NPN-Silizium-Fototransistor in SMT-Gehäuse mit Linse
Silicon NPN Phototransistor in SMT-Package with lens

SFH 3219

Wesentliche Merkmale

- TOPLED mit Linse
- Speziell geeignet für Anwendungen im Bereich von 430 nm bis 1150 nm
- Hohe Linearität
- Für alle Lötverfahren geeignet
- Gehäusegleich mit SFH 4209, SFH 4219, SFH 4289

Features

- TOPLED with lens
- Especially suitable for applications from 430 nm to 1150 nm
- High linearity
- Suitable for all soldering methods
- Same package as SFH 4209, SFH 4219, SFH 4289

Anwendungen

- Miniaturlichtschranken für Gleich- und Wechsellichtbetrieb
- Industrieelektronik
- „Messen/Steuern/Regeln“
- Automobiltechnik
- Sensorik

Applications

- Miniature photointerrupters
- Industrial electronics
- For control and drive circuits
- Automotive technology
- Sensor technology

Typ Type	Bestellnummer Ordering Code
SFH 3219	Q62702-P5551

Grenzwerte
Maximum Ratings

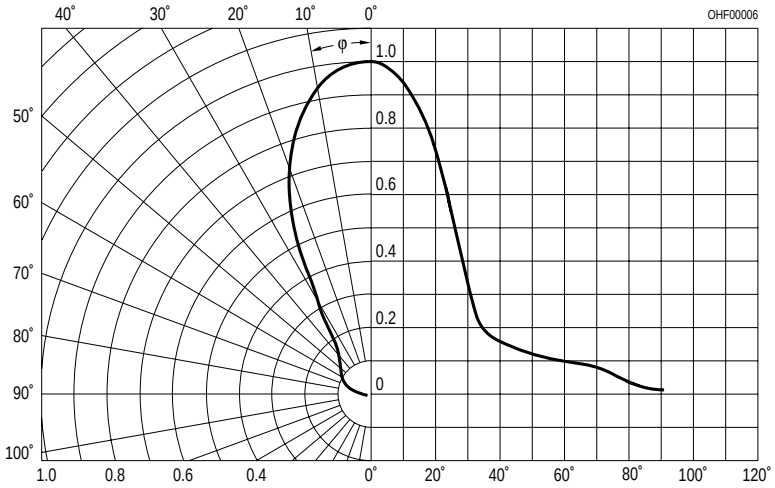
Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Betriebs- und Lagertemperatur Operating and storage temperature range	T_{op}; T_{stg}	– 40 … + 100	°C
Kollektor-Emitterspannung Collector-emitter voltage	V_{CE}	35	V
Kollektorstrom Collector current	I_C	15	mA
Kollektorspitzenstrom, $\tau < 10$ µs Collector surge current	I_{CS}	75	mA
Verlustleistung, T_A = 25 °C Total power dissipation	P_{tot}	165	mW
Wärmewiderstand für Montage auf PC-Board Thermal resistance for mounting on pcb	R_{thJA}	450	K/W

Kennwerte (T_A = 25 °C, λ = 950 nm)
Characteristics

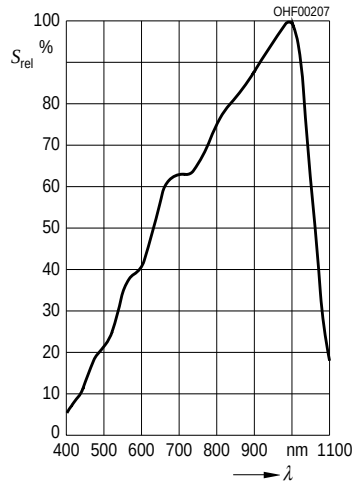
Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\ max}$	990	nm
Spektraler Bereich der Fotoempfindlichkeit S = 10% von S_{max} Spectral range of sensitivity S = 10% of S_{max}	λ	430 … 1150	nm
Bestrahlungsempfindliche Fläche (∅ 240 µm) Radiant sensitive area	A	0.045	mm^2
Abmessung der Chipfläche Dimensions of chip area	$L \times B$ $L \times W$	0.45 × 0.45	mm × mm
Halbwinkel Half angle	φ	± 25	Grad deg.
Kapazität, V_{CE} = 0 V, f = 1 MHz, E = 0 Capacitance	C_{CE}	5.0	pF
Dunkelstrom Dark current V_{CE} = 20 V, E = 0	I_{CEO}	1 (≤ 50)	nA
Fotostrom Photo current E_e = 0.1 mW/cm², V_{CE} = 5 V	I_{PCE}	≥ 63	µA
Anstiegszeit/Abfallzeit Rise and fall time I_C = 1 mA, V_{CC} = 5 V, R_L = 1 kΩ	t_r, t_f	7	µs
Kollektor-Emitter-Sättigungsspannung Collector-emitter saturation voltage I_C = 20 µA E_e = 0.1 mW/cm²	V_{CEsat}	150	mV

