

GaAlAs-IR-Lumineszenzdiode (880 nm)
GaAlAs Infrared Emitters (880 nm)
Lead (Pb) Free Product - RoHS Compliant

SFH 484
SFH 485



SFH 484



SFH 485

Wesentliche Merkmale

- GaAlAs-LED mit sehr hohem Wirkungsgrad
- Hohe Zuverlässigkeit
- UL Version erhältlich
- Gute spektrale Anpassung an Si-Fotoempfänger
- Gegurtet lieferbar (im Ammo-Pack)
- Gruppiert lieferbar
- SFH 484: Gehäusegleich mit LD 274
- SFH 485: Gehäusegleich mit SFH 300, SFH 203

Features

- Very highly efficient GaAlAs-LED
- High reliability
- UL version available
- Spectral match with silicon photodetectors
- Available on tape and reel (in Ammopack)
- Available in bins
- SFH 484: Same package as LD 274
- SFH 485: Same package as SFH 300, SFH 203

Anwendungen

- IR-Fernsteuerungen
- Rauchmelder
- Sensorik
- Diskrete Lichtschranken

Applications

- IR remote controls
- Smoke detectors
- Sensor technology
- Discrete interrupters

Typ Type	Bestellnummer Ordering Code	Gehäuse Package
SFH 484	Q62703Q1092	5-mm-LED-Gehäuse (T 1 ³ / ₄), klares violette Epoxy-Gießharz, Anschlüsse im 2.54-mm-Raster (1/10"), Anodenkennzeichnung: kürzerer Anschluß 5 mm LED package (T 1 ³ / ₄), violet-colored epoxy resin, solder tabs lead spacing 2.54 mm (1/10"), anode marking: short lead
SFH 484-2	Q62703Q1756	
SFH 484-2 E7517 (UL)	Q62703Q2392	
SFH 484-2 E9548 (UL)	Q65110A1434	
SFH 485	Q62703Q1093	
SFH 485-2	Q62703Q1547	

Grenzwerte ($T_A = 25\text{ °C}$)

Maximum Ratings

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Betriebs- und Lagertemperatur Operating and storage temperature range	$T_{op}; T_{stg}$	- 40 ... + 100	°C
Sperrspannung Reverse voltage	V_R	5	V
Durchlaßstrom Forward current	I_F	100	mA
Stoßstrom, $t_p = 10\text{ }\mu\text{s}$, $D = 0$ Surge current	I_{FSM}	2.5	A
Verlustleistung Power dissipation	P_{tot}	200	mW
Wärmewiderstand, freie Beinchenlänge max. 10 mm Thermal resistance, lead length between package bottom and PC-board max. 10 mm	R_{thJA}	375	K/W

Kennwerte ($T_A = 25\text{ °C}$)

Characteristics

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge der Strahlung Wavelength at peak emission $I_F = 100\text{ mA}$	λ_{peak}	880	nm
Spektrale Bandbreite bei 50% von I_{rel} Spectral bandwidth at 50% of I_{rel} $I_F = 100\text{ mA}$	$\Delta\lambda$	80	nm
Abstrahlwinkel Half angle SFH 484 SFH 485	φ φ	± 8 ± 20	Grad deg.
Aktive Chipfläche Active chip area	A	0.09	mm ²
Abmessungen der aktiven Chipfläche Dimension of the active chip area	$L \times B$ $L \times W$	0.3×0.3	mm ²
Abstand Chipoberfläche bis Linsenscheitel Distance chip front to lens top SFH 484 SFH 485	H H	5.1 ... 5.7 4.2 ... 4.8	mm mm
Schaltzeiten, I_e von 10% auf 90% und von 90% auf 10%, bei $I_F = 100\text{ mA}$, $R_L = 50\ \Omega$ Switching times, I_e from 10% to 90% and from 90% to 10%, $I_F = 100\text{ mA}$, $R_L = 50\ \Omega$	t_r, t_f	0.6/0.5	μs
Kapazität Capacitance $V_R = 0\text{ V}$, $f = 1\text{ MHz}$	C_o	15	pF
Durchlaßspannung Forward voltage $I_F = 100\text{ mA}$, $t_p = 20\text{ ms}$ $I_F = 1\text{ A}$, $t_p = 100\ \mu\text{s}$	V_F V_F	1.50 (≤ 1.8) 3.00 (≤ 3.8)	V V
Sperrstrom, Reverse current $V_R = 5\text{ V}$	I_R	0.01 (≤ 1)	μA
Gesamtstrahlungsfluß, Total radiant flux $I_F = 100\text{ mA}$, $t_p = 20\text{ ms}$	Φ_e	25	mW

