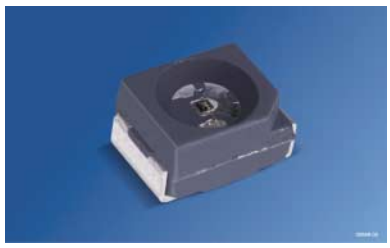
Rote Punktlichtquelle
Red Pointsource Emitter
Lead (Pb) Free Product - RoHS Compliant

SFH 4276



Wesentliche Merkmale

- Schwarz eingefärbtes TOPLED-Gehäuse
- Typische Emissionswellenlänge 655nm
- Runde Emissionsfläche mit Durchmesser 170µm
- Keine Seitenstrahlung
- IR Reflow und TTW Löten geeignet
- Feuchte-Empfindlichkeitsstufe 2 nach JEDEC Standard J-STD-020A

Anwendungen

- Miniaturlichtschranken und Lichtschranken über große Entfernungen
- Industrieelektronik
- „Messen/Steuern/Regeln“
- Automobiltechnik
- Sensorik
- Alarm- und Sicherungssysteme

Features

- Black coloured TOPLED-package
- Typical Peakwavelength 655nm
- Emission area with diameter 170µm
- No side emission
- Suited for IR Reflow and TTW-soldering
- Moisture sensitivity level 2 according to JEDEC Standard J-STD-020A

Applications

- Miniature and long distance photointerrupters
- Industrial electronics
- For drive and control circuits
- Automotive technology
- Sensor technology
- Alarm and safety equipment

Typ **Type**	**Bestellnummer** **Ordering Code**	**Strahlstärkegruppierung** [1] (I_F = 50 mA, t_p = 20 ms) **Radiant intensity grouping** [1] I_e (mW/sr)
SFH 4276	Q65110A2524	1.2 (0.63 ≤ ... ≤ 2)

[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 … + 100	°C
Sperrspannung Reverse voltage	V_R	5	V
Durchlaßstrom Forward current	I_F	50	mA
Pulsstrom, $\tau = 10$ µs, $D = 0.1$ puls current	I_{Fp}	500	mA
Verlustleistung Power dissipation	P_{tot}	125	mW
Wärmewiderstand Sperrschicht - Umgebung bei Montage auf FR4 Platine, Padgröße je 16 mm^2 Thermal resistance junction - ambient mounted on PC-board (FR4), padsize 16 mm^2 each	R_{thJA}	300	K/W
Elektrostatische Entladung Electrostatic discharge	ESD	2	kV

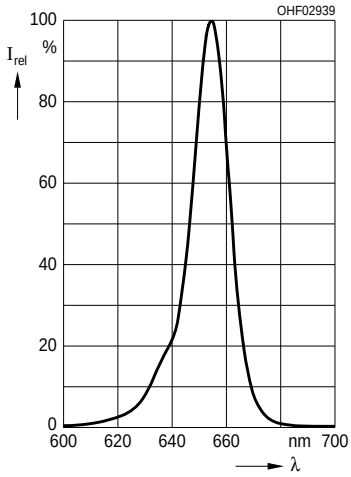
Kennwerte (T_A = 25 °C)
Characteristics

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Wellenlänge der Strahlung Wavelength at peak emission I_F = 20 mA, t_p = 20 ms	λ_{peak}	655	nm
Spektrale Bandbreite bei 50% von I_{max} Spectral bandwidth at 50% of I_{max} I_F = 20 mA	$\Delta\lambda$	16	nm
Abstrahlwinkel Half angle	φ	± 60	Grad deg.
Aktive Chipfläche Active chip area	A	0.019	mm^2
Durchesser der aktiven Chipfläche Diameter of the active chip area	D	170	µm
Durchlaßspannung, Forward voltage I_F = 50 mA, t_p = 20 ms	V_F	2.1 (≤ 2.6)	V
Sperrstrom, Reverse current V_R = 5 V	I_R	0.01 (≤ 10)	µA
Gesamtstrahlungsfluß, Total radiant flux I_F = 50 mA, t_p = 20 ms	Φ_e	3.5	mW
Temperaturkoeffizient von I_e bzw. Φ_e Temperature coefficient of I_e or Φ_e I_F = 50 mA	TC_I	-0.5	%/K
Temperaturkoeffizient von V_F Temperature coefficient of V_F I_F = 50 mA	TC_V	-2.5	mV/K
Temperaturkoeffizient von λ Temperature coefficient of λ I_F = 50 mA	TC_λ	0.14	nm/K

