

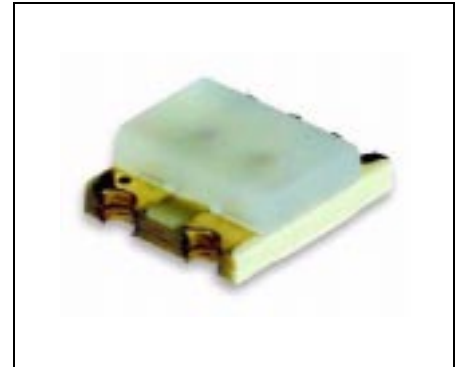
## CHIPLED

LSG F971

### Vorläufige Daten / Preliminary Data

#### Besondere Merkmale

- Farbe: super-rot (628 nm) und grün (572 nm)
- Farbmischung möglich
- Chips getrennt ansteuerbar
- Industriestandard bzgl. Lötadraster
- für alle SMT Bestück- und IR-Löttechniken geeignet
- geringe Bauteilhöhe
- gegurtet (8-mm-Filmgurt)



#### Features

- colors: super-red (628 nm) and green (572 nm)
- color mixing is possible
- each chip can be controlled separately
- industry standard footprint
- suitable for all SMT assembly and IR soldering methods
- low profile
- available taped on reel (8 mm tape)

#### Anwendungen

- Handy-Hinterleuchtung
- Einkopplung in Lichtleiter
- LCD-Hinterleuchtung
- Schalter-Hinterleuchtung
- Spielsachen
- Armbanduhren
- Taschenrechner

#### Applications

- hand phone back lighting
- coupling in any light pipe
- LCD back lighting
- switch back lighting
- toys
- watches
- pocket calculators

Typ Type	Emissionsfarbe Color of Emission	Farbe der Lichtaustrittsfläche Color of the Light Emitting Area	Lichtstärke Luminous Intensity $I_F = 20 \text{ mA}$ $I_V \text{ (mcd)}$		Bestellnummer Ordering Code
			min.	typ.	
LSG F971	super-red green	colorless diffused	6.3 10	11 21	Q62703-Q4728

**Grenzwerte  
Maximum Ratings**

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Betriebstemperatur Operating temperature range	$T_{op}$	- 30 ... + 85	°C
Lagertemperatur Storage temperature range	$T_{stg}$	- 40 ... + 85	°C
Sperrschichttemperatur Junction temperature	$T_j$	+ 95	°C
Durchlaßstrom Forward current	$I_F$	25	mA
Stoßstrom Surge current $t_p = 10 \mu\text{s}, D = 0.1$	$I_{FM}$	t.b.d.	A
Sperrspannung Reverse voltage	$V_R$	5	V
Verlustleistung Power dissipation	$P_{tot}$	65	mW
Wärmewiderstand <sup>1)</sup> Sperrschicht / Umgebung Thermal resistance <sup>1)</sup> Junction / air	$R_{th JA}$	750	K/W

