Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

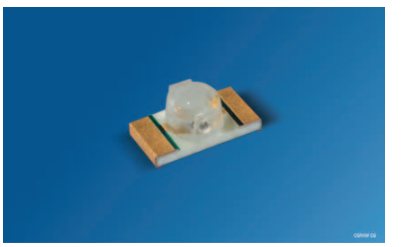
We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

IR-Lumineszenzdiode (850 nm) mit hoher Ausgangsleistung
High Power Infrared Emitter (850 nm)
Lead (Pb) Free Product - RoHS Compliant

SFH 4058



Wesentliche Merkmale

- Sehr kleines Gehäuse:
  (LxBxH) 3.2 mm x 1.6mm x 1.1 mm
- Sehr hohe Gesamtleistung

Anwendungen

- Miniaturlichtschranken
- Industrieelektronik
- „Messen/Steuern/Regeln“
- Sensorik

Sicherheitshinweise

Je nach Betriebsart emittieren diese Bauteile hochkonzentrierte, nicht sichtbare Infrarot-Strahlung, die gefährlich für das menschliche Auge sein kann. Produkte, die diese Bauteile enthalten, müssen gemäß den Sicherheits-richtlinien der IEC-Normen 60825-1 und 62471 behandelt werden.

Features

- Very small package:
  (LxWxH) 3.2 mm x 1.6 mm x 1.1 mm
- High optical total power

Applications

- Miniature photointerrupters
- Industrial electronics
- For drive and control circuits
- Sensor technology

Safety Advices

Depending on the mode of operation, these devices emit highly concentrated non visible infrared light which can be hazardous to the human eye. Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 and IEC 62471.

Typ **Type**	**Bestellnummer** **Ordering Code**	**Strahlstärkegruppierung**[1] (I_F = 70 mA, t_p = 20 ms) **Radiant Intensity Grouping**[1] I_e (mW/sr)
SFH 4058	Q65110A9218	≥ 6.3 (typ. 15)

[1] gemessen bei einem Raumwinkel Ω = 0.01 sr / measured at a solid angle of Ω = 0.01 sr

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
Sperrspannung Reverse voltage	V_R	5	V
Vorwärtsgleichstrom Forward current	I_F	70	mA
Stoßstrom, t_p = 10 µs, D = 0 Surge current	I_{FSM}	700	mA
Verlustleistung Power dissipation	P_{tot}	140	mW
Wärmewiderstand Sperrschicht - Umgebung bei Montage auf FR4 Platine, Padgröße je 5 mm² Thermal resistance junction - ambient mounted on PC-board (FR4), padsize 5 mm² each	R_{thJA}	540	K/W
Wärmewiderstand Sperrschicht - Lötstelle bei Montage auf Metall-Block Thermal resistance junction - soldering point, mounted on metal block	R_{thJS}	360	K/W

Kennwerte (T_A = 25 °C)
Characteristics

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge der Strahlung Wavelength at peak emission I_F = 70 mA, t_p = 10 ms	λ_{peak}	860	nm
Schwerpunkts-Wellenlänge der Strahlung Centroid Wavelength I_F = 70 mA, t_p = 10 ms	$\lambda_{centroid}$	850	nm
Spektrale Bandbreite bei 50% von I_{max} Spectral bandwidth at 50% of I_{max} I_F = 70 mA, t_p = 10 ms	$\Delta\lambda$	42	nm
Abstrahlwinkel Half angle	φ	± 40	Grad deg.
Aktive Chipfläche Active chip area	A	0.04	mm²

Kennwerte (T_A = 25 °C)
Characteristics (cont'd)

