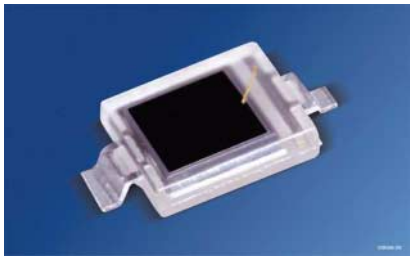
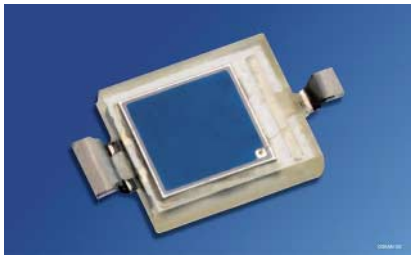
Silizium-Fotodiode mit Vλ Charakteristik
Silicon Photodiode with Vλ Characteristics
Lead (Pb) Free Product - RoHS Compliant
SFH 2430, SFH 2430 R



SFH 2430



SFH 2430 R

Wesentliche Merkmale

- Spektrale Empfindlichkeit angepasst an die Augenempfindlichkeit (Vλ)
- Niedriger Temperaturkoeffizient der Fotoempfindlichkeit
- Gute Linearität
- DIL-Plastikbauform mit hoher Packungsdichte

Features

- Spectral sensitivity adapted to Human Eye Sensitivity (Vλ)
- Low temperature coefficient of spectral sensitivity
- high linearity
- DIL plastic package with high packing density

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
SFH 2430 R	Q65110A4739

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

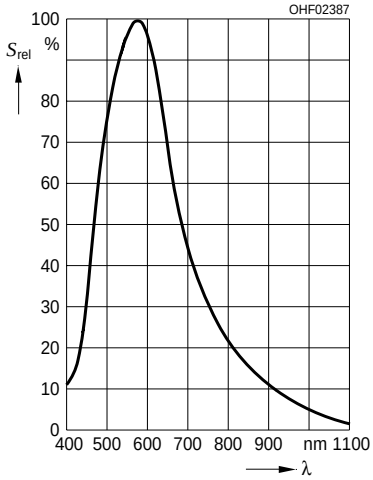
Kennwerte (T_A = 25 °C, Normlicht A, T = 2856 K)
Characteristics (T_A = 25 °C, standard light A, T = 2856 K)

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Fotoempfindlichkeit, V_R = 5 V Spectral sensitivity	S	6.3 (>5)	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

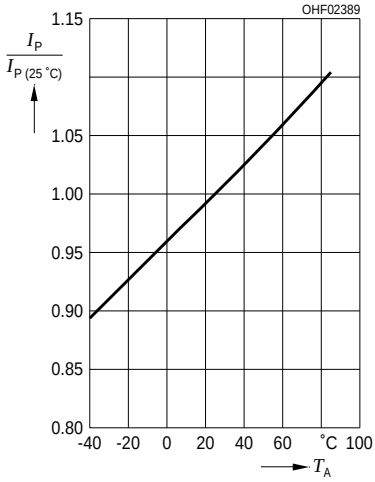
Kennwerte (T_A = 25 °C, Normlicht A, T = 2856 K)
Characteristics (T_A = 25 °C, standard light A, T = 2856 K) (cont'd)

