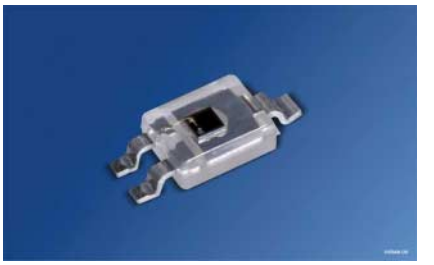
NPN-Si-Fototransistor mit V_λ Charakteristik
Silicon NPN Phototransistor with V_λ Characteristics
Lead (Pb) Free Product - RoHS Compliant

SFH 3410



Wesentliche Merkmale

- Speziell geeignet für Anwendungen im Bereich von 350 nm bis 970 nm
- Angepaßt an die Augenempfindlichkeit (V_λ)
- SMT-Bauform ohne Basisanschluß, geeignet für IR-Reflow-Löten
- Nur gegurtet lieferbar

Features

- Especially suitable for applications from 350 nm to 970 nm
- Adapted to human eye sensitivity (V_λ)
- SMT package without base connection, suitable for IR reflow soldering
- Only available on tape and reel

Anwendungen

- Umgebungslicht-Detektor
- Beleuchtungsmesser
- Dimmungssensor für Hintergrundbeleuchtung
- „Messen/Steuern/Regeln“

Applications

- Ambient light detector
- Exposure meter for daylight and artificial light
- Sensor for Backlight-Dimming
- For control and drive circuits

Typ **Type**	**Bestellnummer** **Ordering Code**	**Fotostrom** E_v = 20 lx, Standard light A, V_{CE} = 5 V **Photocurrent** Ipce (µA)
SFH 3410	Q65110A1211	>3.2
SFH 3410-1/2	Q65110A2653	3.2…10
SFH 3410-2/3	Q65110A2654	5…16
SFH 3410-3/4	Q65110A2655	8…25

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
Kollektor-Emitterspannung Collector-emitter voltage	V_{CE}	5.5	V
Kollektorstrom Collector current	I_C	20	mA
Emitter-Kollektorspannung Emitter-collector voltage	V_{EC}	0.5	V

Kennwerte (T_A = 25 °C)
Characteristics

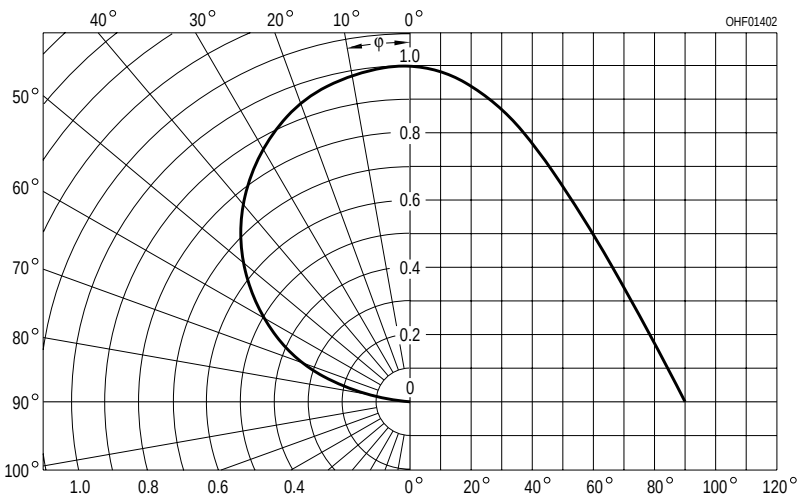
Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	λ_{Smax}	570	nm
Spektraler Bereich der Fotoempfindlichkeit S = 10% von S_{max} Spectral range of sensitivity S = 10% of S_{max}	λ	350 … 970	nm
Bestrahlungsempfindliche Fläche Radiant sensitive area	A	0.29	mm^2
Abmessung der Chipfläche Dimensions of chip area	$L \times B$ $L \times W$	0.75 × 0.75	mm × mm
Halbwinkel Half angle	φ	± 60	Grad. deg.
Kapazität, V_{CE} = 0 V, f = 1 MHz, E = 0 Capacitance	C_{CE}	3.9	pF
Dunkelstrom Dark current V_{CE} = 5 V	I_{CEO}	3 (< 50)	nA
Fotostrom Photocurrent E_v = 20 lx, Normlicht/standard light A, V_{CE} = 5 V	I_{PCE}	>3.2	µA

