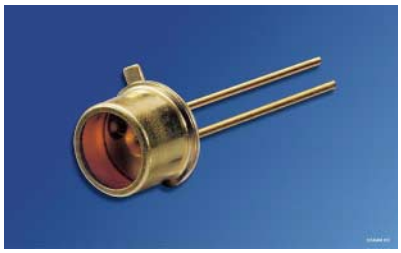
IR-Lumineszenzdiode (880 nm) im TO-46-Gehäuse
Infrared Emitter (880 nm) in TO-46 Package
Lead (Pb) Free Product - RoHS Compliant

SFH 4881
SFH 4883

SFH 4881



SFH 4883

Wesentliche Merkmale

- Hergestellt im Schmelzepitaxieverfahren
- Anode galvanisch mit dem Gehäuseboden verbunden
- Hohe Zuverlässigkeit
- Gute spektrale Anpassung an Si-Fotoempfänger
- Hermetisch dichtes Metallgehäuse

Features

- Fabricated in a liquid phase epitaxy process
- Anode is electrically connected to the case
- High reliability
- Matches all Si-Photodetectors
- Hermetically sealed package

Anwendungen

- Lichtschranken für Gleich- und Wechsellichtbetrieb
- IR-Gerätefernsteuerungen
- Sensorik

Applications

- Photointerrupters
- IR remote control of various equipmet
- Sensor technology
- Light-grille barrier

Typ **Type**	**Bestellnummer** **Ordering Code**	**Strahlstärke** (I_F = 100mA, t_p = 20 ms) **Radiant Intensity**[)] I_e (mW/sr)
SFH 4881	Q62702P5302	≥ 40(typ. 72)
SFH 4883	Q62702P5303	≥ 4(typ. 8)

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	200	mA
Stoßstrom Surge current t_p = 10 µs, D = 0.01	I_{FSM}	2.5	A
Verlustleistung Power dissipation	P_{tot}	470	mW
Wärmewiderstand Thermal resistance	R_{thJA} R_{thJC}	450 160	K/W K/W

Kennwerte (T_A = 25 ° C)
Characteristics

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge der Strahlung Wavelength of peak emission	λ_{peak}	880	nm
Spektrale Bandbreite bei 50% von I_{max} Spectral bandwidth at 50% of I_{max}	$\Delta\lambda$	80	nm
Abstrahlwinkel Half angle SFH 4881 SFH 4883	 φ φ	 ± 5 ± 35	 Grad deg.
Aktive Chipfläche Active chip area	A	0.16	mm^2
Abmessungen der aktiven Chipfläche Dimension of the active chip area	$L \times B$ $L \times W$	0.4 × 0.4	mm

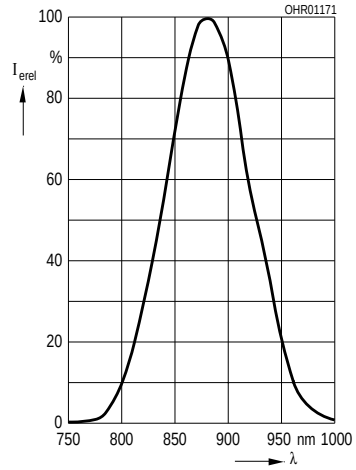
Kennwerte (T_A = 25 °C) (cont'd)
Characteristics

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Schaltzeiten, I_e von 10% auf 90% und von 90% auf 10% Switching times, I_e from 10% to 90% and from 90% to 10% I_F = 100 mA, R_L = 50 Ω	t_r, t_f	500	ns
Kapazität Capacitance V_R = 0 V, f = 1 MHz	C_o	25	pF
Durchlaβspannung Forward voltage I_F = 100 mA, t_p = 20 ms I_F = 1 A, t_p = 100 µs I_F = 1.5 A, t_p = 100 µs	 V_F V_F V_F	 1.5 (≤1.8) 2.4 (≤3.0) 2.9 (≤3.4)	 V V V
Sperrstrom Reverse current V_R = 5 V	I_R	0.01 (≤10)	µA
Gesamtstrahlungsfluß Total radiant flux I_F = 100 mA, t_p = 20 ms SFH 4881 SFH 4883	 Φ_e Φ_e	 12 15	 mW mW

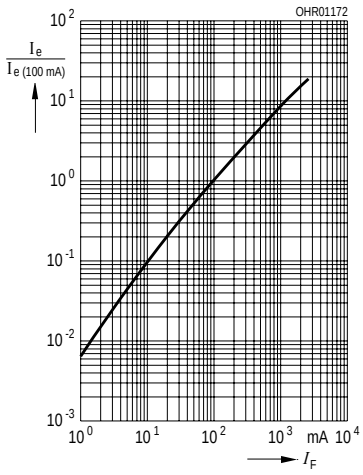
Strahlstärke I_e in Achsrichtung
gemessen bei einem Raumwinkel von Ω = 0.01 sr
Radiant Intensity I_e in Axial Direction
measured at a solid angle of Ω = 0.01 sr

