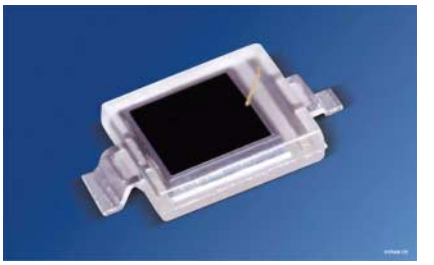
Silizium-Fotodiode mit Vλ Charakteristik
Silicon Photodiode with Vλ Characteristics

Lead (Pb) Free Product - RoHS Compliant

SFH 2430



Wesentliche Merkmale

- Spektrale Empfindlichkeit angepasst an die Augenempfindlichkeit (Vλ)
- Niedriger Temperaturkoeffizient der Fotoempfindlichkeit
- Gute Linearität
- DIL-Plastikbauform mit hoher Packungsdichte
- Geeignet für Vapor-Phase Löten und IR-Reflow Löten (JEDEC level 4)

Features

- Spectral sensitivity adapted to Human Eye Sensitivity (Vλ)
- Low temperature coefficient of spectral sensitivity
- high linearity
- DIL plastic package with high packing density
- Suitable for vapor-phase and IR-reflow soldering (JEDEC level 4)

Anwendungen

- Umgebungslichtsensor (Handy, Regensensor, Klimaanlagensteuerung)

Applications

- Ambient light sensor (Mobile phone, rain sensor, regulation of air conditioning)

Typ Type	Bestellnummer Ordering Code
SFH 2430	Q65110A2673

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
Sperrspannung Reverse voltage	V_R	6	V
Verlustleistung, T_A = 25 °C Total power dissipation	P_{tot}	150	mW

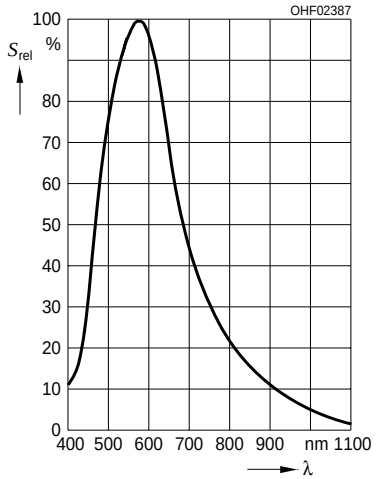
Kennwerte (T_A = 25 °C, Normlicht A, T = 2856 K)
Characteristics (T_A = 25 °C, standard light A, T = 2856 K)

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Fotoempfindlichkeit, V_R = 5 V Spectral sensitivity	S	5.8 (>4)	nA/lx
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\ max}$	570	nm
Spektraler Bereich der Fotoempfindlichkeit S = 10% von S_{max} Spectral range of sensitivity S = 10% of S_{max}	λ	400 … 900	nm
Bestrahlungsempfindliche Fläche Radiant sensitive area	A	7.00	mm^2
Abmessung der bestrahlungsempfindlichen Fläche Dimensions of radiant sensitive area	$L \times B$ $L \times W$	2.65 × 2.65	mm × mm
Halbwinkel Half angle	φ	± 60	Grad deg.
Dunkelstrom, V_R = 5V Dark current	I_R	0.1 (<5)	nA
Spektrale Fotoempfindlichkeit, λ = 550 nm Spectral sensitivity	S_λ	0.17	A/W
Anstiegs- und Abfallzeit des Fotostromes Rise and fall time of the photocurrent R_L = 50 kΩ; V_R = 5 V; λ = 550 nm	t_r, t_f	200	µs
Durchlaßspannung, I_F = 100 mA, E = 0 Forward voltage	V_F	1.2	V