<sup>1)</sup> nur ein Chip betrieben  
one system only

**Kennwerte ( $T_A = 25\text{ °C}$ )**  
**Characteristics**

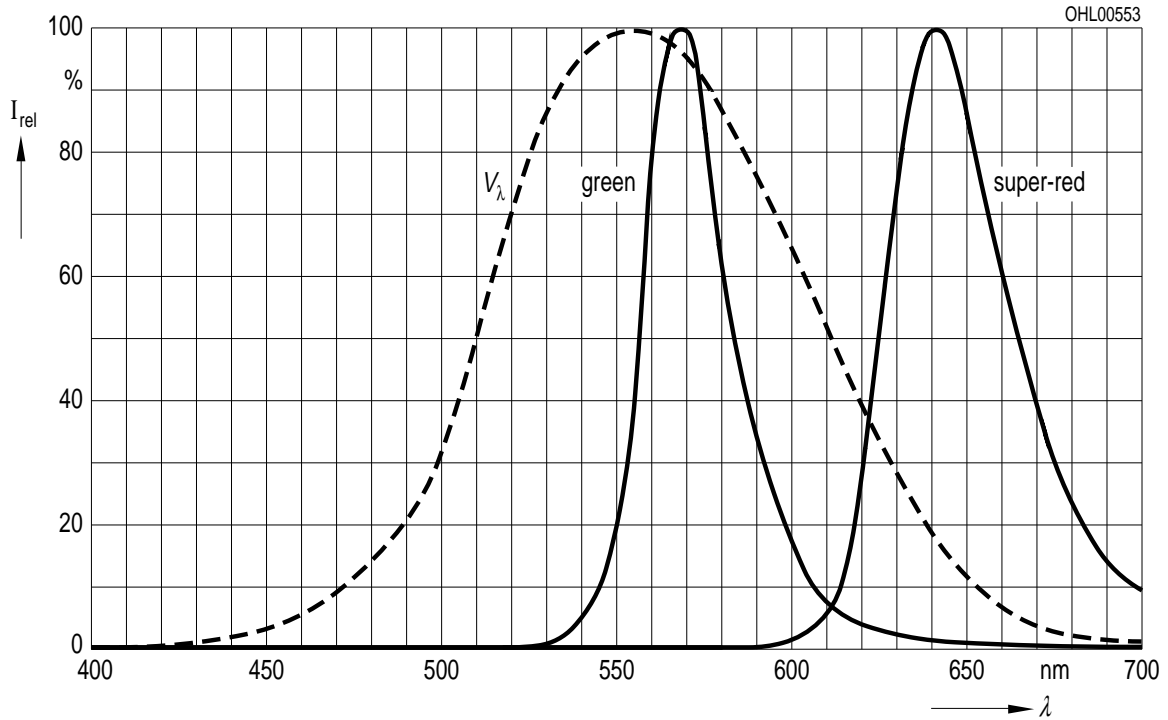
Bezeichnung Parameter	Symbol Symbol	Werte Values		Einheit Unit
		LS	LG	
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission $I_F = 20\text{ mA}$	$\lambda_{\text{peak}}$	642	570	nm
Dominantwellenlänge (typ.) Dominant wavelength $I_F = 20\text{ mA}$	$\lambda_{\text{dom}}$	628	572	nm
Spektrale Bandbreite (typ.) Spectral bandwidth $I_F = 20\text{ mA}$	$\Delta\lambda$	40	30	nm
Abstrahlwinkel bei 50 % $I_V$ (Vollwinkel) Viewing angle at 50 % $I_V$	$2\phi$	160	160	Grad deg.
Durchlaßspannung (typ.) Forward voltage (max.) $I_F = 20\text{ mA}$	$V_F$ $V_F$	2.0 2.6	2.2 2.6	V V
Sperrstrom (typ.) Reverse current (max.) $V_R = 5\text{ V}$	$I_R$ $I_R$	0.01 10	0.01 10	$\mu\text{A}$ $\mu\text{A}$
Temperaturkoeffizient von $\lambda_{\text{dom}}$ (typ.) Temperature coefficient of $\lambda_{\text{dom}}$ $I_F = 20\text{ mA}$	$TC_{\lambda_{\text{dom}}}$	0.05	0.06	nm/K
Temperaturkoeffizient von $\lambda_{\text{peak}}$ (typ.) Temperature coefficient of $\lambda_{\text{peak}}$ $I_F = 20\text{ mA}$	$TC_{\lambda_{\text{peak}}}$	0.13	0.10	nm/K
Temperaturkoeffizient von $V_F$ (typ.) Temperature coefficient of $V_F$ $I_F = 20\text{ mA}$	$TC_{V_F}$	- 1.7	- 1.4	mV/K
Temperaturkoeffizient von $I_V$ (typ.) Temperature coefficient of $I_V$ $I_F = 20\text{ mA}$	$TC_{I_V}$	- 1.0	- 0.5	%/K