Directional Characteristics

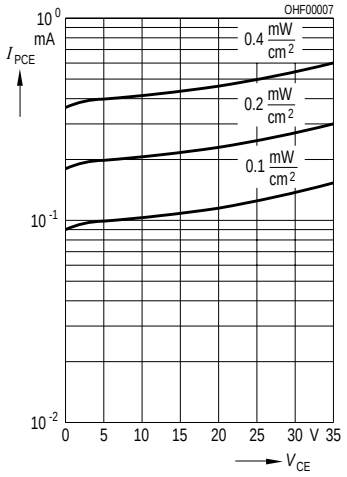
$S_{rel} = f(\varphi)$



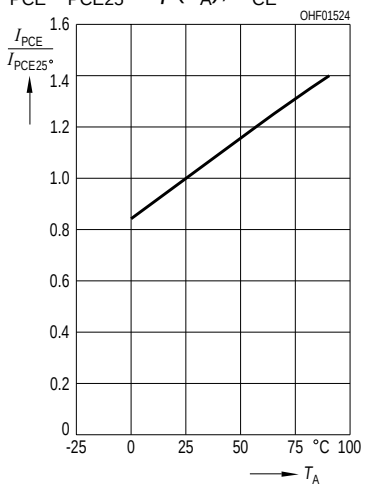
Relative Spectral Sensitivity
$S_{rel} = f(\lambda)$



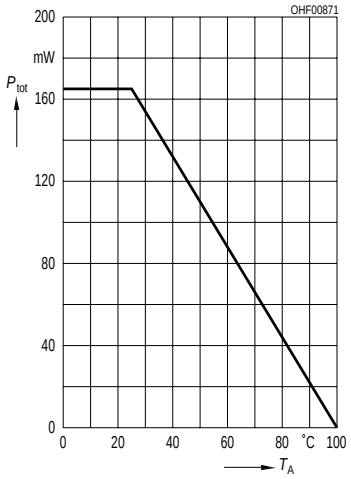
Photocurrent
$I_{PCE} = f(V_{CE})$, E_e = Parameter



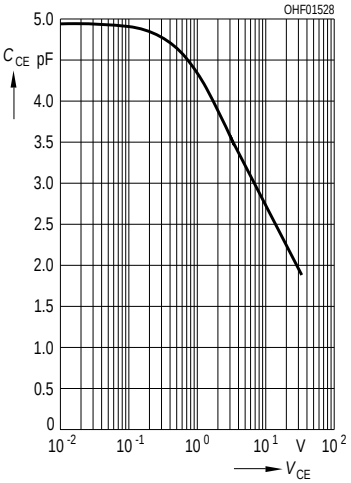
Photocurrent
$I_{PCE}/I_{PCE25°} = f(T_A)$, V_{CE} = 5 V



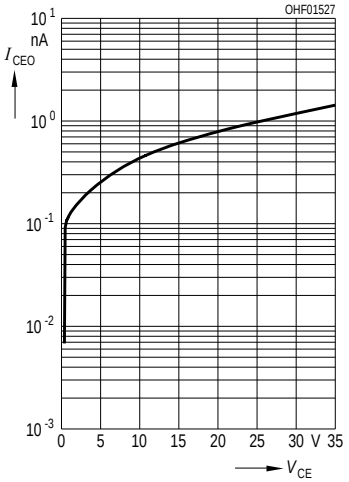
Total Power Dissipation
$P_{tot} = f(T_A)$



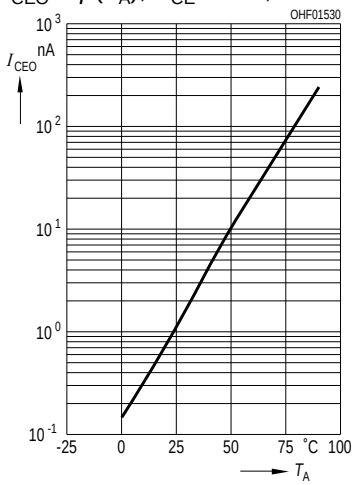
Capacitance
$C_{CE} = f(V_{CE})$, f = 1 MHz, E = 0



