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

SFH 486

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

Anwendungen

- IR-Fernsteuerung von Fernseh- und Rundfunkgeräten, Videorecordern, Lichtdimmern
- Gerätefernsteuerungen für Gleich- und Wechsellichtbetrieb
- Rauchmelder
- Sensorik
- Diskrete Lichtschranken

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

Applications

- IR remote control of hi-fi and TV-sets, video tape recorders, dimmers
- Remote control for steady and varying intensity
- Smoke detectors
- Sensor technology
- Discrete interrupters

Typ Type	Bestellnummer Ordering Code	Gehäuse Package
SFH 486	Q62703Q1094	5-mm-LED-Gehäuse (T 1 $^3/_4$), klares violettes Epoxy-Gießharz, Anschlüsse im 2.54-mm-Raster ($^1/_{10}$"), Anodenkennzeichnung: kürzerer Anschluß
SFH 486 E7517 (UL)	Q62703Q6175	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

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Grenzwerte ($T_A = 25\ °C$)
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, $t_p = 10\ \mu s$, $D = 0$ Surge current	I_{FSM}	2.5	A
Verlustleistung Power dissipation	P_{tot}	200	mW
Wärmewiderstand Thermal resistance	R_{thJA}	375	K/W

Kennwerte ($T_A = 25\ °C$)
Characteristics

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge der Strahlung Wavelength at peak emission $I_F = 100\ mA$	λ_{peak}	880	nm
Spektrale Bandbreite bei 50% von I_{rel} Spectral bandwidth at 50% of I_{rel} $I_F = 100\ mA$	$\Delta\lambda$	80	nm
Abstrahlwinkel Half angle	φ	± 11	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	mm²
Abstand Chipoberfläche bis Gehäusevorderseite Distance chip front to case surface	H	5.1 … 5.7	mm
Schaltzeiten, I_e von 10% auf 90% und von 90% auf 10%, bei $I_F = 100\ mA$, $R_L = 50\ \Omega$ Switching times, I_e from 10% to 90% and from 90% to 10%, $I_F = 100\ mA$, $R_L = 50\ \Omega$	t_r, t_f	0.6/0.5	μs

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Kennwerte (T_A = 25 °C)
Characteristics (cont'd)

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Kapazität Capacitance V_R = 0 V, f = 1 MHz	C_o	15	pF
Durchlassspannung Forward voltage I_F = 100 mA, t_p = 20 ms I_F = 1 A, t_p = 100 µs	V_F	1.5 ($<$ 1.8) 3.0 ($<$ 3.8)	V
Sperrstrom Reverse current V_R = 5 V	I_R	0.01 ($\leq$ 1)	µA
Gesamtstrahlungsfluss Total radiant flux I_F = 100 mA, t_p = 20 ms	Φ_e	25	mW
Temperaturkoeffizient von I_e bzw. Φ_e, I_F = 100 mA Temperature coefficient of I_e or Φ_e, I_F = 100 mA	TC_I	– 0.5	%/K
Temperaturkoeffizient von V_F, I_F = 100 mA Temperature coefficient of V_F, I_F = 100 mA	TC_V	– 2	mV/K
Temperaturkoeffizient von λ, I_F = 100 mA Temperature coefficient of λ, I_F = 100 mA	TC_λ	0.25	nm/K

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Strahlstärke I_e in Achsrichtung
gemessen bei einem Raumwinkel Ω = 0.001 sr
Radiant Intensity I_e in Axial Direction
at a solid angle of Ω = 0.001 sr

Bezeichnung Parameter	Symbol	Werte Values	Einheit Unit
Strahlstärke Radiant intensity I_F = 100 mA, t_p = 20 ms	$I_{e\,min}$ $I_{e\,typ}$	40 70	 mW/sr
Strahlstärke Radiant intensity I_F = 1 A, t_p = 100 µs	$I_{e\,typ}$	600	mW/sr

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Relative Spectral Emission
$I_{rel} = f(\lambda)$

OHR00877
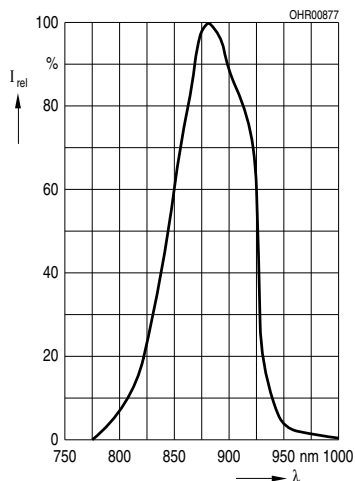
Radiant Intensity $\dfrac{I_e}{I_e \, 100 \, mA} = f(I_F)$