Bezeichnung Parameter	Symbol Symbol	Wert Value		Einheit Unit
		SFH 4881	SFH 4883	
Strahlstärke Radiant intensity I_F = 100 mA, t_p = 20 ms	$I_{e\ min}$ $I_{e\ typ}$	40 72	4 8	mW/sr mW/sr
Strahlstärke Radiant intensity I_F = 1 A, t_p = 100 µs	$I_{e\ typ}$	630	70	mW/sr

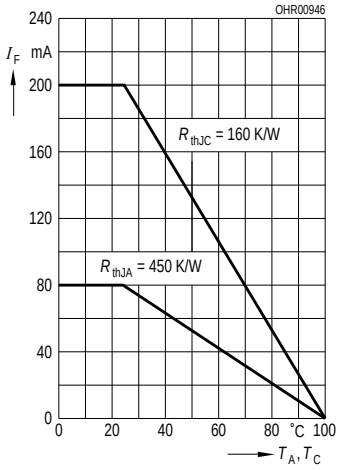
Relative Spectral Emission
$I_{erel} = f(\lambda)$



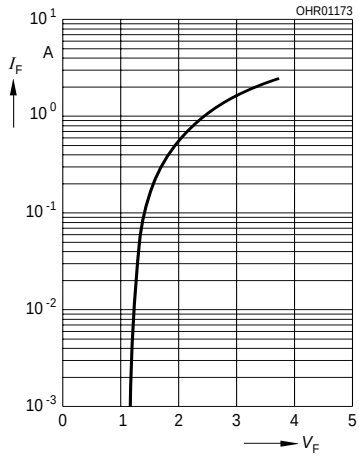
Radiant Intensity
$I_e/I_{e\ (100\ mA)} = f(I_F)$



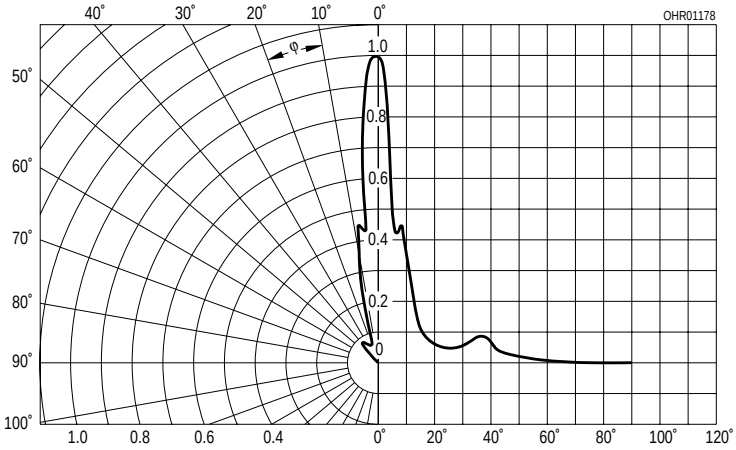
Max. Permissible Forward Current
$I_F = f(T_A, T_C)$