**Relative spektrale Emission**  $I_{rel} = f(\lambda)$ ,  $T_A = 25\text{ °C}$ ,  $I_F = 20\text{ mA}$

**Relative spectral emission**

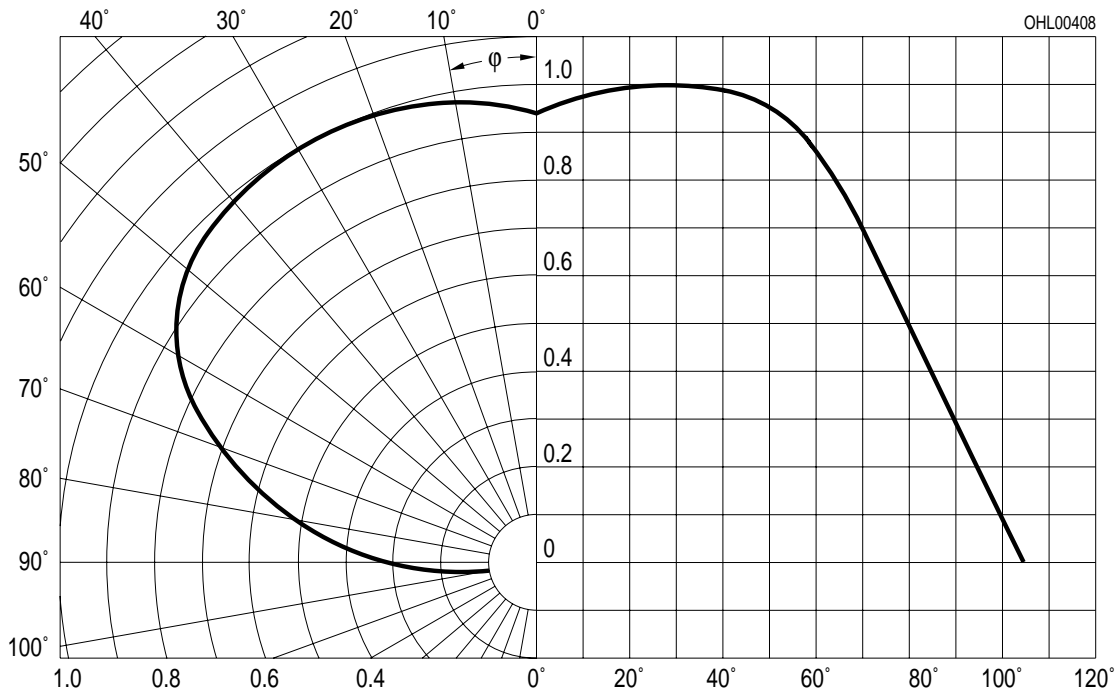
$V(\lambda)$  = spektrale Augenempfindlichkeit