Single pulse, $t_p = 20 \, \mu s$

OHR00878
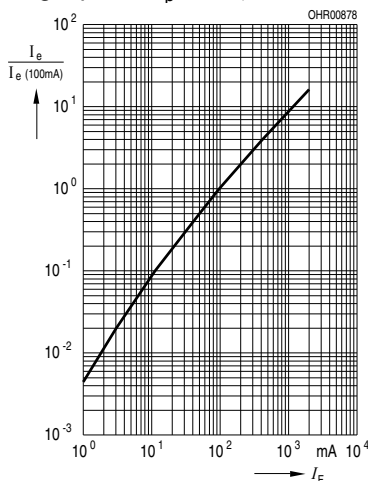
Max. Permissible Forward Current
$I_F = f(T_A)$

OHR00880
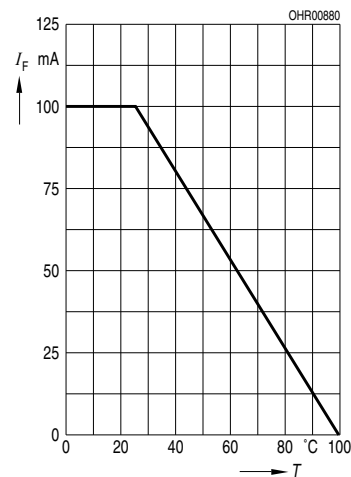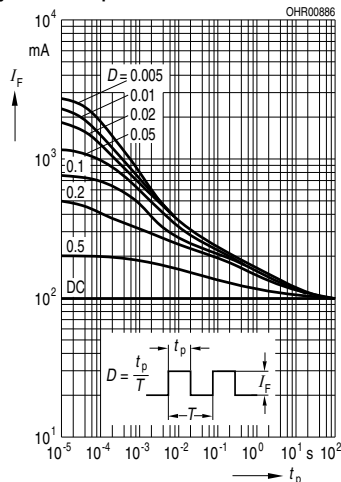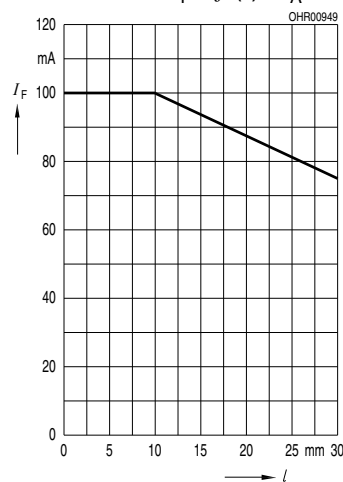
Forward Current
$I_F = f(V_F)$, single pulse, $t_p = 20 \, \mu s$

OHR00881
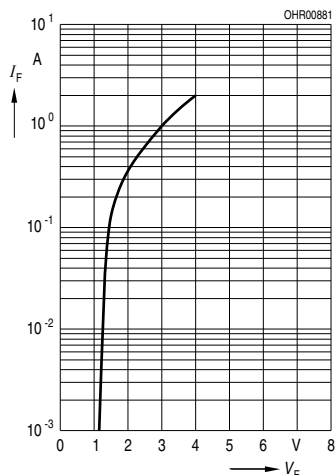
Permissible Pulse Handling Capability $I_F = f(\tau)$, $T_A = 25 \, °C$, duty cycle D = parameter