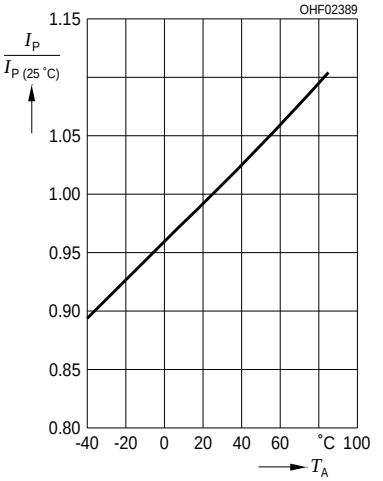
Kennwerte (T_A = 25 °C, Normlicht A, T = 2856 K)
Characteristics (T_A = 25 °C, standard light A, T = 2856 K) (cont'd)

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Kapazität, V_R = 0 V, f = 1 MHz, E = 0 Capacitance	C_0	1000	pF
Temperaturkoeffizient von I_{SC} Temperature coefficient of I_{SC}	TC_I	0.16	%/K

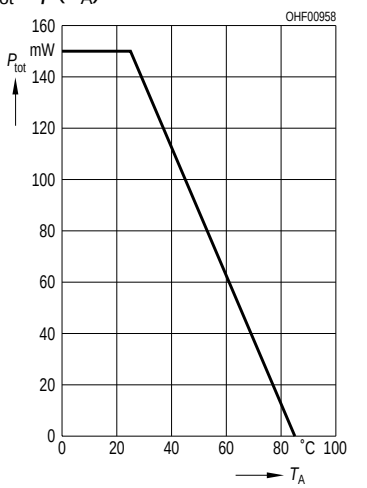
Relative Spectral Sensitivity
$S_{rel} = f(\lambda)$



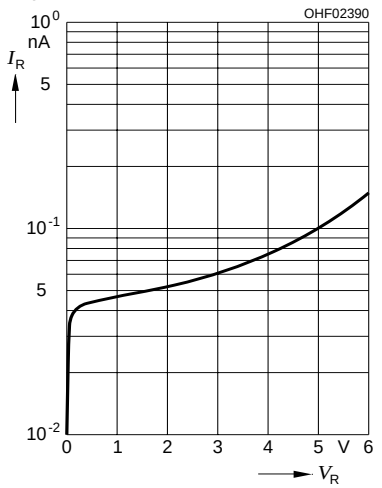
Photocurrent $I_P/I_{P(25\,°C)} = f(T_A)$
E_v = 1000 lx, V_R = 5 V



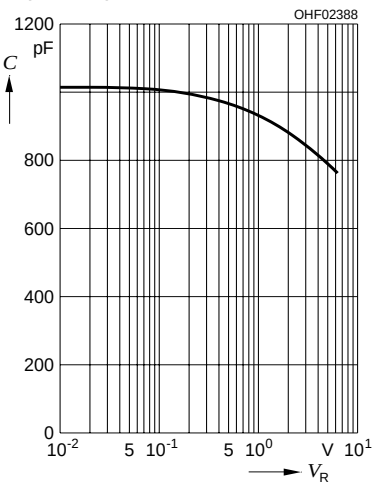
Total Power Dissipation
$P_{tot} = f(T_A)$



