Hochgenaue Umgebungslicht-Fotodiode
High Precision Ambient Light Photodiode
Lead (Pb) Free Product - RoHS Compliant

SFH 2270R

Vorläufige Daten / Preliminary Data

Wesentliche Merkmale

- Nahezu perfekt an die die Augenempfindlichkeit (Vλ) angepasst
- Schwarz eingefärbtes TOPLED®-Gehäuse
- Geringer Dunkelstrom

Features

- Nearly perfect match with Human Eye Sensitivity (Vλ)
- Black coloured TOPLED®-package
- Low leakage current

Anwendungen

- Umgebungslichtsensor

Applications

- Ambient light sensor

Typ **Type**	**Bestellnummer** **Ordering Code**	**Fotostrom**, E_e = 10µW/cm², λ = 560 nm, V_R = 1 V [1)] **Photocurrent** Ip (nA)
SFH 2270R	Q65110A9911	5.6 (≥4.4)

1) corresponds to an illuminance of app. 55 lx

Grenzwerte (T_A = 25 °C)
Maximum Ratings

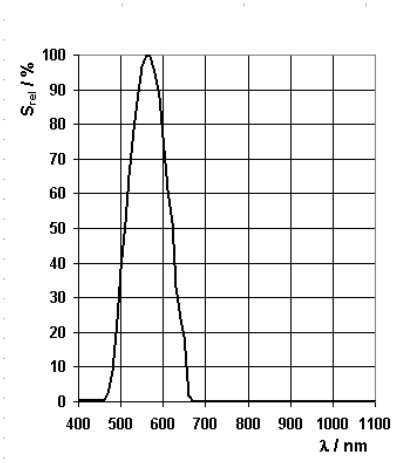
Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Betriebs- und Lagertemperatur Operating and storage temperature range	T_{op}; T_{stg}	– 40 … + 100	°C
Sperrspannung Reverse voltage	V_R	2	V

Kennwerte (T_A = 25 °C)
Characteristics

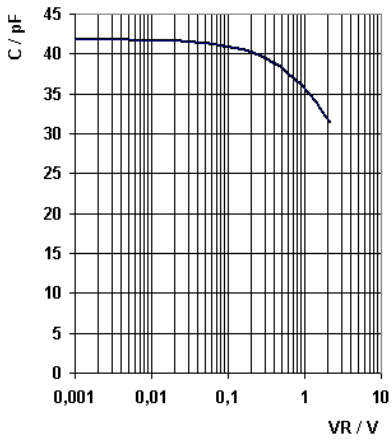
Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Empfohlener Arbeitsbereich Beleuchtungsstärke Recommended operating range for illuminance	E_v	5 ... 100000	lx
Fotostrom, V_R = 1V, E_v=1000 lx, standard light A Photocurrent	I_P	100	nA
Fotostrom, V_R =1 V,E_e = 10µW/cm^2, λ = 560 nm[1)] Photocurrent	I_p	5.6 (≥4.4)	nA
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	λ_{Smax}	560	nm
Spektraler Bereich der Fotoempfindlichkeit Spectral range of sensitivity S = 10% of S_{max}	λ	480 … 650	nm
Bestrahlungsempfindliche Fläche Radiant sensitive area	A	0.15	mm^2
Abmessung der Chipfläche Dimensions of chip area	$L \times B$ $L \times W$	0.4 × 0.4	mm × mm
Halbwinkel Half angle	φ	± 60	Grad. deg.
Kapazität, V_R = 0 V, f = 1 MHz, E = 0 Capacitance	C_0	42	pF
Dunkelstrom, V_R = 1 V Dark current	I_R	5 (<150)	pA
Anstiegs- und Abfallzeit des Fotostromes Rise and fall time of the photocurrent R_L = 50 kΩ; V_R = 1 V, white LED	t_r, t_f	6	µs
Temperaturkoeffizient von I_{SC}, Standard light A Temperature coefficient of I_{SC}	TK_I	0.17	%/K

[1)] corresponds to an illuminance of app. 55 lx

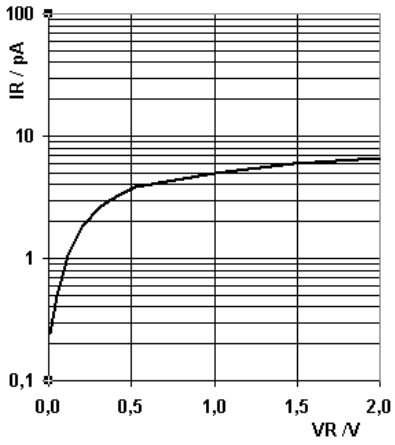
Relative Spectral Sensitivity
$S_{rel} = f(\lambda)$