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

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Temperaturkoeffizient von I_e bzw. Φ_e , $I_F = 100\text{ mA}$ Temperature coefficient of I_e or Φ_e , $I_F = 100\text{ mA}$	TC_I	- 0.5	%/K
Temperaturkoeffizient von V_F , $I_F = 100\text{ mA}$ Temperature coefficient of V_F , $I_F = 100\text{ mA}$	TC_V	- 2	mV/K
Temperaturkoeffizient von λ , $I_F = 100\text{ mA}$ Temperature coefficient of λ , $I_F = 100\text{ mA}$	TC_λ	0.25	nm/K

Gruppierung der Strahlstärke I_e in Achsrichtung

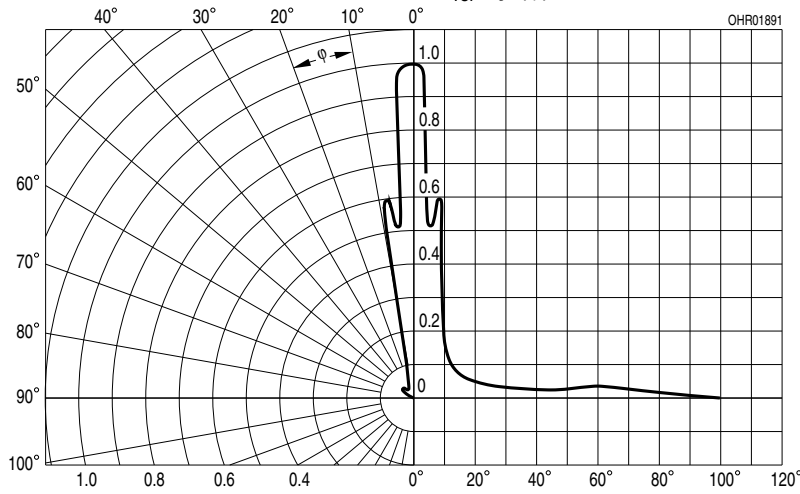
gemessen bei einem Raumwinkel $\Omega = 0.001\text{ sr}$ bei SFH 484 bzw. $\Omega = 0.01\text{ sr}$ bei SFH 485

Grouping of Radiant Intensity I_e in Axial Direction

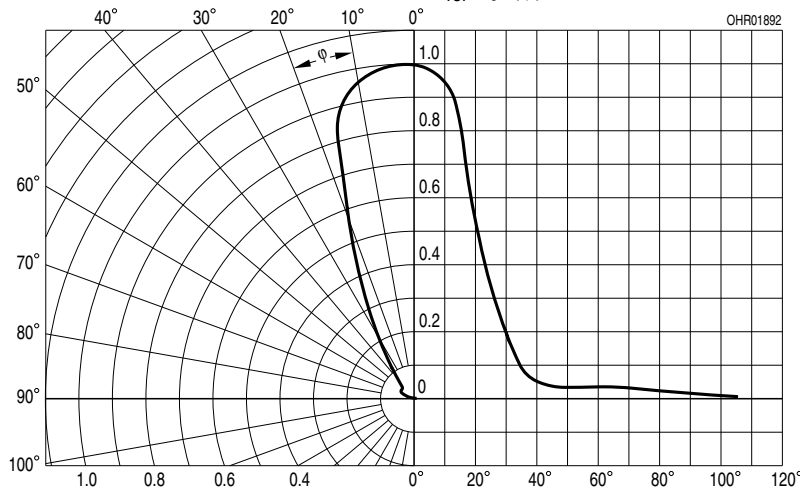
at a solid angle of $\Omega = 0.001\text{ sr}$ at SFH 484 or $\Omega = 0.01\text{ sr}$ at SFH 485

Bezeichnung Parameter	Symbol	Wert Value					Einheit Unit
		SFH 484	SFH 484-1	SFH 484-2	SFH 485	SFH 485-2	
Strahlstärke Radiant intensity $I_F = 100\text{ mA}$, $t_p = 20\text{ ms}$	$I_{e\text{ min}}$ $I_{e\text{ max}}$	50 -	50 100	80 -	25 160	25 100	mW/sr mW/sr