OHR00886

$D = 0.005$
0.01
0.02
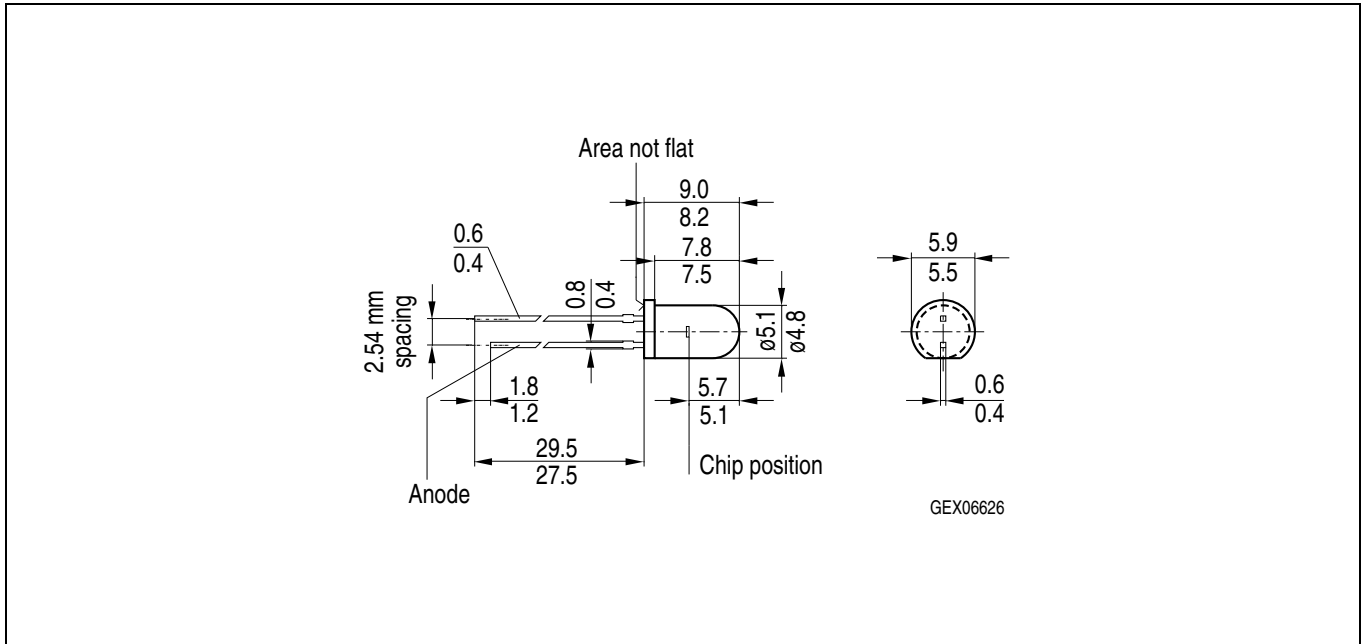0.05
0.1
0.2
0.5
DC

$D = \dfrac{t_p}{T}$

Forward Current vs. Lead Length Between the Package Bottom and the PC-Board $I_F = f(l)$, $T_A = 25 \, °C$

