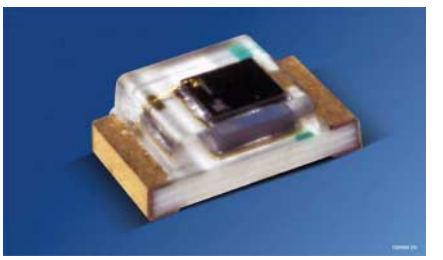
NPN-Si-Fototransistor mit V_λ Charakteristik
Silicon NPN Phototransistor with V_λ Characteristics
Lead (Pb) Free Product - RoHS Compliant

SFH 3710



Wesentliche Merkmale

- Sehr kleines SMT Gehäuse
- Angepaßt an die Augenempfindlichkeit (V_λ)

Features

- Very small SMT package
- Adapted to human eye sensitivity (V_λ)

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_e = 10 µW/cm², λ = 560 nm, V_{CE} = 5 V **Photocurrent** Ipce (µA)
SFH 3710	Q65110A3107	2.5…12.5
SFH 3710-2/3	Q65110A3512	2.5…8.0
SFH 3710-3/4	Q65110A3511	4.0…12.5

Einzelgruppen auf Anfrage / single bins on request

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 …+ 85	°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 … 950	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}	4	pF
Dunkelstrom Dark current V_R = 5 V	I_{CEO}	3 (< 50)	nA
Temperturkoeffizient Temperature Coefficient Normlicht A / Standard Light A λ = 550 nm	TK $TK_{550\ nm}$	0.9 0.78	%/K %/K

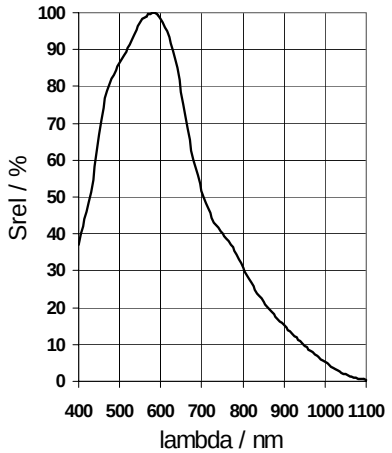
Kennwerte (T_A = 25 °C)
Characteristics

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**			**Einheit** **Unit**
		-2	**-3**	**-4**	
Fotostrom Photocurrent E_e = 10 µW/cm², λ = 560 nm, V_{CE} = 5 V E_v = 1000 lx, Normlicht/Standard light A	I_{PCE}	2.5…5 220	4…8 350	6.3…12.5 570	µA µA
Kollektor-Emitter-Sättigungsspannung Collector-emitter saturation voltage $I_C = I_{PCEmin}$[1] × 0.3, E_e = 10 µW/cm², λ = 560 nm	V_{CEsat}	100	100	100	mV

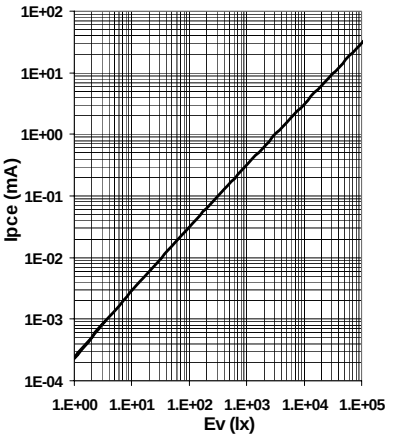
[1] I_{PCEmin} ist der minimale Fotostrom der jeweiligen Gruppe

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

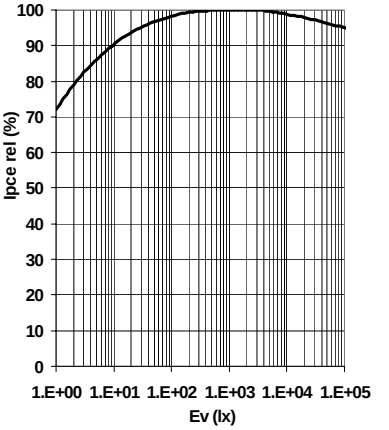
Relative Spectral Sensitivity
$S_{rel} = f(\lambda)$