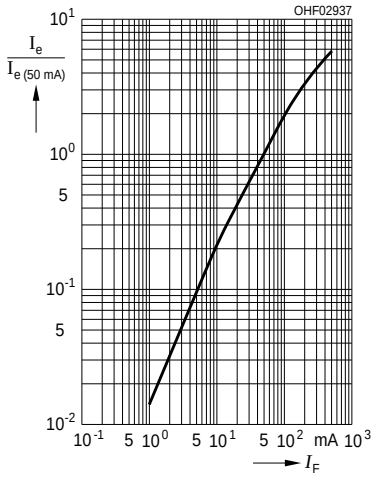
Strahlstärke I_e in Achsrichtung
gemessen bei einem Raumwinkel Ω = 0.01 sr
Radiant Intensity I_e in Axial Direction
at a solid angle of Ω = 0.01 sr

Bezeichnung Parameter	Symbol	Werte Values		Einheit Unit
		-K	-L	
Strahlstärke Radiant intensity I_F = 50 mA, t_p = 20 ms	I_{emin} I_{emax}	0.63 1.25	1 2	mW/sr

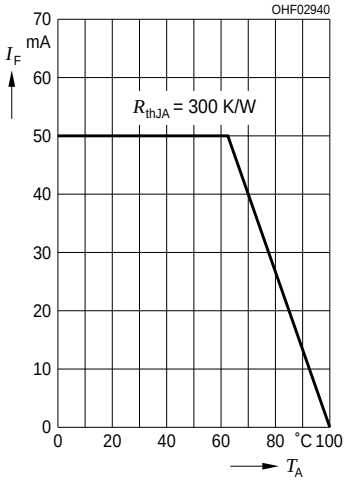
Relative Spectral Emission
$I_{rel} = f(\lambda)$



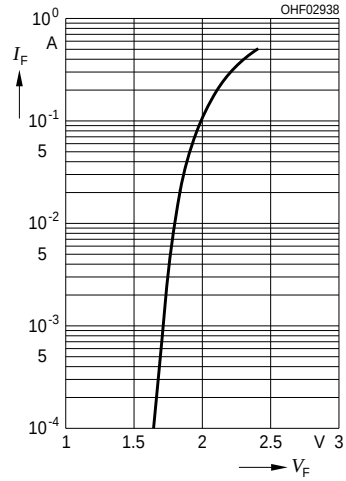
Radiant Intensity
$I_e/I_{e(50\ mA)} = f(I_F)$



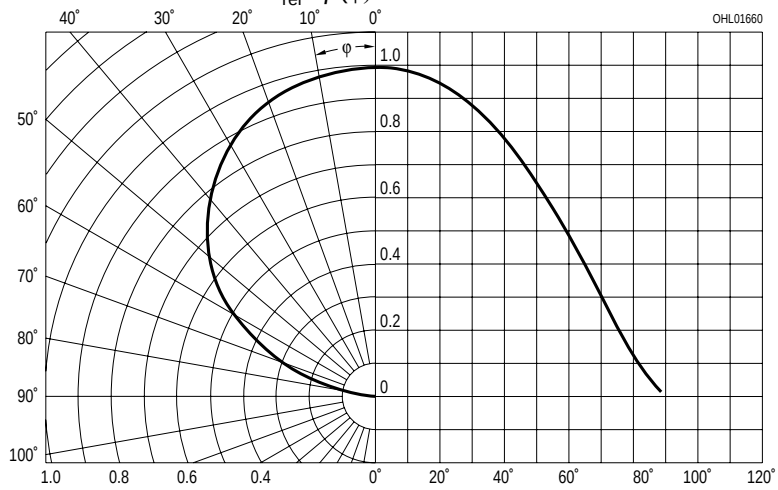
Max. Permissible Forward Current
$I_F = f(T_A)$



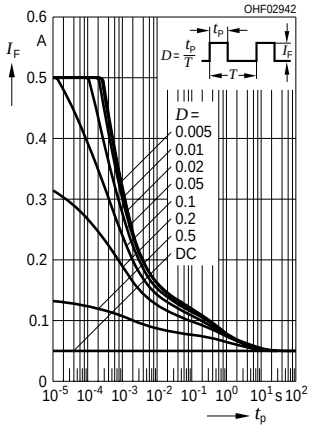
Forward Current
$I_F = f(V_F)$ single pulse, t_p = 20 µs