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

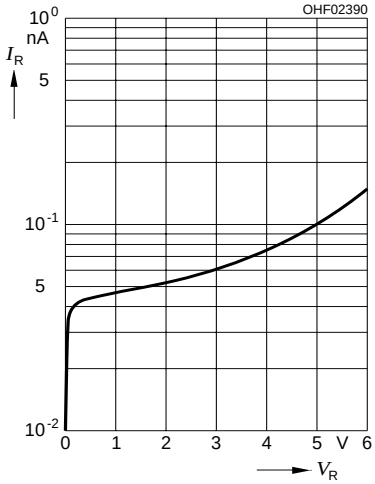


Photocurrent $I_P/I_{P(25\,°C)} = f(T_A)$
E_v = 1000 lx, V_R = 5 V

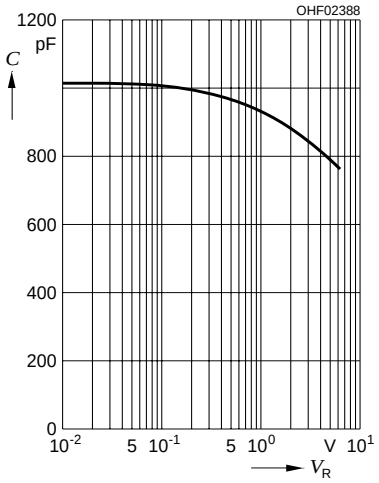


Total Power Dissipation
$P_{tot} = f(T_A)$

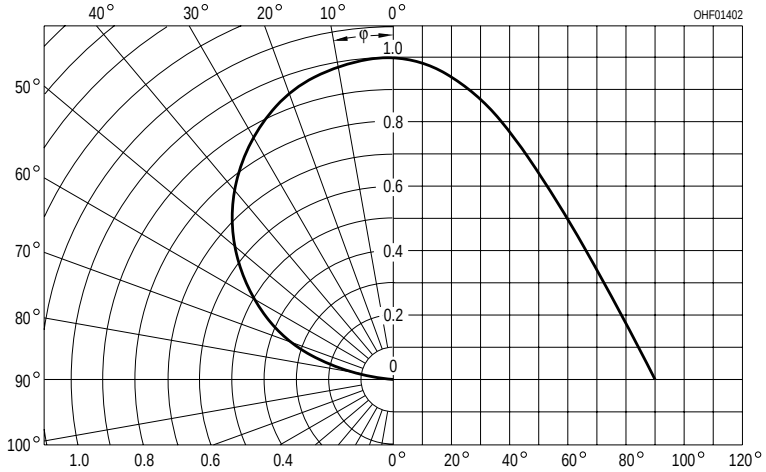
Dark Current
$I_R = f(V_R)$, E = 0



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

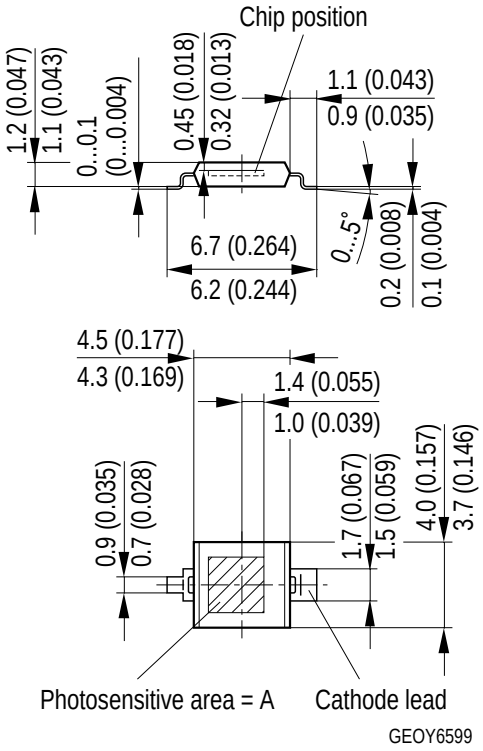


Directional Characteristics
$S_{rel} = f(\varphi)$

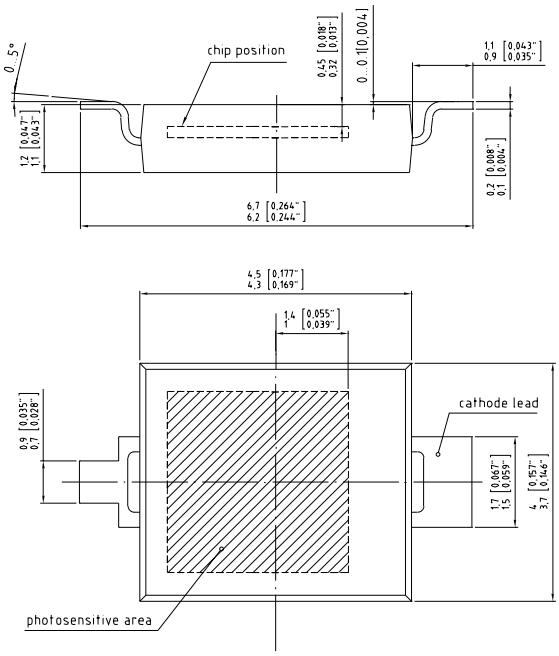


Maßzeichnung
Package Outlines