Bezeichnung Parameter	Symbol Symbol	Wert Value				Einheit Unit
		-1	-2	-3	-4	
Fotostrom Photocurrent E_V = 20 lx, Normlicht/standard light A V_{CE} = 5 V	I_{PCE}	3.2…6.3	5…10	8…16	12.5…25	µA
Kollektor-Emitter-Sättigungsspannung Collector-emitter saturation voltage $I_C = I_{PCEmin}$ [1] × 0.3, E_V = 20 lx	V_{CEsat}	100	100	100	100	mV

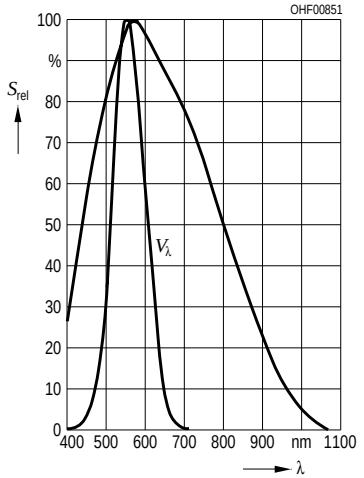
[1] I_{PCEmin} ist der minimale Fotostrom der jeweiligen Gruppe

[1] I_{PCEmin} is the min. photocurrent of the specified group

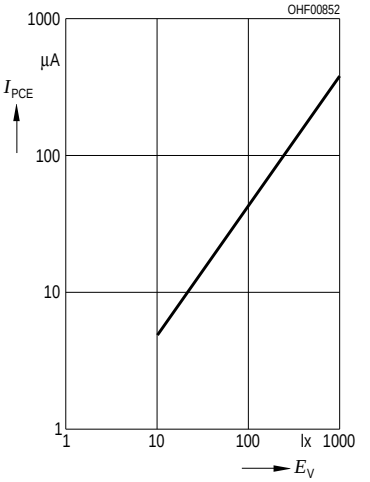
Directional Characteristics $S_{rel} = f(\varphi)$



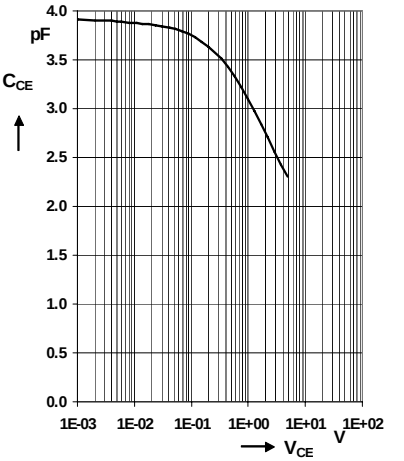
Relative Spectral Sensitivity
$S_{rel} = f(\lambda)$



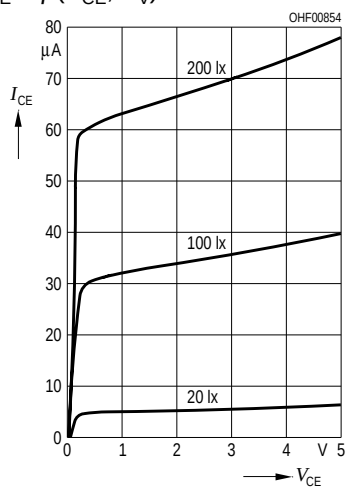
Photocurrent
$I_{PCE} = f(E_V)$, V_{CE} = 5 V



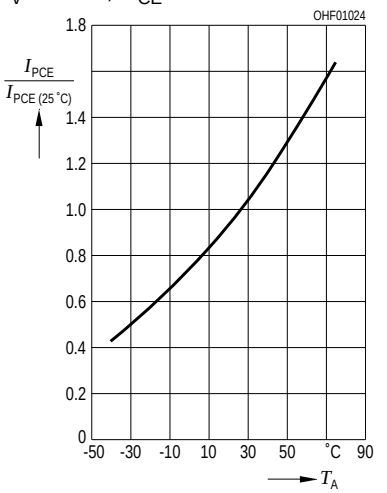
Collector-Emitter Capacitance
$C_{CE} = f(V_{CE})$