Radiation Characteristics, SFH 484 $I_{rel} = f(\varphi)$

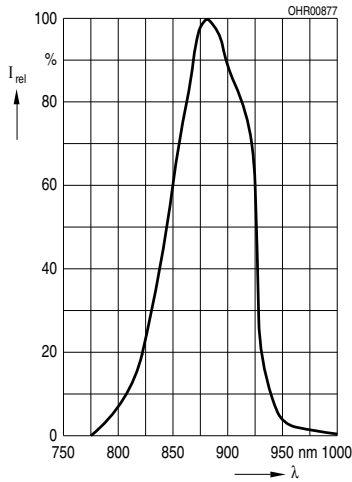


Radiation Characteristics SFH 485 $I_{rel} = f(\varphi)$



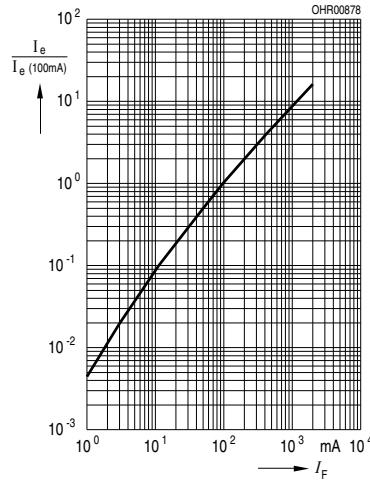
Relative Spectral Emission

$I_{rel} = f(\lambda)$



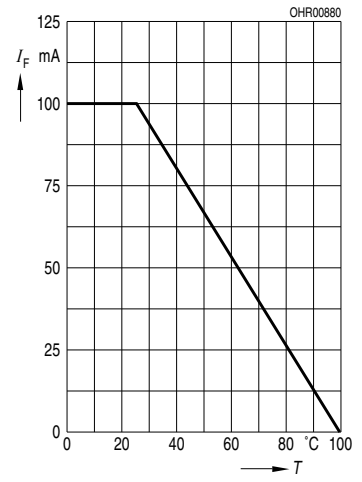
Radiant Intensity $\frac{I_e}{I_e 100 \text{ mA}} = f(I_F)$

Single pulse, $t_p = 20 \mu\text{s}$



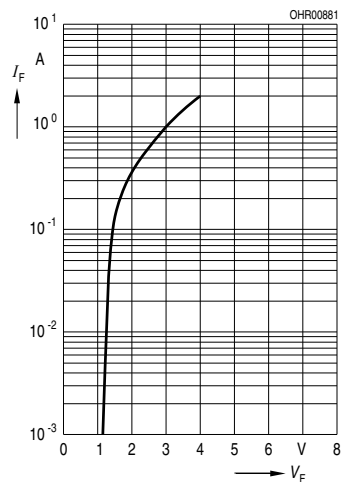
Max. Permissible Forward Current

$I_F = f(T_A)$

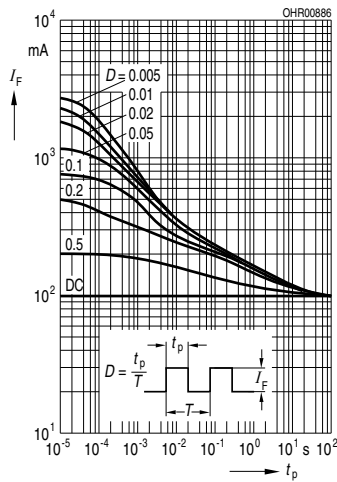


Forward Current

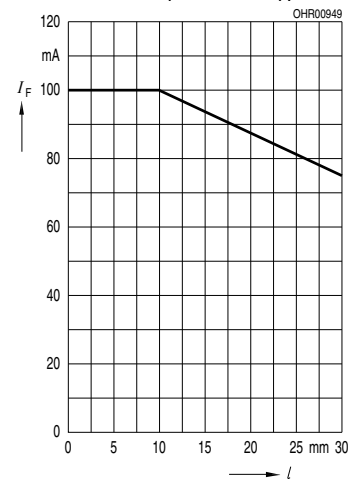
$I_F = f(V_F)$, single pulse, $t_p = 20 \mu\text{s}$



