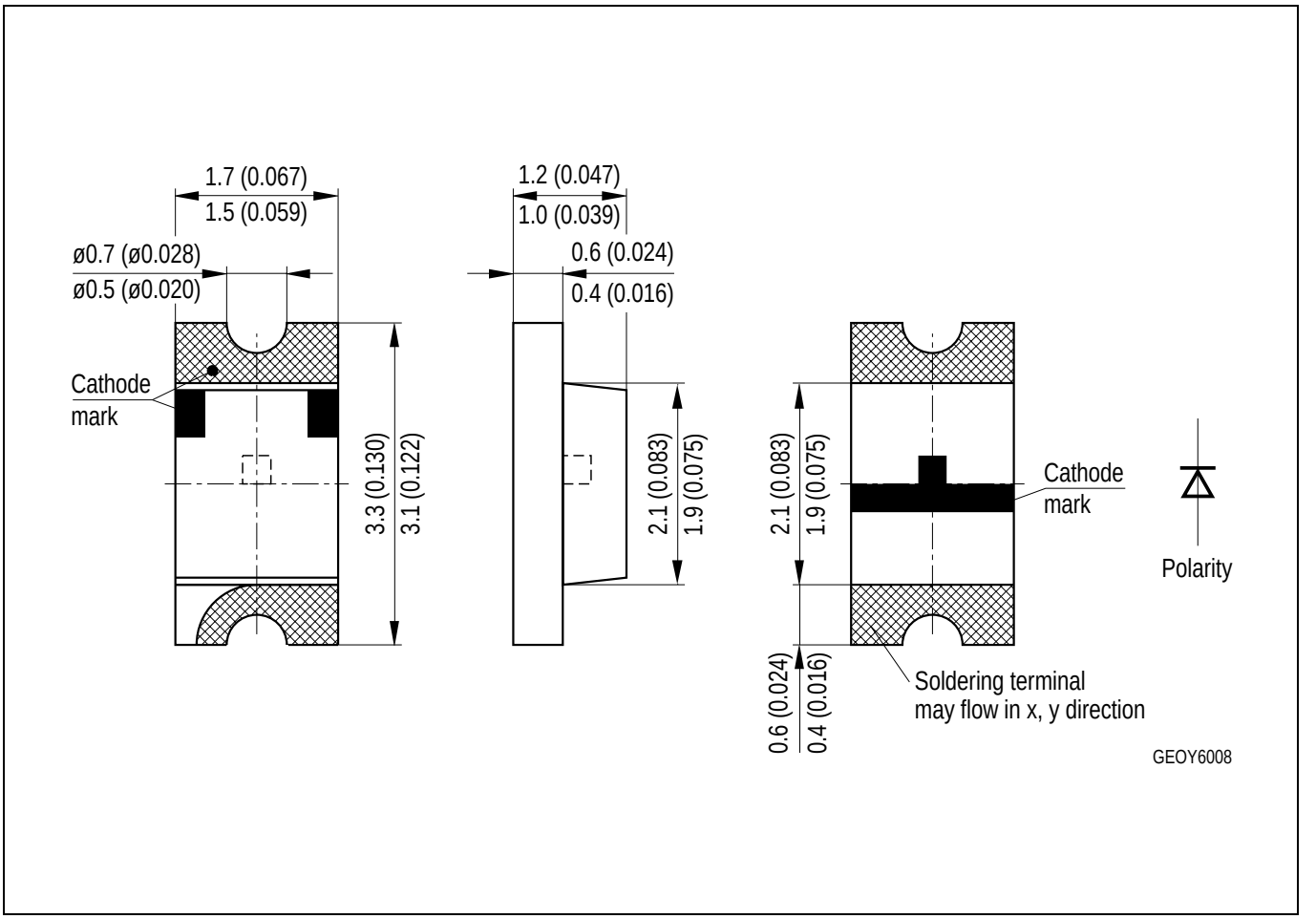
Maximal zulässiger Durchlassstrom $I_F = f(T_A)$
Max. Permissible Forward Current



Relative Lichtstärke $I_V/I_{V(25\ °C)} = f(T_A)$
Relative Luminous Intensity
I_F = 20 mA