SFH 2430

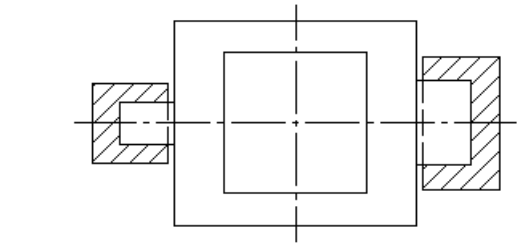


SFH 2430 R



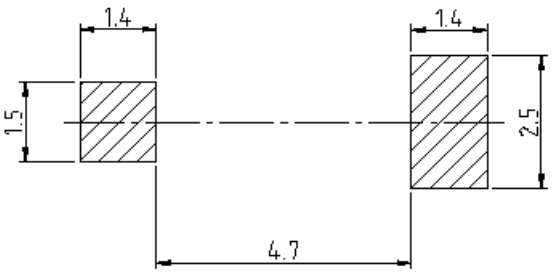
Maße in mm (inch) / Dimensions in mm (inch).

solder pad



Bauteil
positioniert

Component Location
on Pad



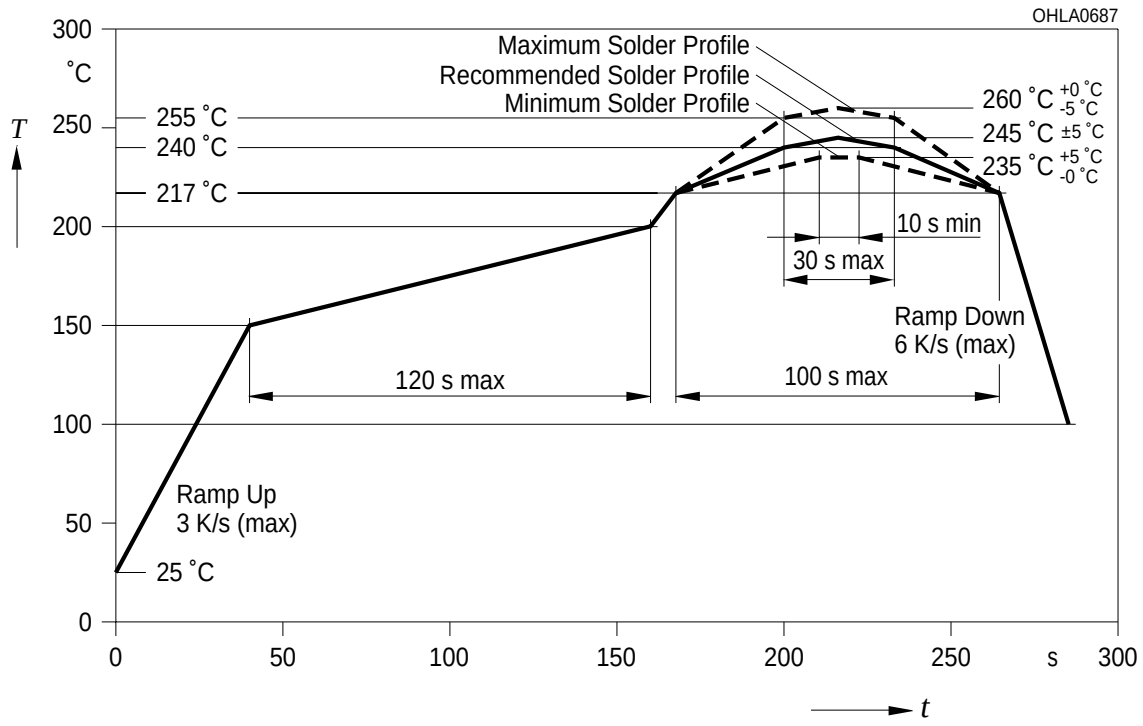
Padgeometrie für
verbesserte Wärmeableitung

Paddesign for improved
Heat dissipation

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)



Published by
OSRAM Opto Semiconductors GmbH
Wernerwerkstrasse 2, D-93049 Regensburg
www.osram-os.com

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