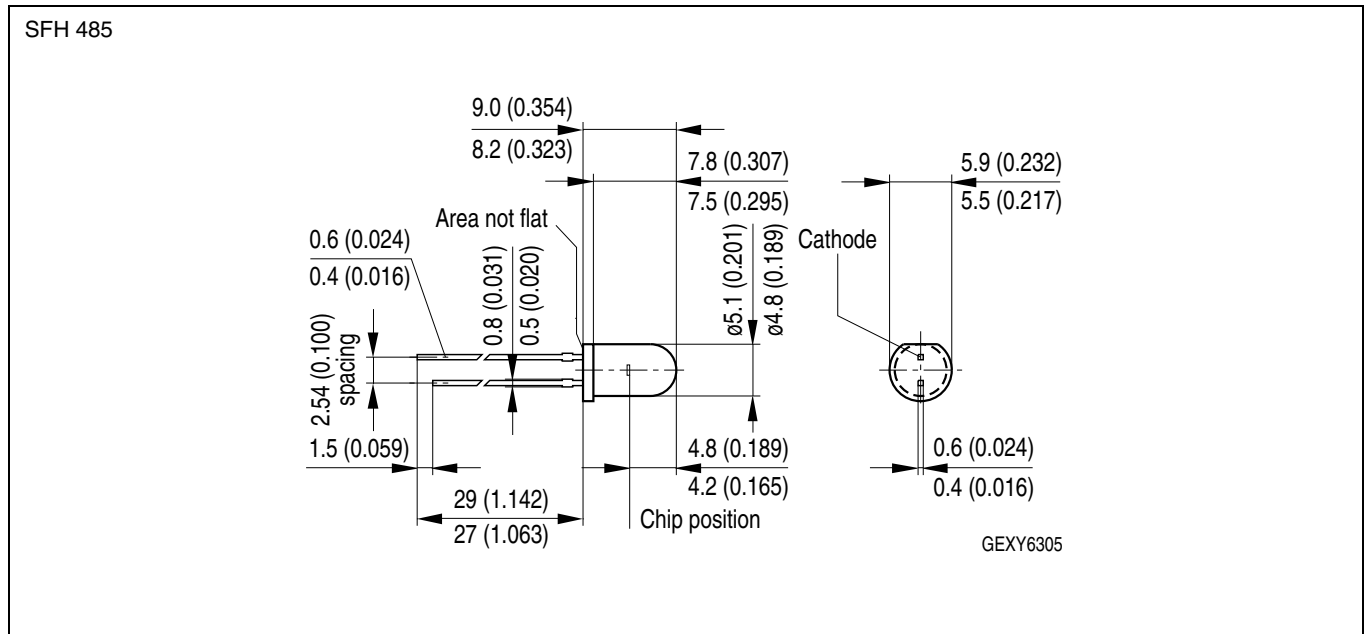
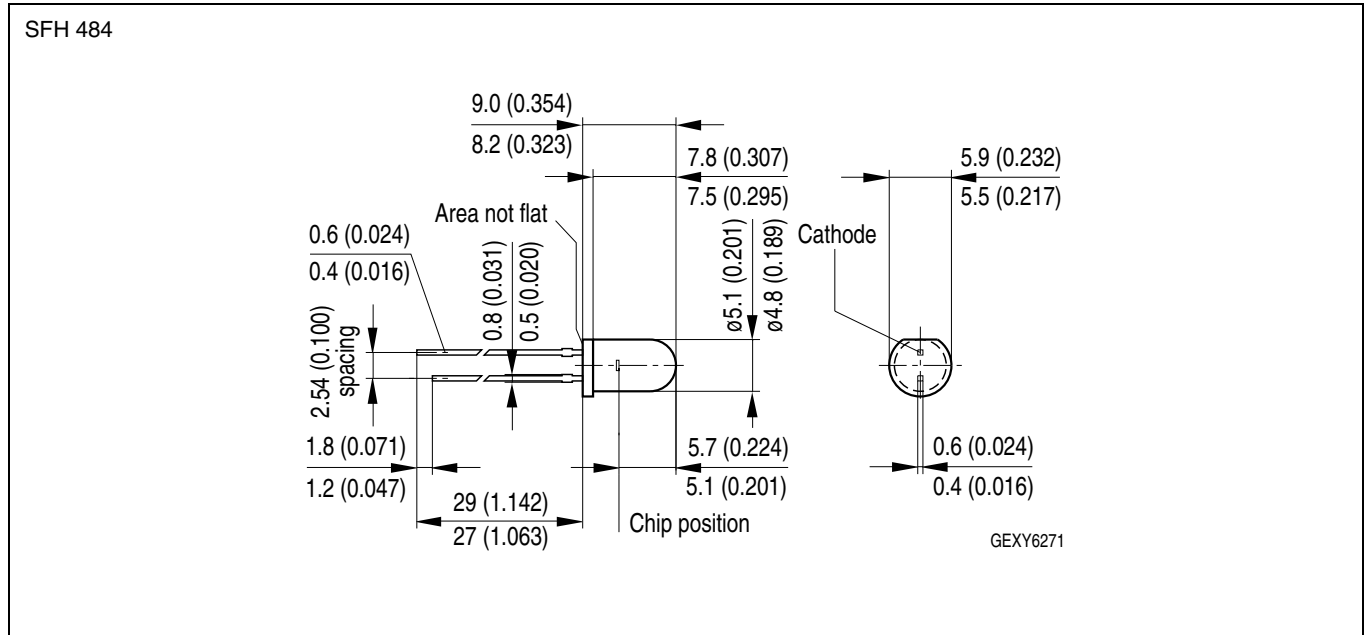
Permissible Pulse Handling Capability $I_F = f(\tau)$, $T_A = 25^\circ\text{C}$, duty cycle $D = \text{parameter}$