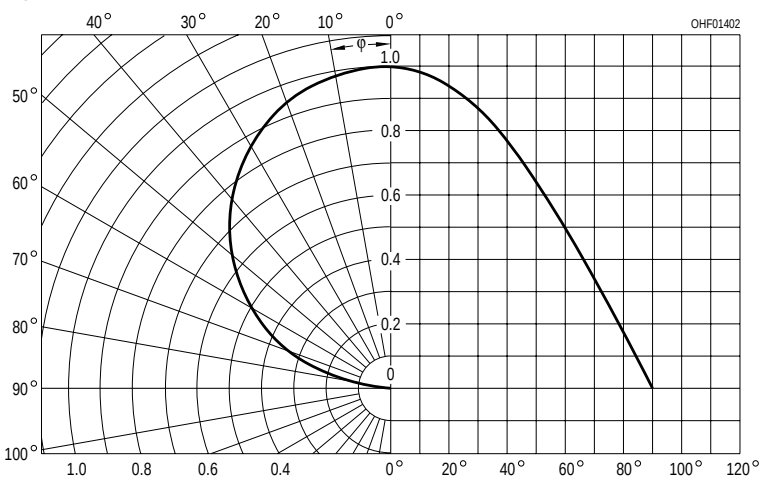
Dark Current
$I_R = f(V_R)$, E = 0



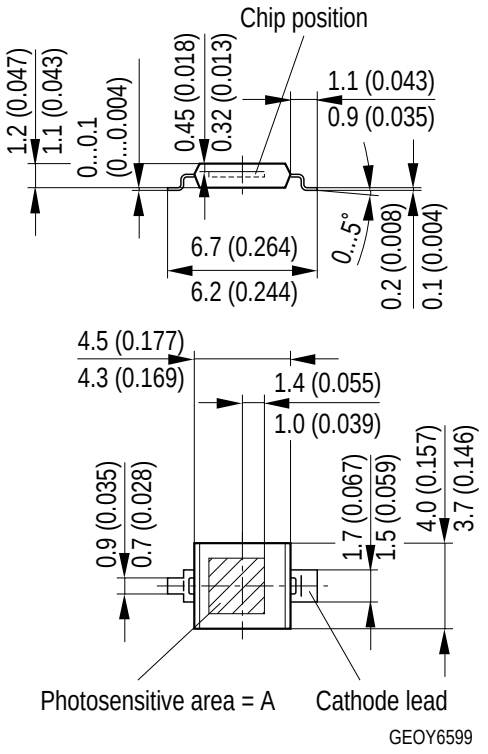
Capacitance
$C = f(V_R)$, f = 1 MHz, E = 0



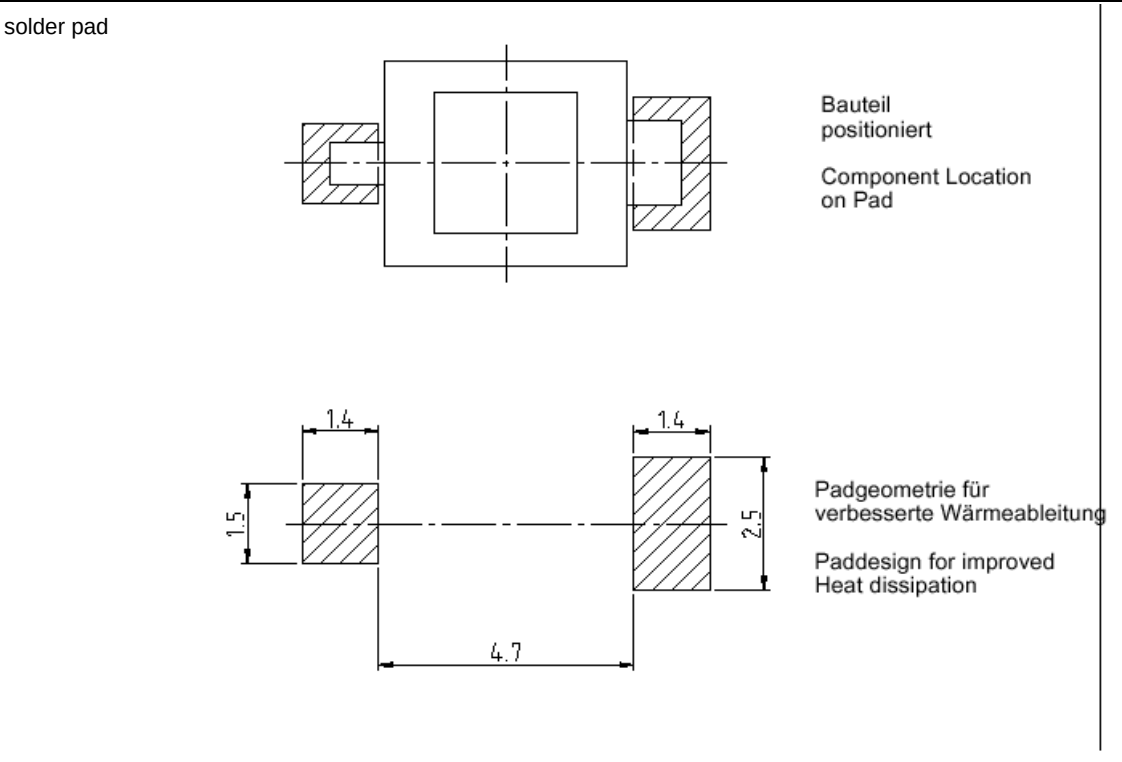
Directional Characteristics
$S_{rel} = f(\varphi)$