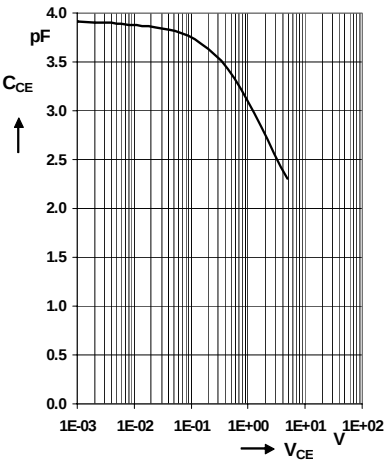
Photocurrent
$I_{PCE} = f(E_V)$, V_{CE} = 5 V



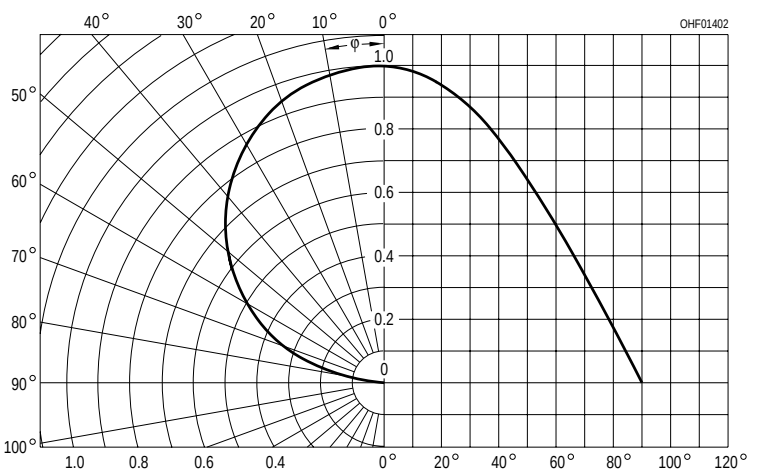
Photocurrent
$I_{PCE} = f(E_V)$, V_{CE} = 5 V
normalized to 1000lx



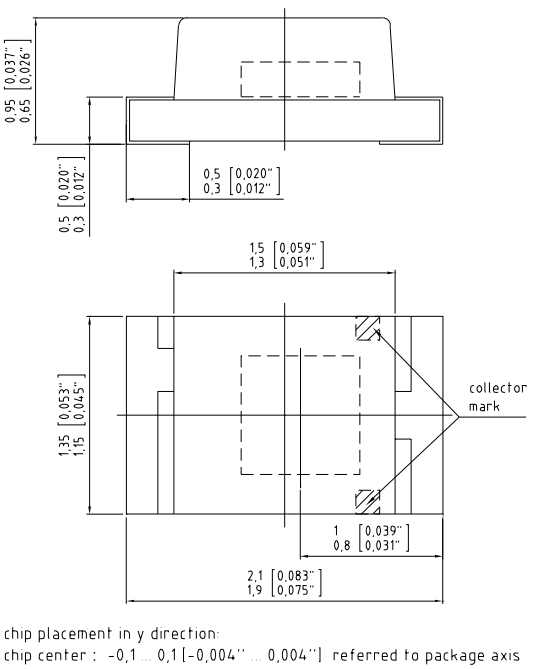
Collector-Emitter Capacitance
$C_{CE} = f(V_{CE})$