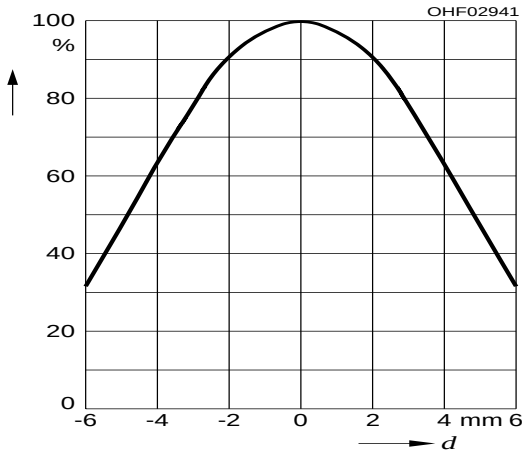
Radiation Characteristics $I_{rel} = f(\varphi)$ (Farfield)



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

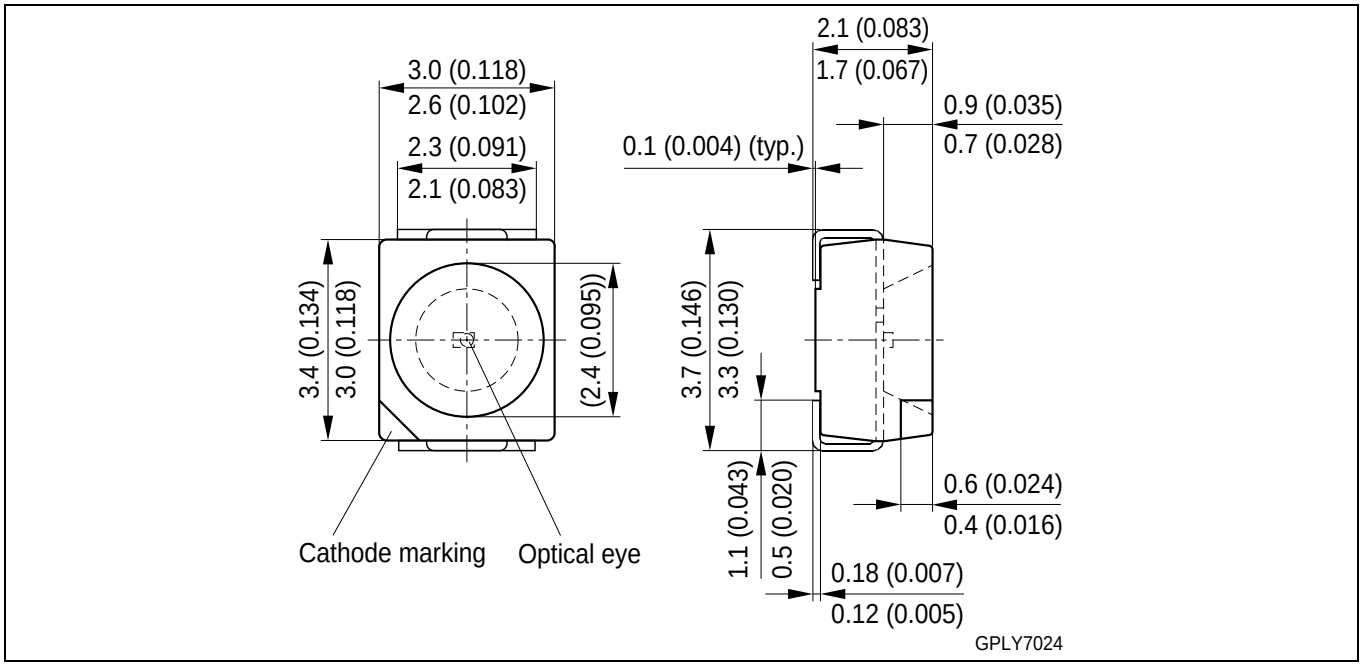


Radiation Pattern $E_{e\ rel} = f(d)$ (5mm)



(d=pattern size at 5mm distance)