Maßzeichnung
Package Outlines



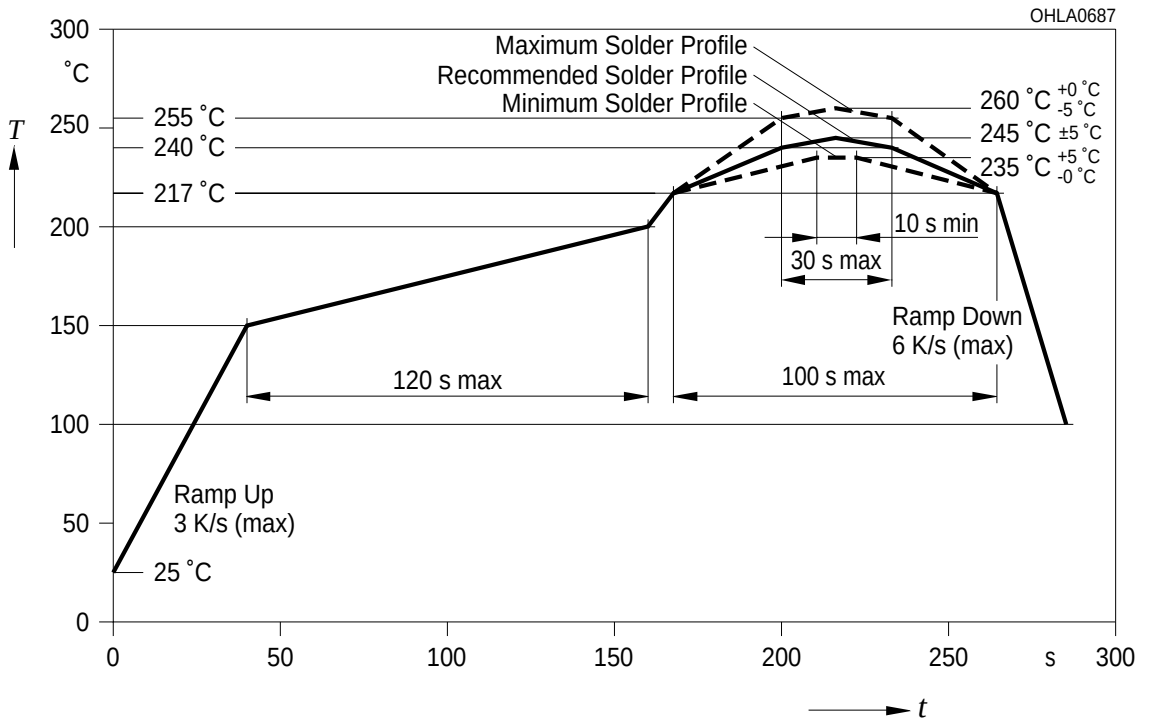
Maße in mm (inch) / Dimensions in mm (inch).



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



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Terms of delivery and rights to change design reserved. Due to technical requirements components may contain dangerous substances. For information on the types in question please contact our Sales Organization.

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