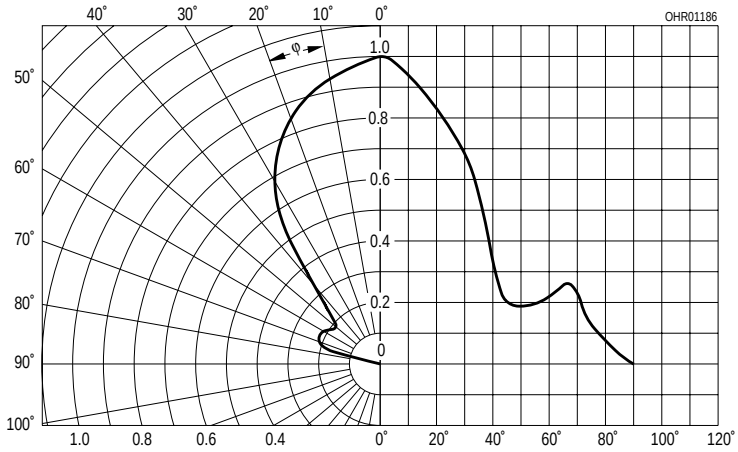
Forward Current
$I_F = f(V_F)$



Radiation Characteristic
SFH 4881, $I_{erel} = f(\varphi)$

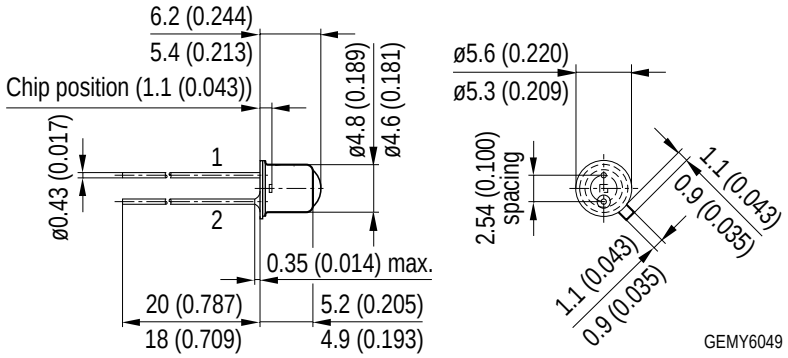


Radiation Characteristic
SFH 4883, $I_{erel} = f(\varphi)$

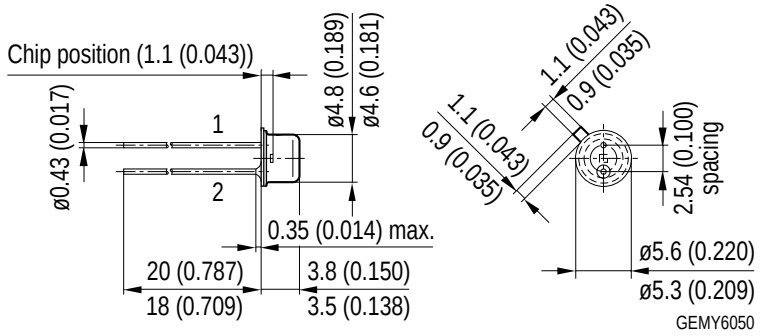


Maßzeichnungen
Package Outlines

SFH 4881



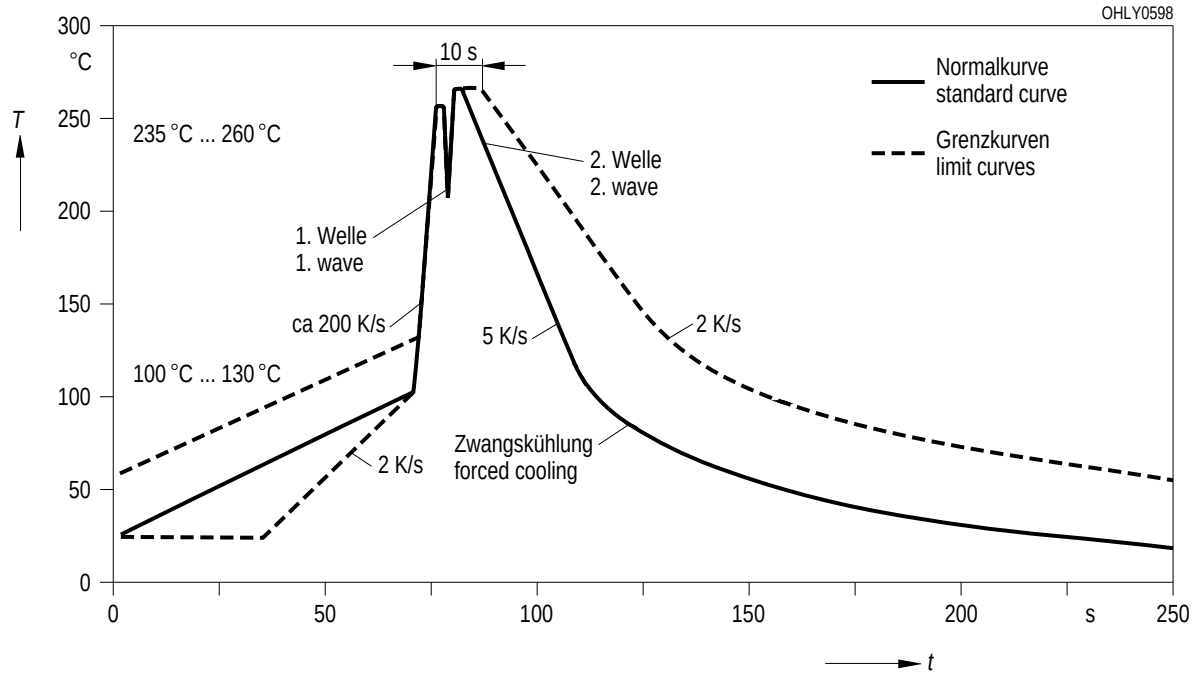
SFH 4883



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

Gehäuse Package	TO-46-Metallgehäuse, Glaslinse, hermetisch dicht, Anschlüsse im 2.54-mm-Raster ($^1/_{10}$'') TO-46-metal-package, glass lens, hermetically sealed, solder tabs lead spacing 2.54 mm ($^1/_{10}$'')
Anschlussbelegung Pin configuration	Anschluss 2: Kathode Pin 2 : cathode

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



Published by
OSRAM Opto Semiconductors GmbH
Wernerwerkstrasse 2, D-93049 Regensburg
www.osram-os.com

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