Forward Current vs. Lead Length between the Package Bottom and the PC-Board $I_F = f(l)$, $T_A = 25^\circ\text{C}$



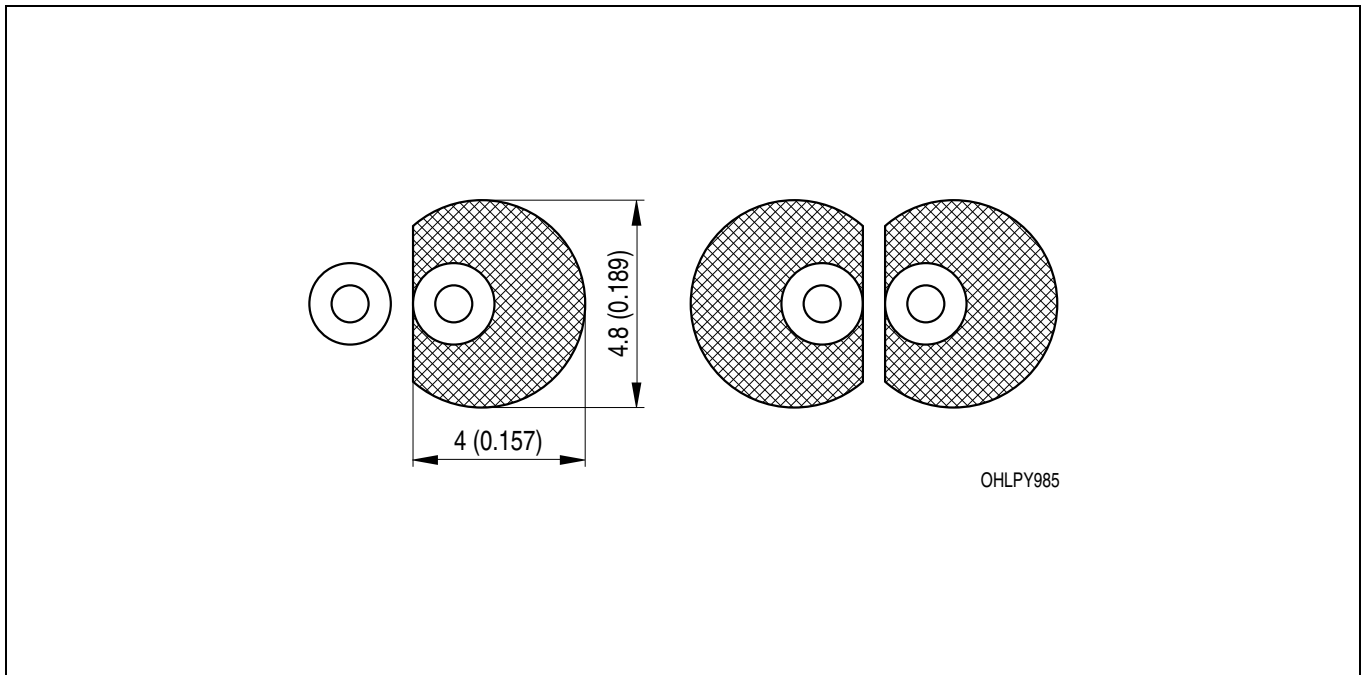
Maßzeichnung
Package Outlines



Maße in mm (inch) / Dimensions in mm (inch).