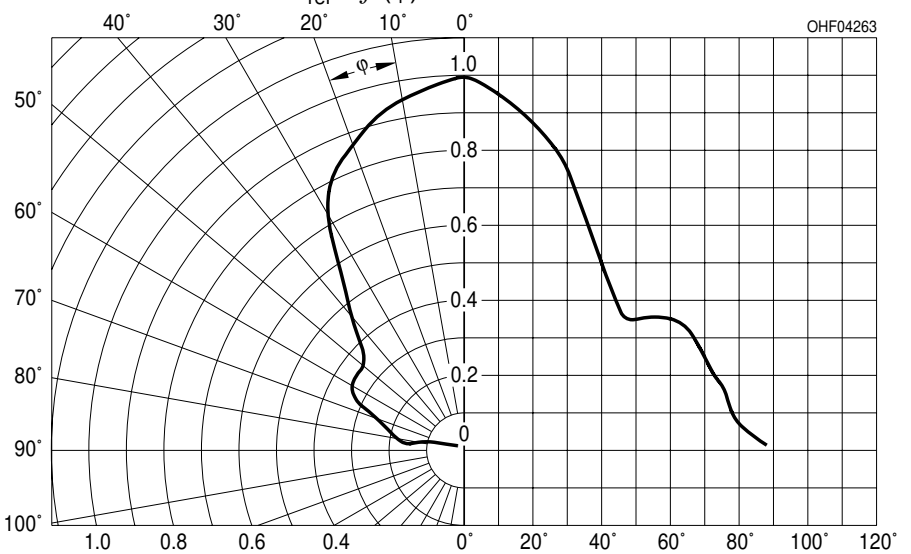
Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Abmessungen der aktiven Chipfläche Dimension of the active chip area	$L \times B$ $L \times W$	0.2 × 0.2	mm²
Schaltzeiten, I_e von 10% auf 90% und von 90% auf 10%, bei I_F = 70 mA, R_L = 50 Ω Switching times, I_e from 10% to 90% and from 90% to 10%, I_F = 70 mA, R_L = 50 Ω	t_r, t_f	10	ns
Durchlassspannung Forward voltage I_F = 70 mA, t_p = 20 ms	V_F	1.6 (< 2.0)	V
Sperrstrom Reverse current	I_R	not designed for reverse operation	µA
Gesamtstrahlungsfluss Total radiant flux I_F = 70 mA, t_p = 20 ms	$\Phi_{e\ typ}$	33	mW
Temperaturkoeffizient von I_e bzw. Φ_e, I_F = 70 mA Temperature coefficient of I_e or Φ_e, I_F = 70 mA	TC_I	– 0.5	%/K
Temperaturkoeffizient von V_F, I_F = 70 mA Temperature coefficient of V_F, I_F = 70 mA	TC_V	– 0.7	mV/K
Temperaturkoeffizient von λ, I_F = 70 mA Temperature coefficient of λ, I_F = 70 mA	TC_λ	+ 0.3	nm/K

Strahlstärke I_e in Achsrichtung[1)]
gemessen bei einem Raumwinkel Ω = 0.01 sr
Radiant Intensity I_e in Axial Direction
at a solid angle of Ω = 0.01 sr

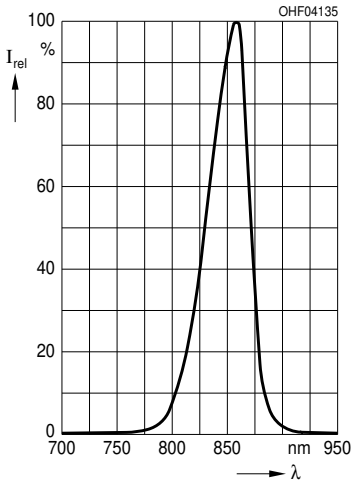
Bezeichnung Parameter	Symbol	Werte Values			Einheit Unit
		SFH 4058			
		-Q	-R	-S	
Strahlstärke Radiant intensity I_F = 70 mA, t_p = 20 ms	$I_{e\ min}$ $I_{e\ max}$	6.3 12.5	10 20	16 32	mW/sr mW/sr
Strahlstärke Radiant intensity I_F = 500 mA, t_p = 25 µs	$I_{e\ typ}$	36	55	90	mW/sr

[1)] Nur eine Gruppe in einer Verpackungseinheit (Streuung kleiner 2:1) /
Only one bin in one packing unit (variation lower 2:1)