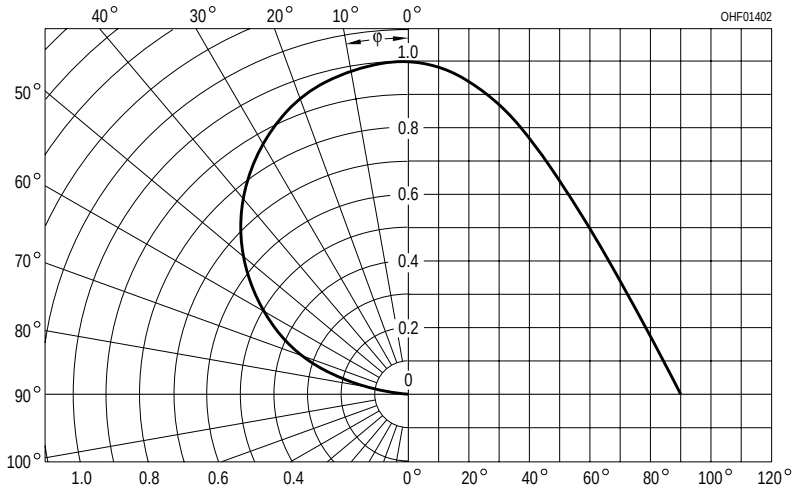
Capacitance
$C = f(V_R)$, f = 1 MHz, E = 0