Maßzeichnung
Package Outlines



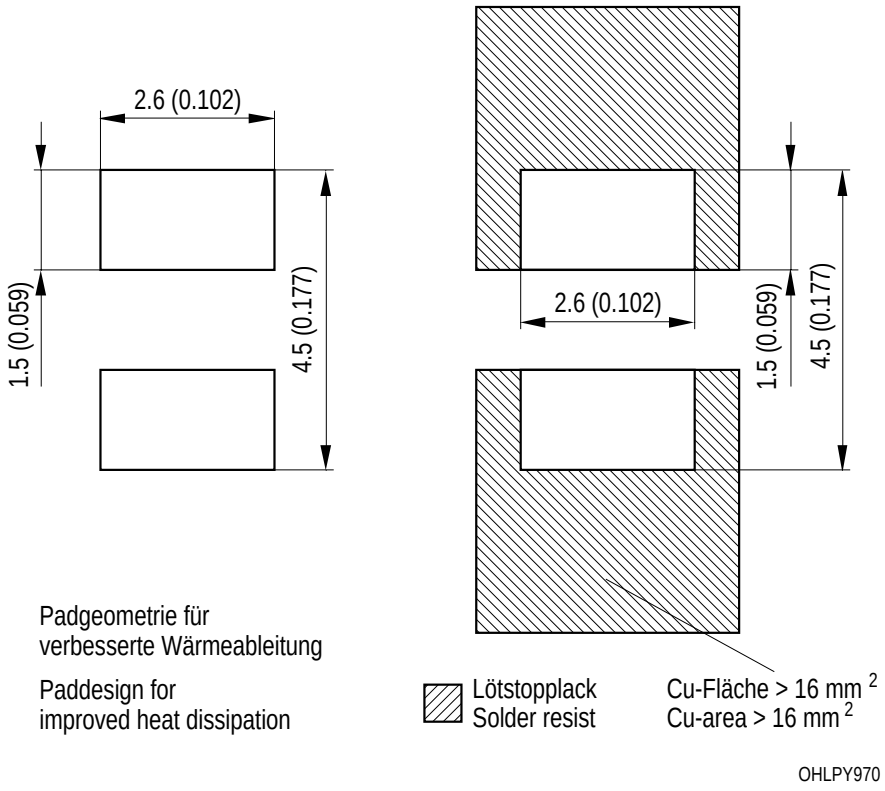
Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

Gehäusefarbe: schwarz, Verguss klar
Brechungsindex Verguss: 1.53

Package Colour: black, resin colourless clear
Refractive index resin: 1.53

Empfohlenes Lötpaddesign
Recommended Solder Pad

IR-Reflow Löten
IR Reflow Soldering



Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch)
Gehäuse für Wellenlöten (TTW) geeignet / Package suitable for TTW-soldering