Empfohlenes Lötpaddesign
Recommended Solder Pad

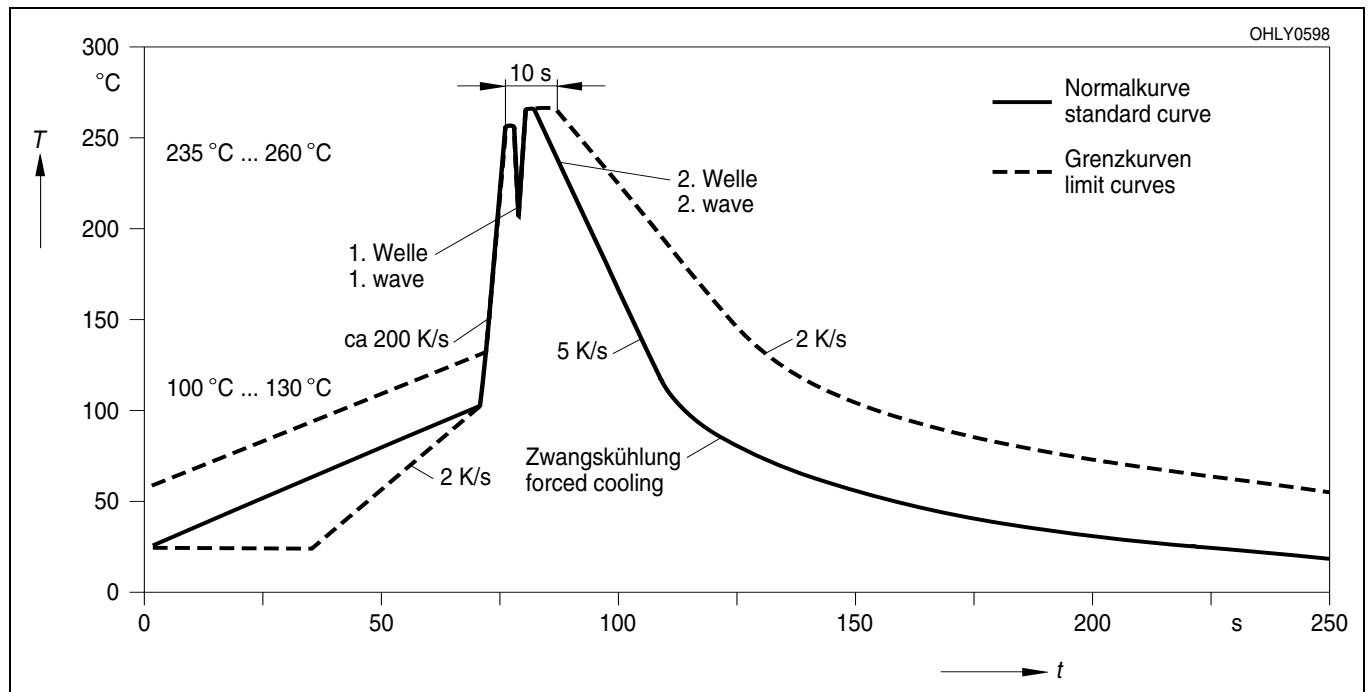
Wellenlöten (TTW)
 TTW Soldering



Maße in mm (inch) / Dimensions in mm (inch).

Lötbedingungen
Soldering Conditions
Wellenlöten (TTW)
TTW Soldering

(nach CECC 00802)
(acc. to CECC 00802)



Published by
OSRAM Opto Semiconductors GmbH
Leibnizstrasse 4, D-93055 Regensburg
www.osram-os.com
© All Rights Reserved.

EU RoHS and China RoHS compliant product



此产品符合欧盟 RoHS 指令的要求；

按照中国的相关法规和标准，不含有毒有害物质或元素。

The information describes the type of component and shall not be considered as assured characteristics. Terms of delivery and rights to change design reserved. Due to technical requirements components may contain dangerous substances. For information on the types in question please contact our Sales Organization.

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 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.