Abstrahlcharakteristik
Radiation Characteristics $I_{rel} = f(\varphi)$

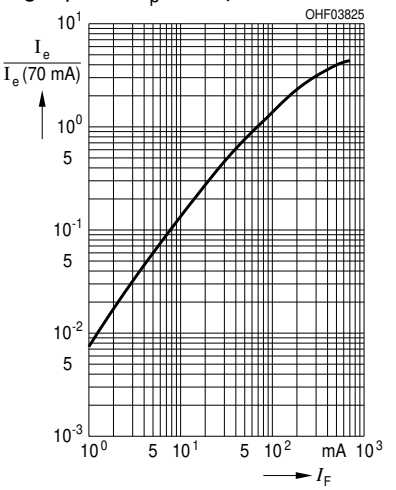


Relative Spectral Emission
$I_{rel} = f(\lambda)$

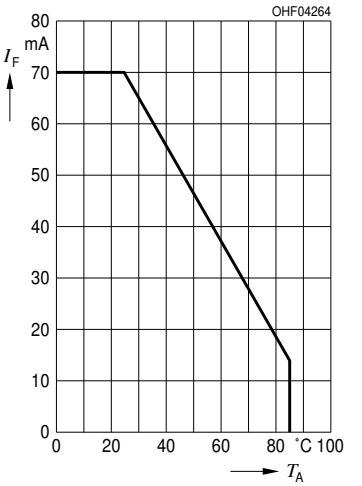


Radiant Intensity $\frac{I_e}{I_e\ 70\ mA} = f(I_F)$

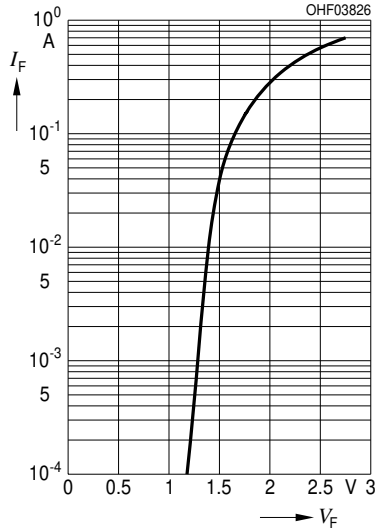
Single pulse, t_p = 25 µs



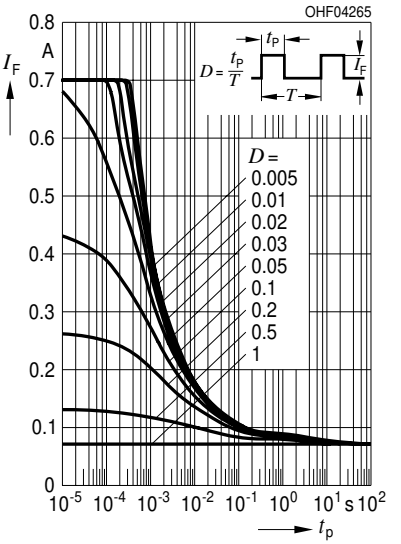
Max. Permissible Forward Current
$I_F = f(T_A)$, R_{thJA} = 540 K/W



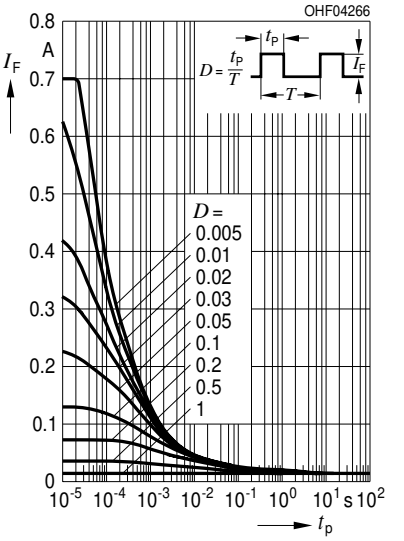
Forward Current $I_F = f(V_F)$
Single pulse, t_p = 100 µs