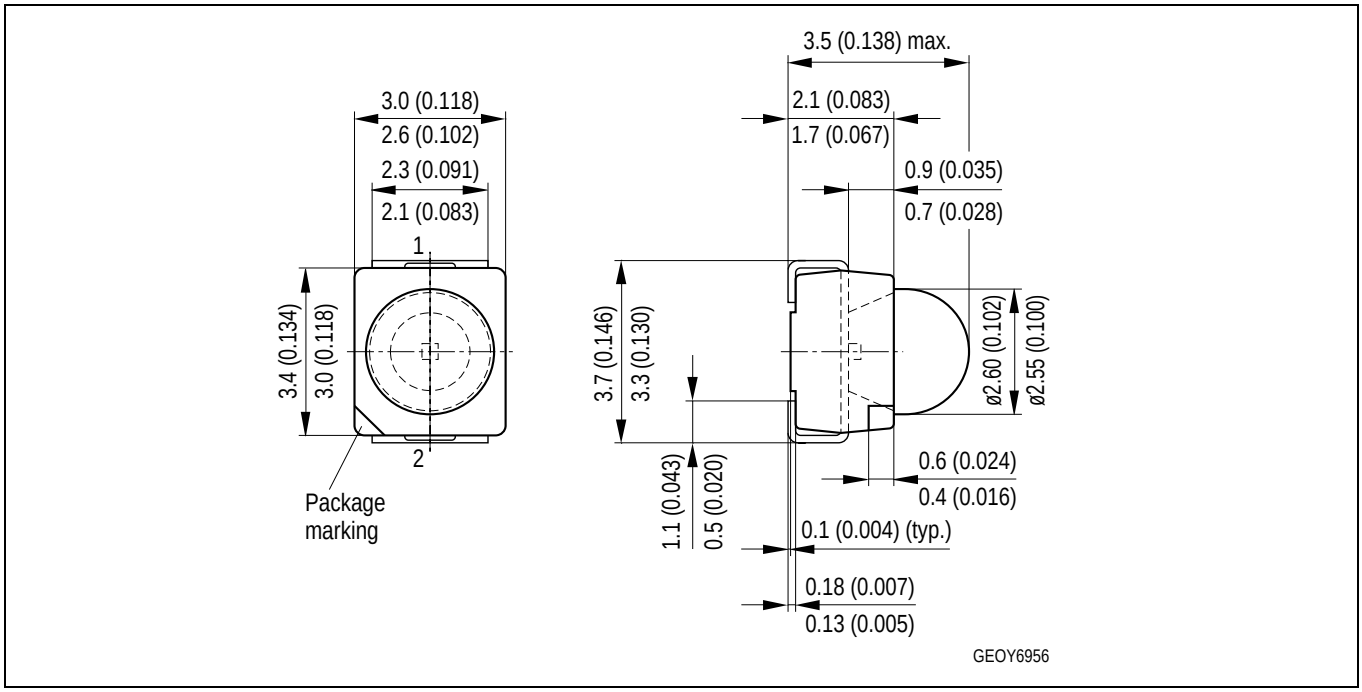
Dark Current
$I_{CEO} = f(V_{CE})$, E = 0



Dark Current
$I_{CEO} = f(T_A)$, V_{CE} = 5 V, E = 0



Maßzeichnung
Package Outlines



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

Kathodenkennung: abgeschrägte Ecke
Cathode mark: bevelled edge

Löthinweise
Soldering Conditions

Bauform Types	Tauch-, Schwall- und Schlepplötung Dip, Wave and Drag Soldering		Reflowlötung Reflow Soldering	
	Lötbad-temperatur Temperature of the Soldering Bath	Maximal zulässige Lötzeit Max. Perm. Soldering Time	Lötzonen-temperatur Temperature of Soldering Zone	Maximale Durchlaufzeit Max. Transit Time
TOPLED	260 °C	10 s	245 °C	10 s

Zusätzliche Informationen über allgemeine Lötbedingungen erhalten Sie auf Anfrage.

For additional information on general soldering conditions please contact us.

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