IR-Lumineszenzdiode (880 nm) im TO-46-Gehäuse
Infrared Emitter (880 nm) in TO-46 Package

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	Gehäuse Package
SFH 4881	Q62702-P5302	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 ($^1/_{10}$'')
SFH 4883	Q62702-P5303	

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

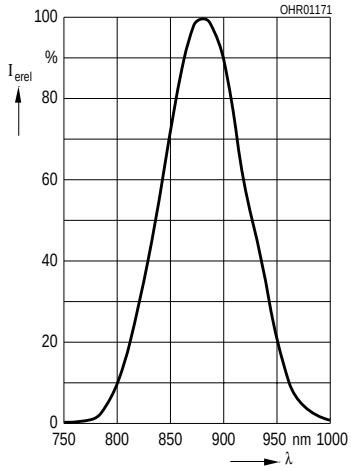
Kennwerte (T_A = 25 °C) (cont'd)
Characteristics

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
Durchlaßspannung 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

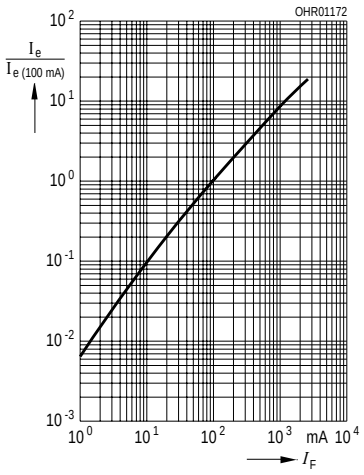
Strahlstärke I_e in Achsrichtung
gemessen bei einem Raumwinkel von Ω = 0.01 sr
Radiant Intensity I_e in Axial Direction
measured at a solid angle of Ω = 0.01 sr

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

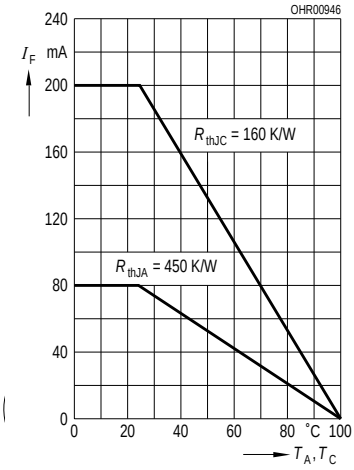
Relative Spectral Emission
$I_{erel} = f(\lambda)$



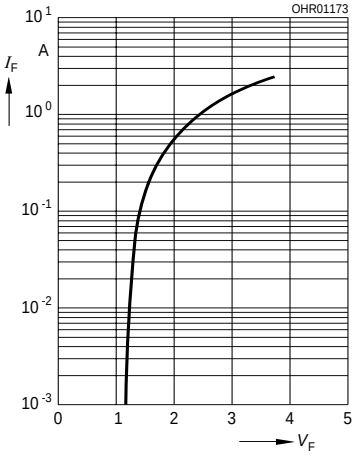
Radiant Intensity
$I_e/I_{e\ (100\ mA)} = f(I_F)$



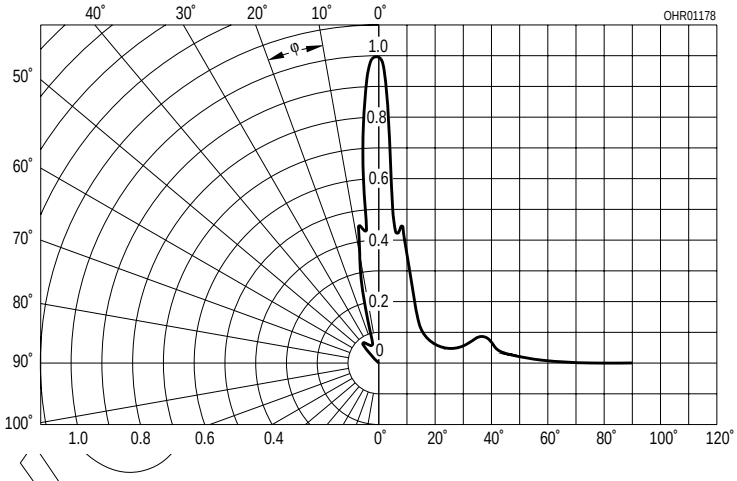
Max. Permissible Forward Current
$I_F = f(T_A, T_C)$



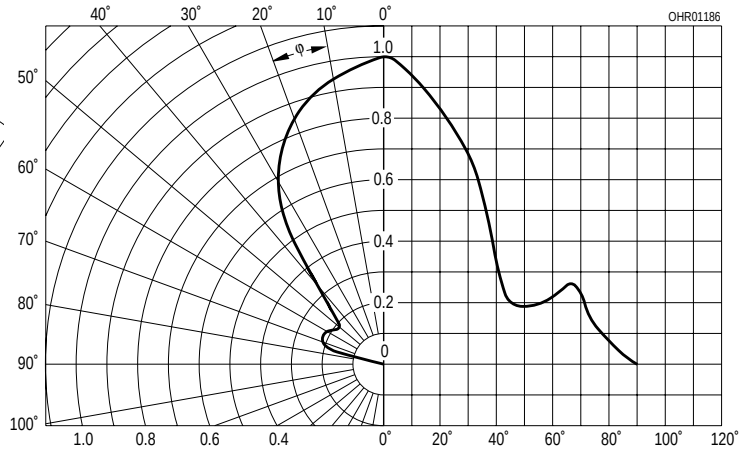
Forward Current
$I_F = f(V_F)$



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

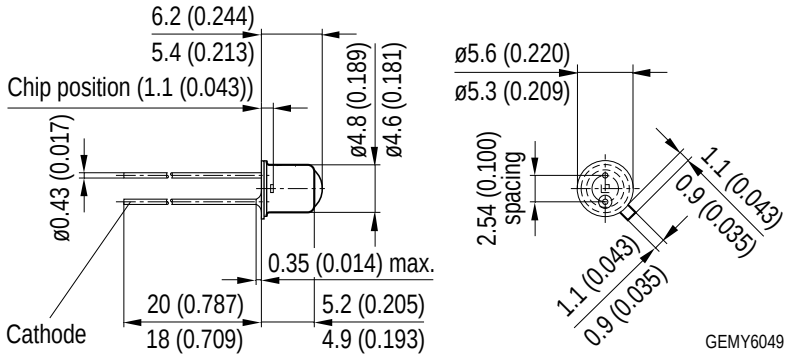


Radiation Characteristic
SFH 4883, $I_{erel} = f(\varphi)$

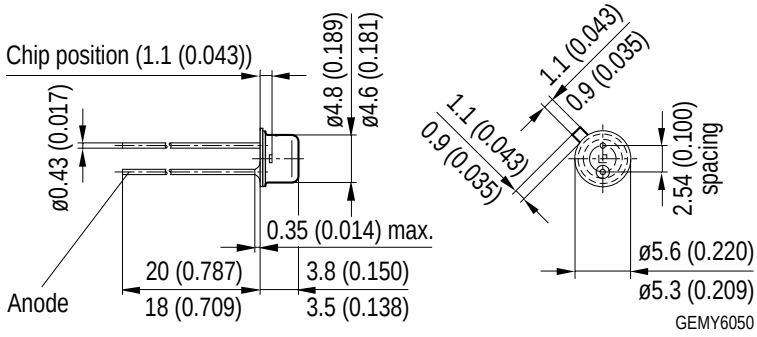


Maßzeichnungen
Package Outlines

SFH 4881



SFH 4883



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

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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.

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