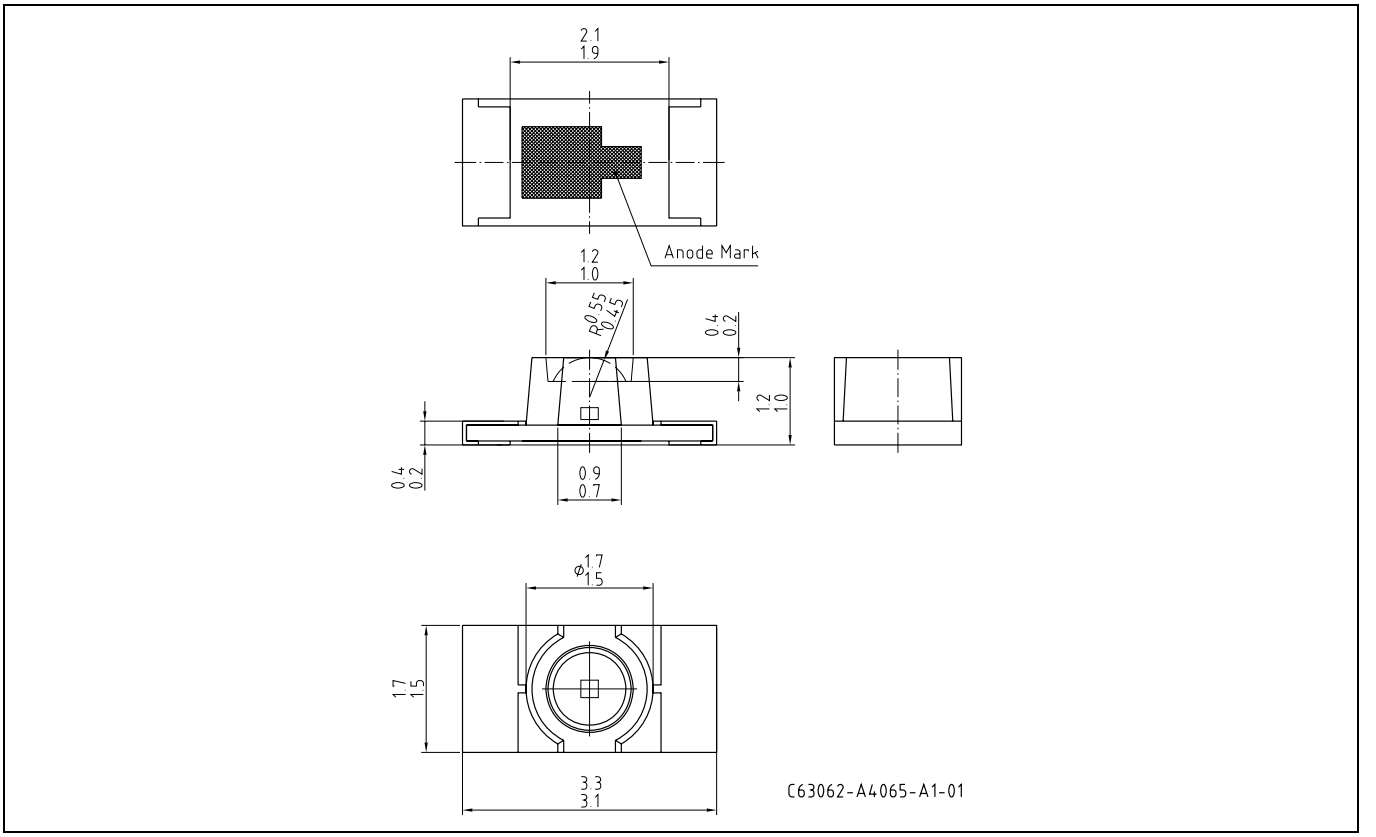
Permissible Pulse Handling Capability $I_F = f(\tau)$, T_A = 25 °C, duty cycle D = parameter



Permissible Pulse Handling Capability $I_F = f(\tau)$, T_A = 85 °C, duty cycle D = parameter