Maßzeichnung
Package Outlines

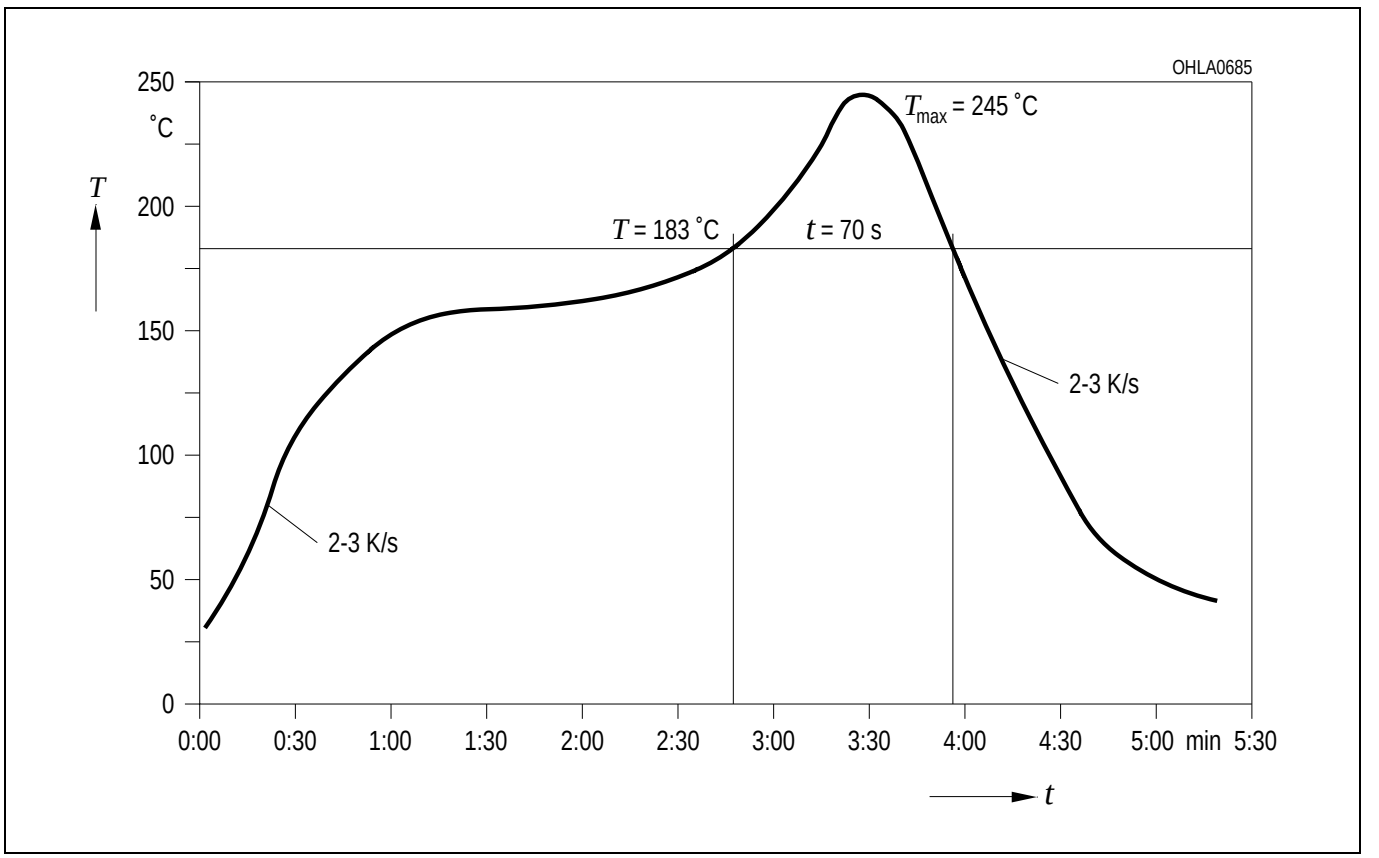


Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

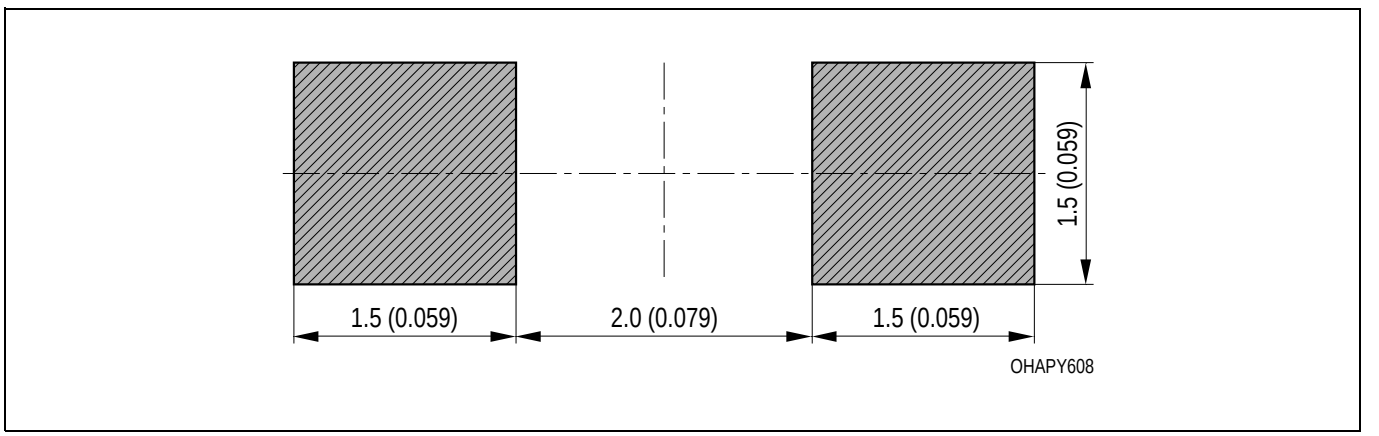
Gewicht / Approx. weight: 7.5 mg

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)

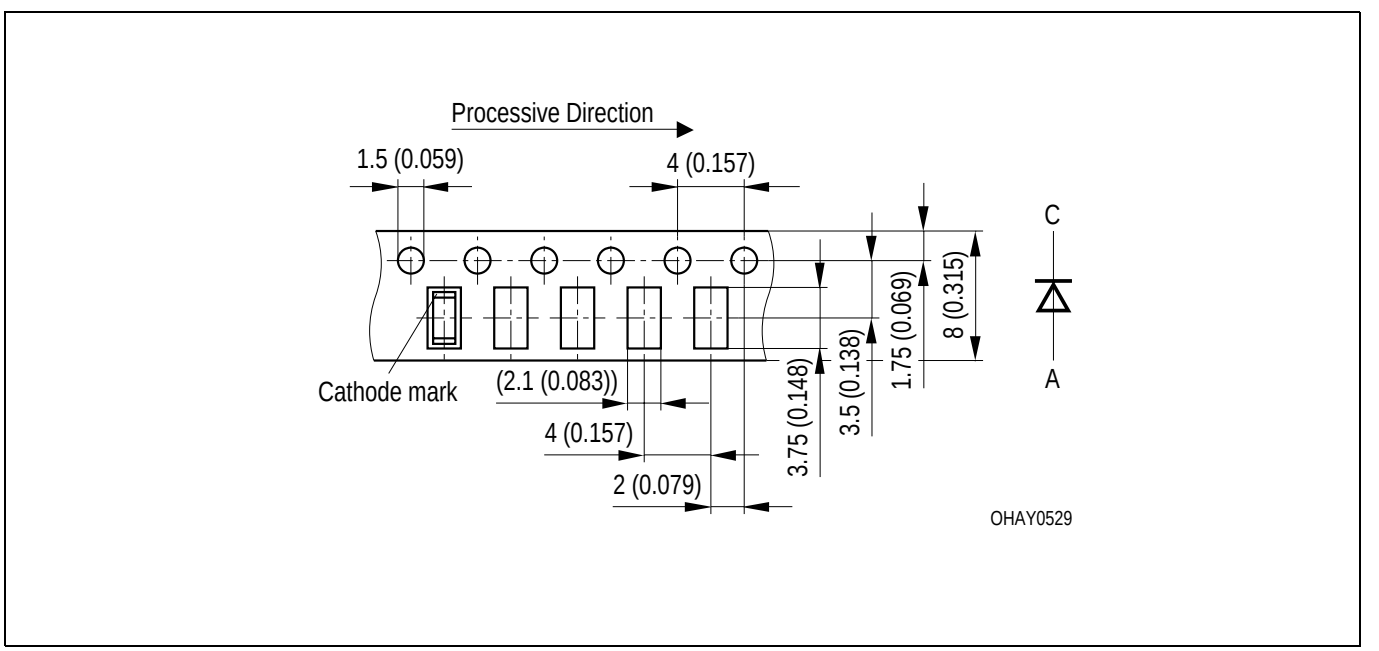


Empfohlenes Lötpaddesign IR Reflow Löten
Recommended Solder Pad IR Reflow Soldering



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

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



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

Revision History: 2002-04-05	
Previous Version: 2001-03-05	
Page	**Subjects (major changes since last revision)**
7	cathode marking
4	forward voltage
4	wavelength yellow
3	pad size from 16 mm^2 to 5 mm^2

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Attention please!
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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.