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

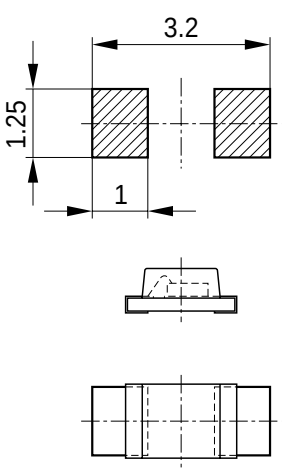


Maßzeichnung
Package Outlines



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

Empfohlenes Lötpaddesign
Recommended Solderpad Design



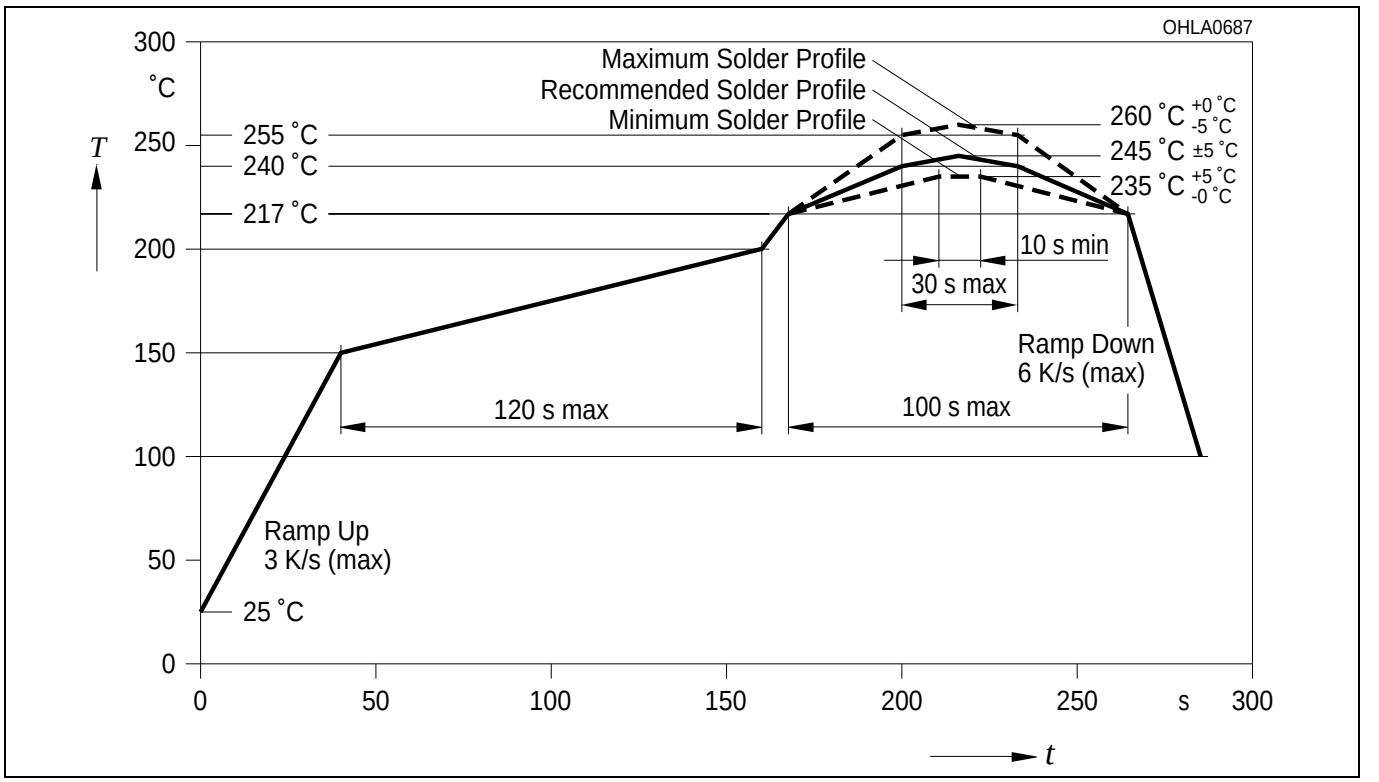
Bauteil positioniert
Component location on pad

OHFP2578

Maße in mm / Dimensions in mm

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

Vorbehandlung nach JEDEC Level 2
Preconditioning acc. to JEDEC Level 2
(nach J-STD-020C)
(acc. to J-STD-020C)



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