OHR00949

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

OHR01733

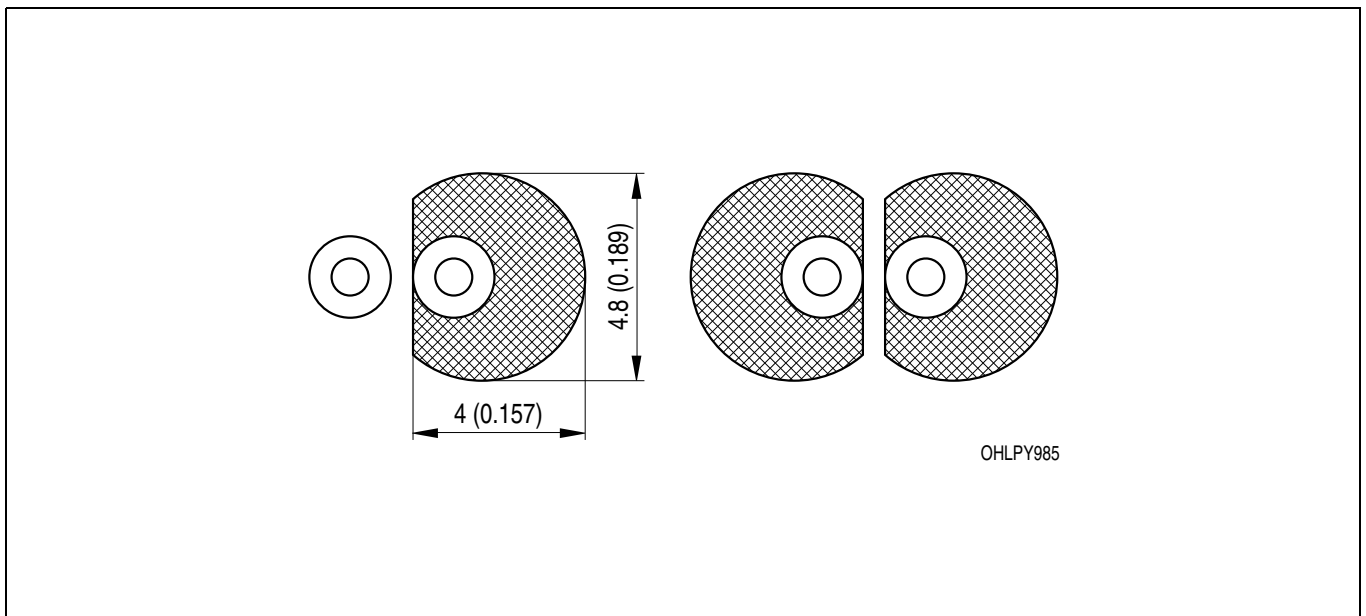**Opto Semiconductors**

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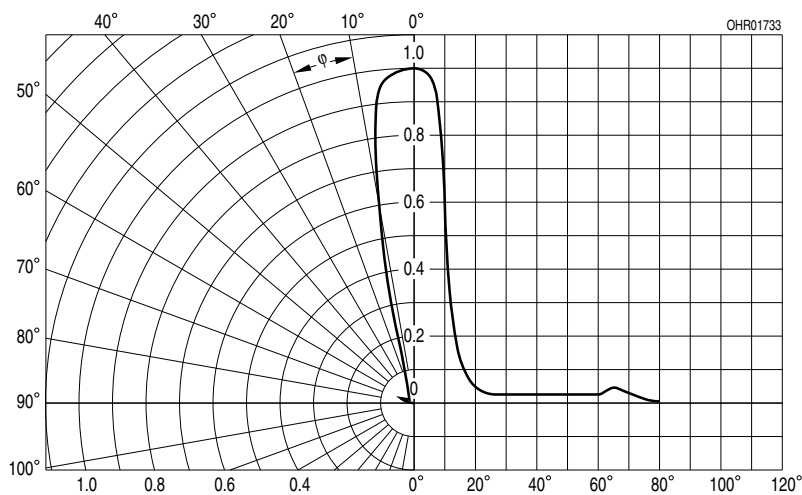
Maßzeichnung
Package Outlines

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

Empfohlenes Lötpaddesign⁾

Recommended Solder Pad
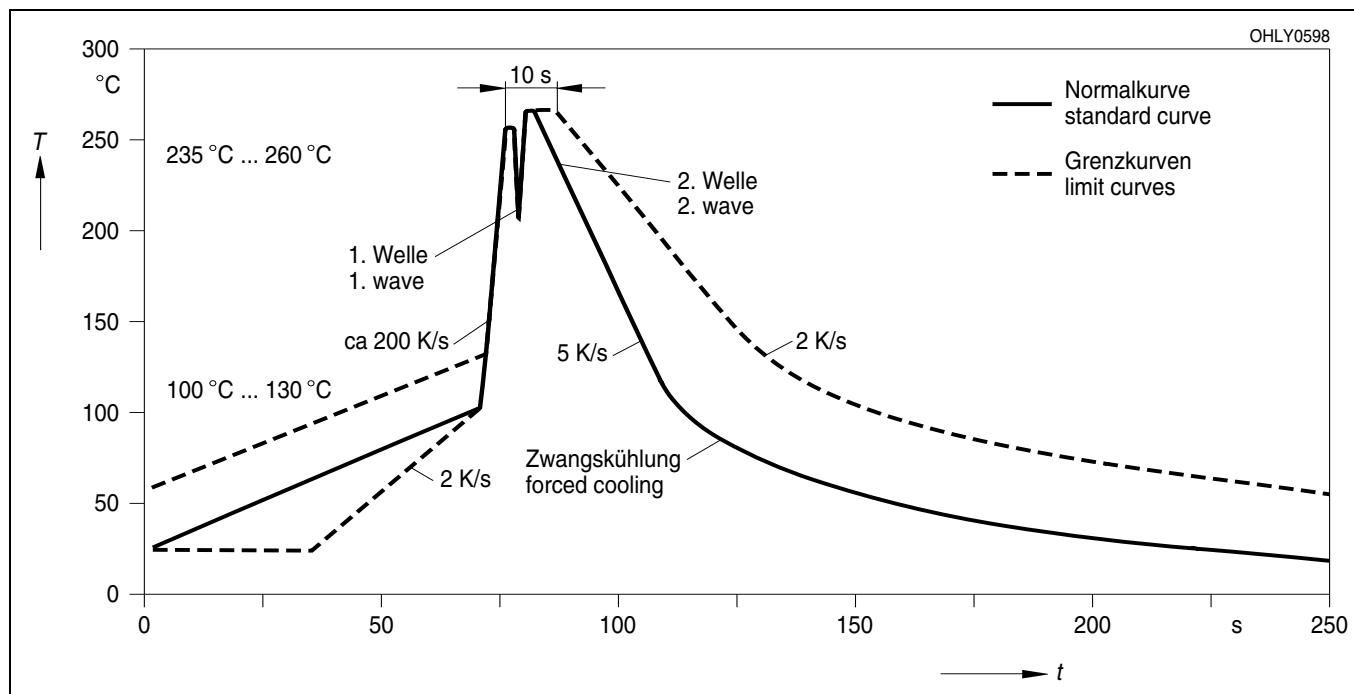
Wellenlöten (TTW)

TTW Soldering

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

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Lötbedingungen
Soldering Conditions
Wellenlöten (TTW) (nach CECC 00802)
TTW Soldering (acc. to CECC 00802)

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。

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 usedin 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.

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Mouser Electronics

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