Maßzeichnung
Package Outlines

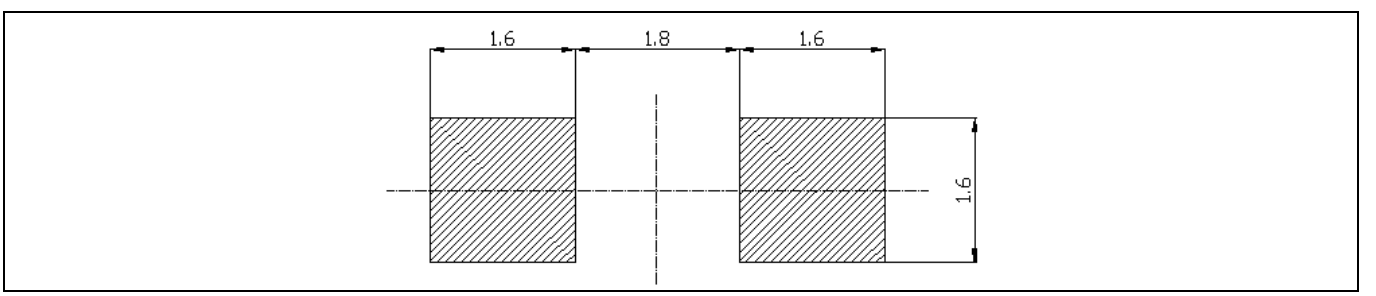


Maße in mm/ Dimensions in mm.

Gehäuse / Package	Chip LED/ Chip LED
Farbe / Colour	Farblos klar / colourless clear
Gehäusemarkierung/ Package marking	Anode / anode

Empfohlenes Lötpaddesign
Recommended Solder Pad

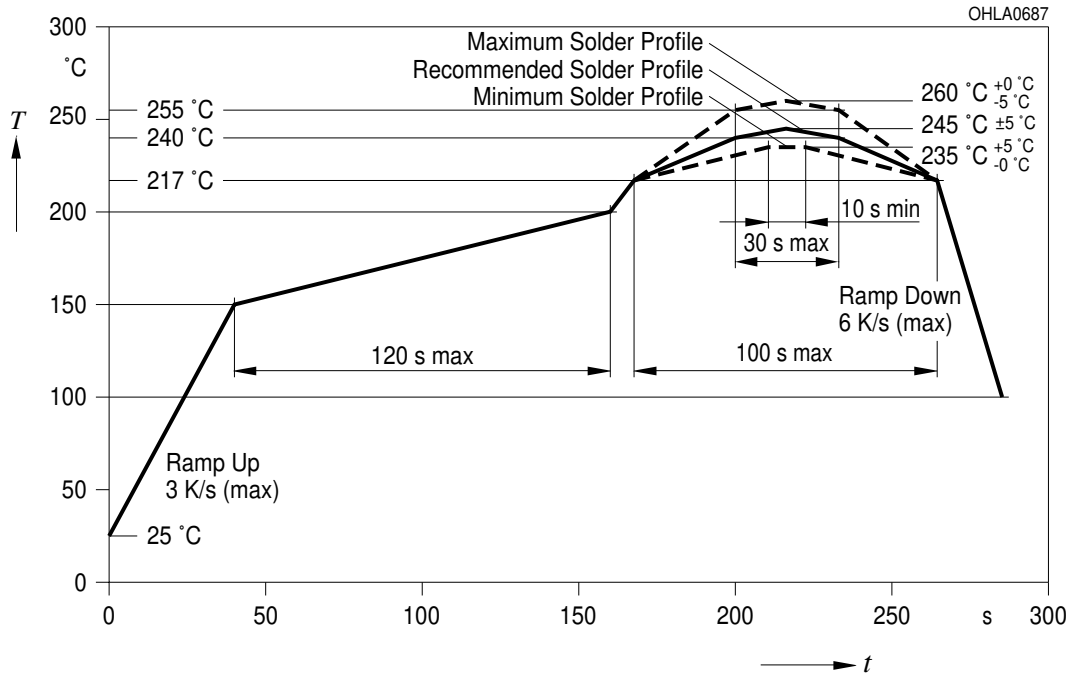
Reflow Löten
Reflow Soldering



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 3
Preconditioning acc. to JEDEC Level 3
(nach J-STD-020C)
(acc. to J-STD-020C)



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。

Published by
OSRAM Opto Semiconductors GmbH
Leibnizstrasse 4, D-93055 Regensburg
www.osram-os.com

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.