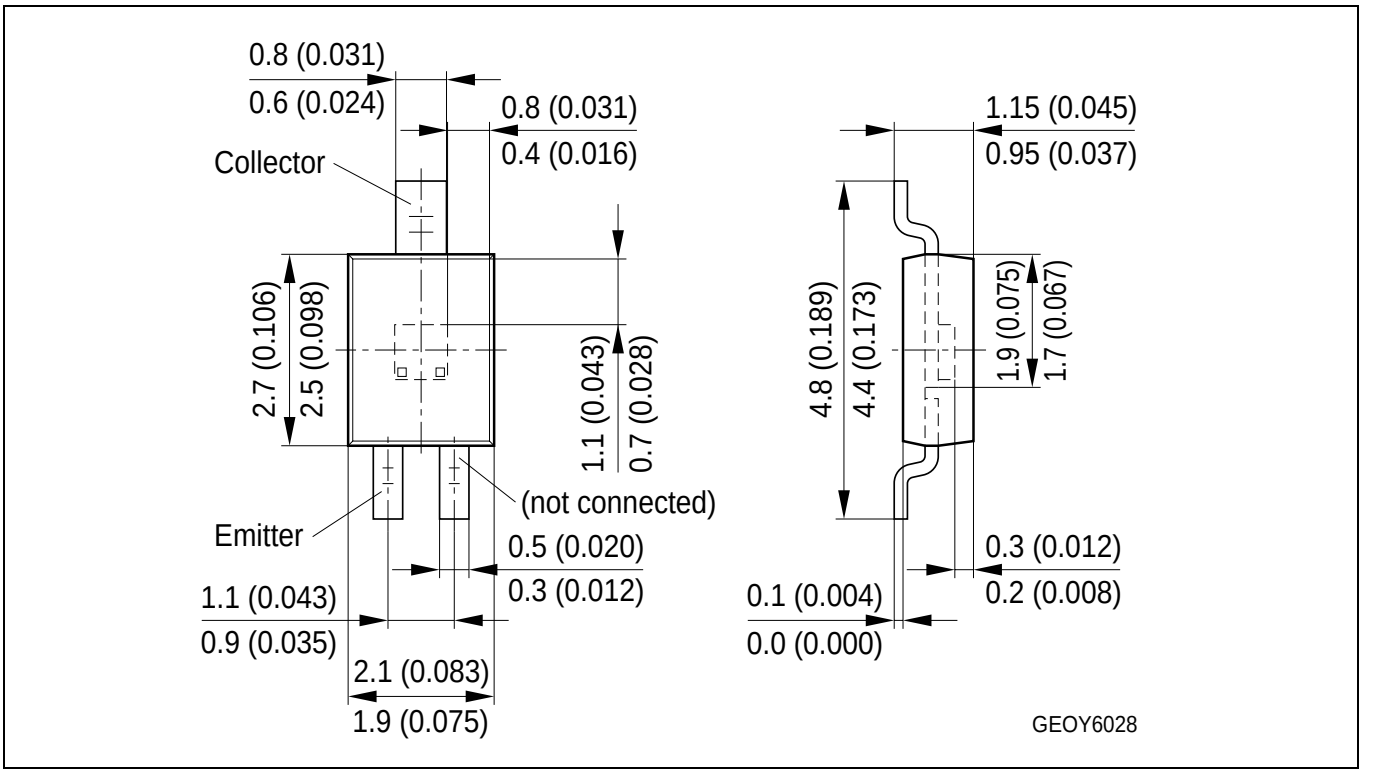
Collector-Emitter Current
$I_{CE} = f(V_{CE}; E_V)$