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

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

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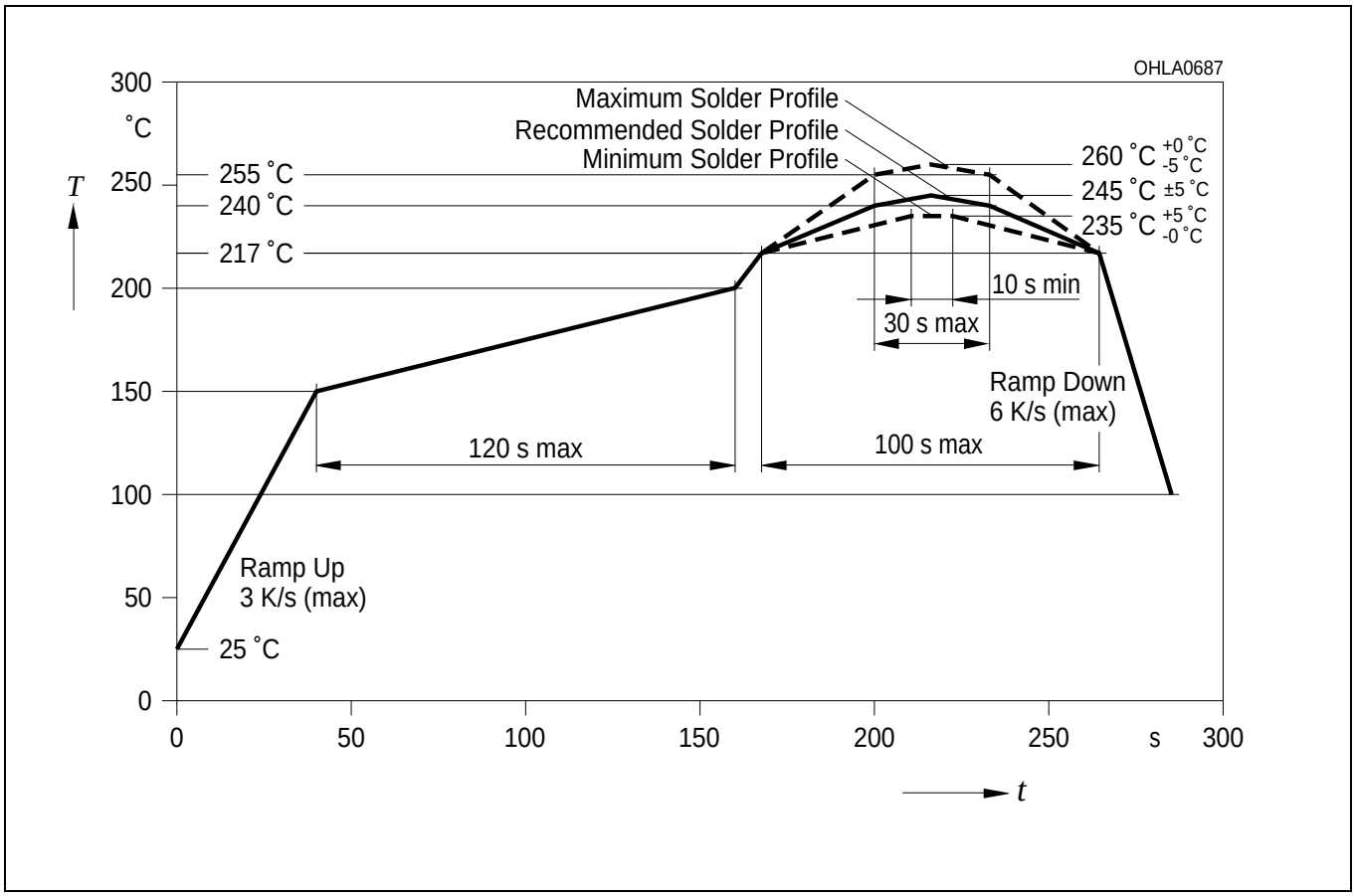
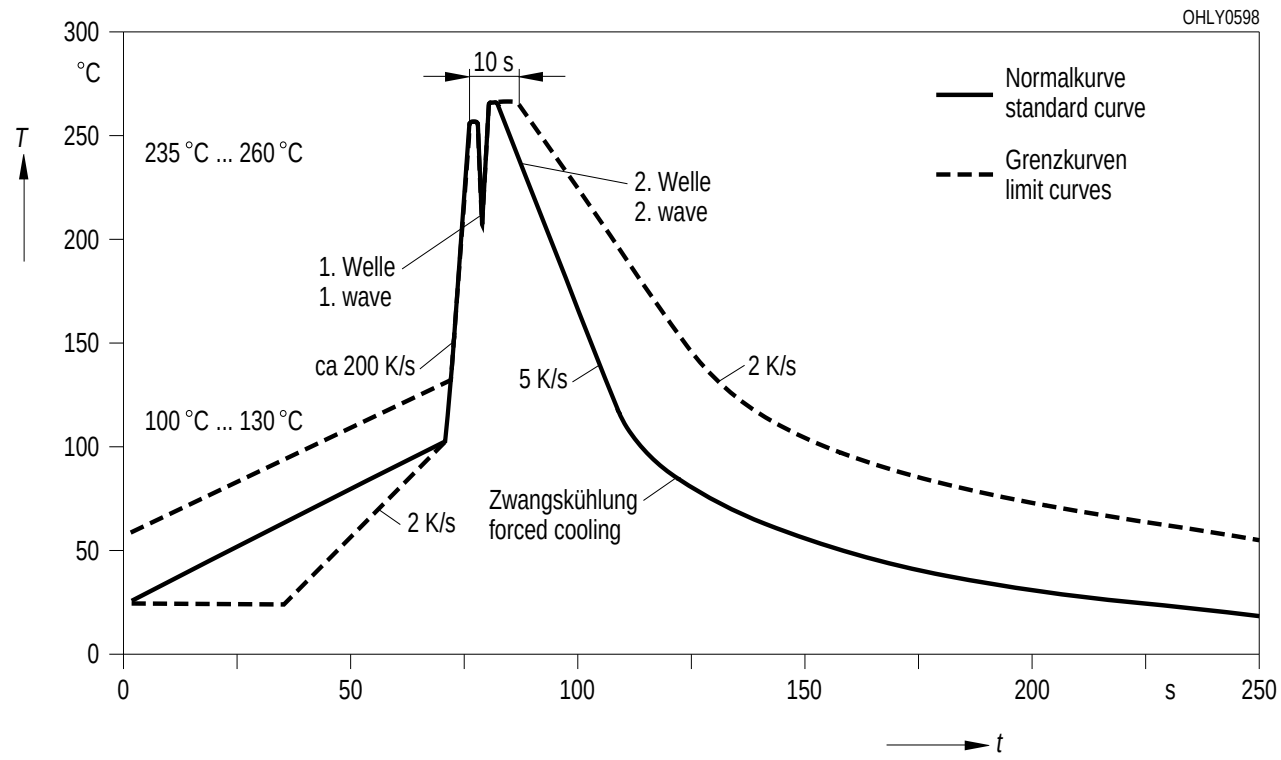


Lötbedingungen
Soldering Conditions
Wellenlöten (TTW)
TTW Soldering

Vorbehandlung nach JEDEC Level 2
Preconditioning acc. to JEDEC Level 2
(nach CECC 00802)
(acc. to CECC 00802)



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