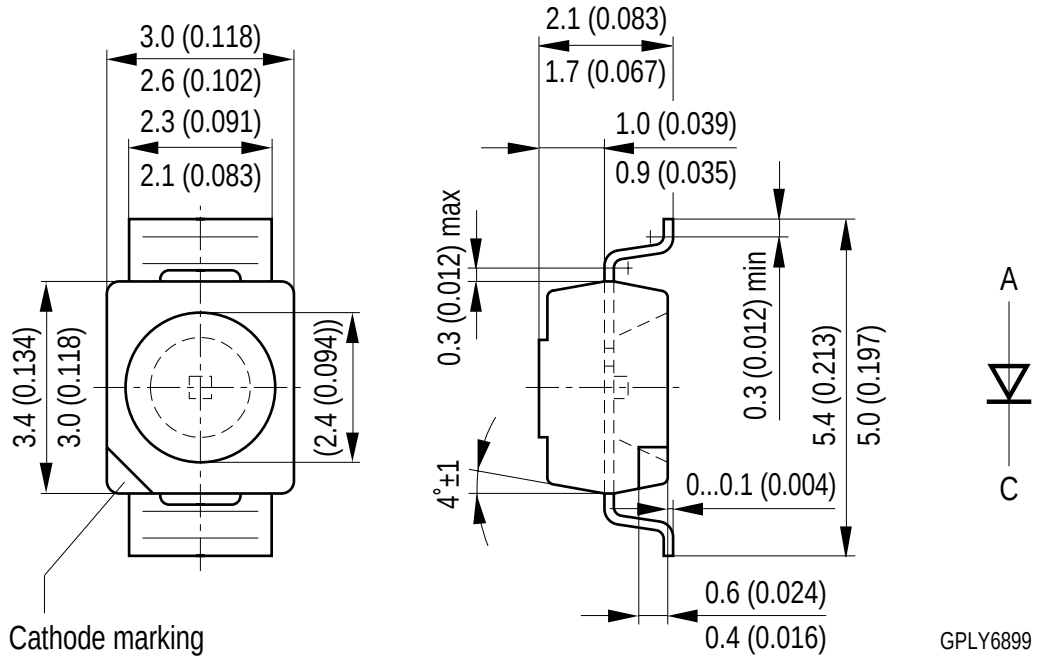
Dark Current
$I_R = f(V_R)$, E = 0



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



Maßzeichnung
Package Outlines

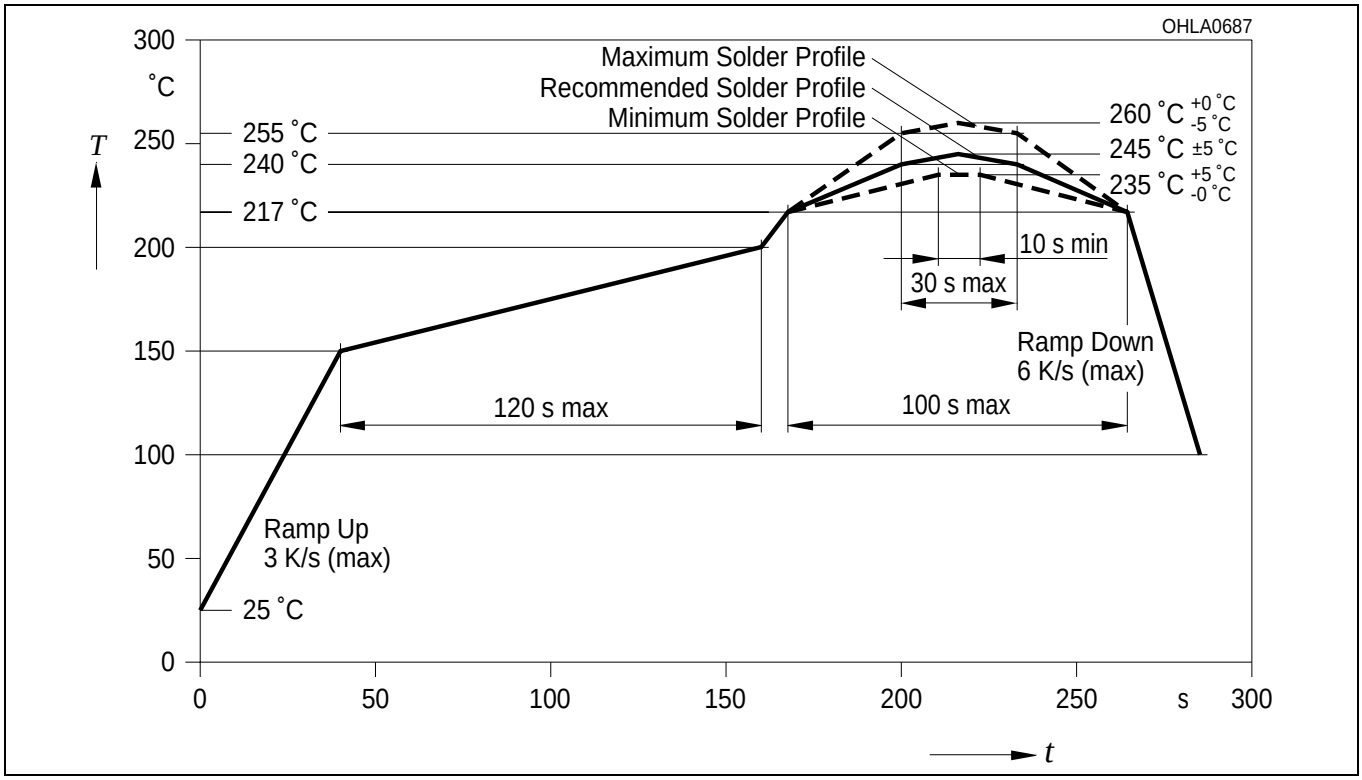


Maße in mm (inch) / Dimensions in mm (inch)

Gehäuse / Package	TOPLED® schwarz reverse gullwing / TOPLED® black reverse gullwing
Farbe / Colour	Farblos klar / colourless clear
Anschlussbelegung / Pin configuration	siehe Maßzeichnung / see Package Outlines

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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EU RoHS and China RoHS compliant product

此产品符合欧盟 RoHS 指令的要求；
按照中国的相关法规和标准，不含有毒有害物质或元素。

The information describes the type of component and shall not be considered as assured characteristics.
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.

Packing

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You must bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

Components used in life-support devices or systems must be expressly authorized for such purpose! Critical components [1] , may only be used in life-support devices or systems [2] with the express written approval of OSRAM OS.

[1] A critical component is a component usedin a life-support device or system whose failure can reasonably be expected to cause the failure of that life-support device or system, or to affect its safety or effectiveness of that device or system.

[2] Life support devices or systems are intended (a) to be implanted in the human body, or (b) to support and/or maintain and sustain human life. If they fail, it is reasonable to assume that the health of the user may be endangered.