Photocurrent $I_{PCE}/I_{PCE(25\,°C)} = f(T_A)$
E_v = 20 lx, V_{CE} = 1 V … 5 V



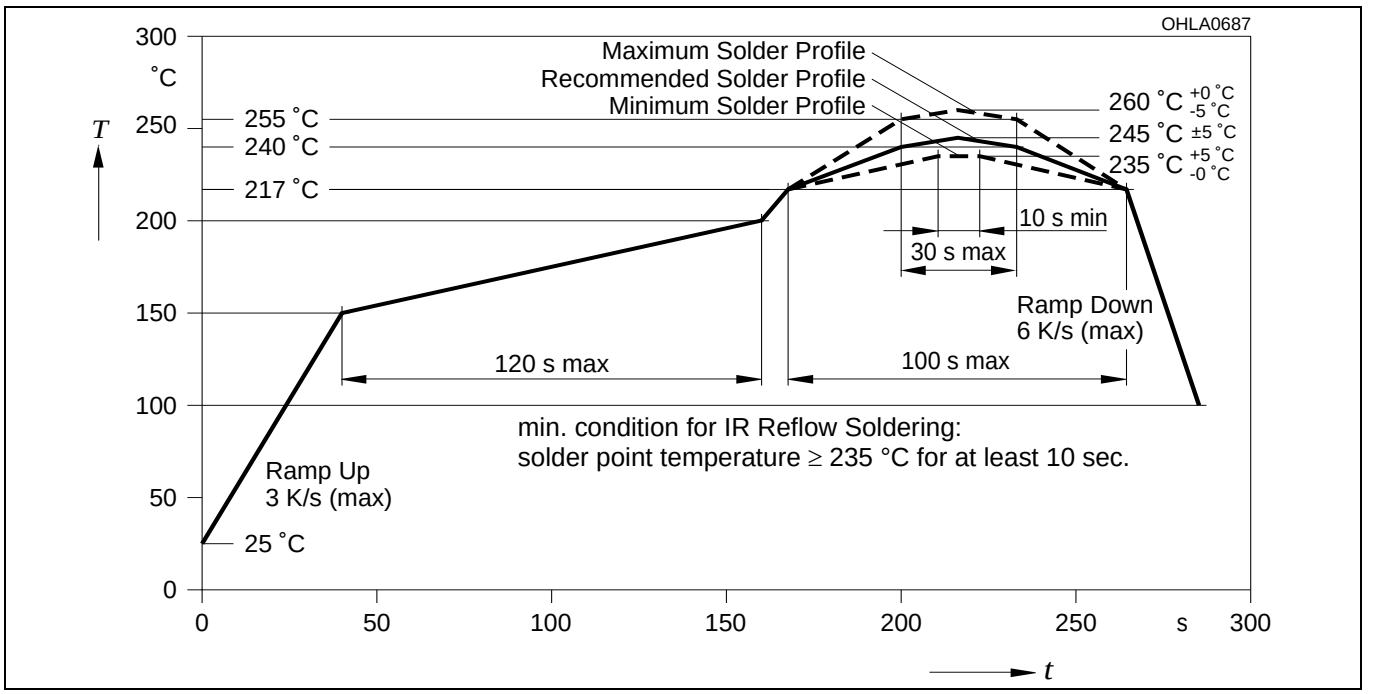
Maßzeichnung
Package Outlines



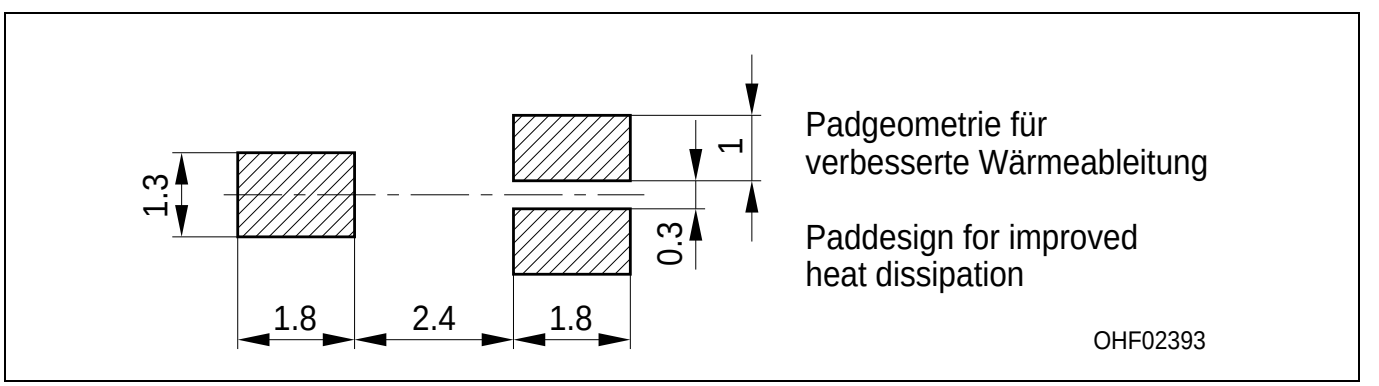
Maße in mm (inch) / Dimensions in mm (inch).

Lötbedingungen
Soldering Conditions
Reflow Lötprofil für bleifreies Löten
Reflow Soldering Profile for lead free soldering

Vorbehandlung nach JEDEC Level 4
Preconditioning acc. to JEDEC Level 4
(nach J-STD-020C)
(acc. to J-STD-020C)



Empfohlenes Lötpaddesign
Recommended Solderpad Design



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