standard eye response curve



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

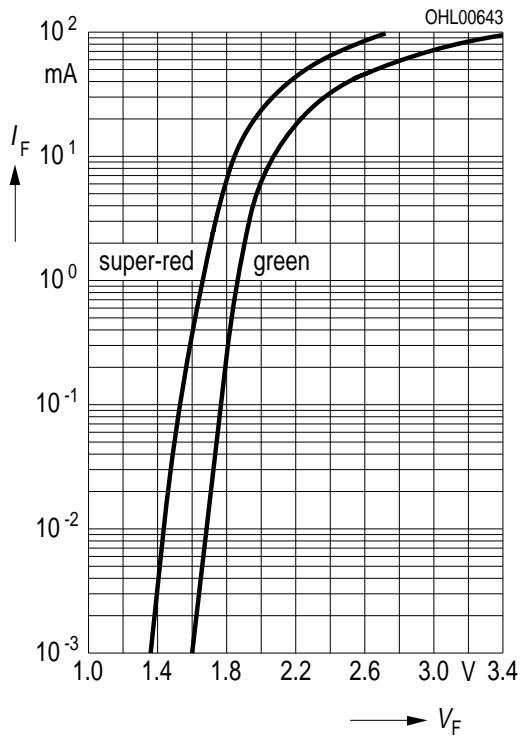
**Radiation characteristic**



Durchlaßstrom  $I_F = f(V_F)$

Forward current

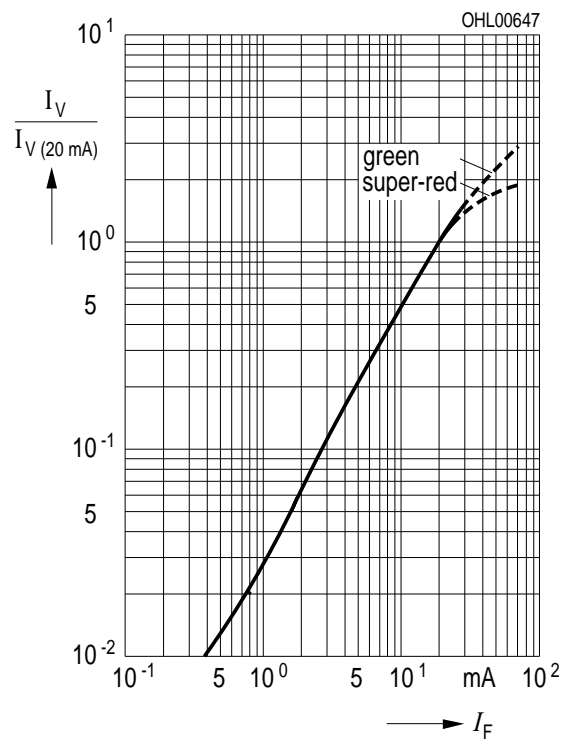
$T_A = 25\text{ °C}$



Relative Lichtstärke  $I_V/I_{V(20\text{ mA})} = f(I_F)$

Relative luminous intensity

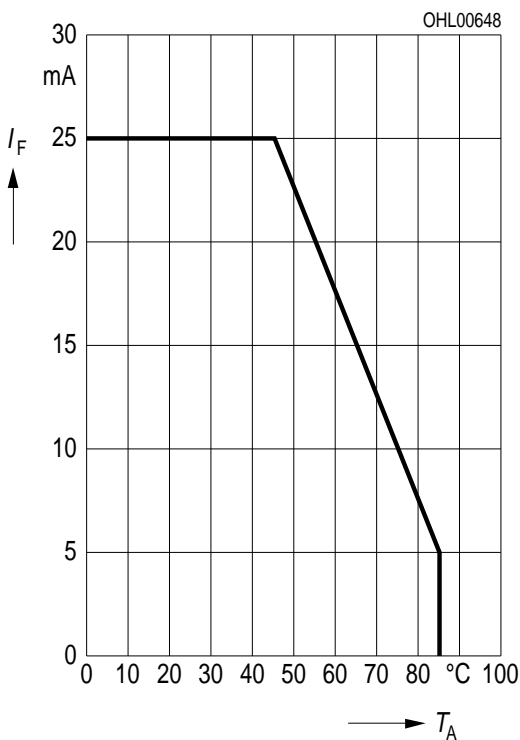
$T_A = 25\text{ °C}$



Maximal zulässiger Durchlaßstrom

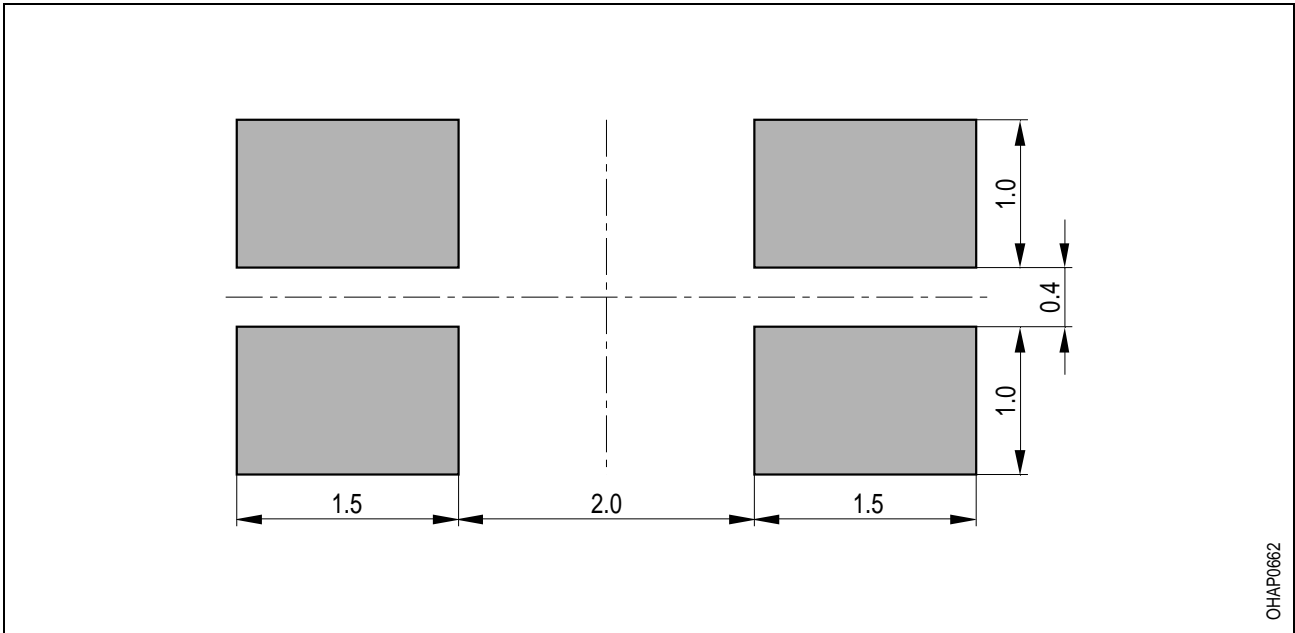
Max. permissible forward current

$I_F = f(T_A)$



**Empfehlung Lötpaddesign**  
**Recommended Pad**

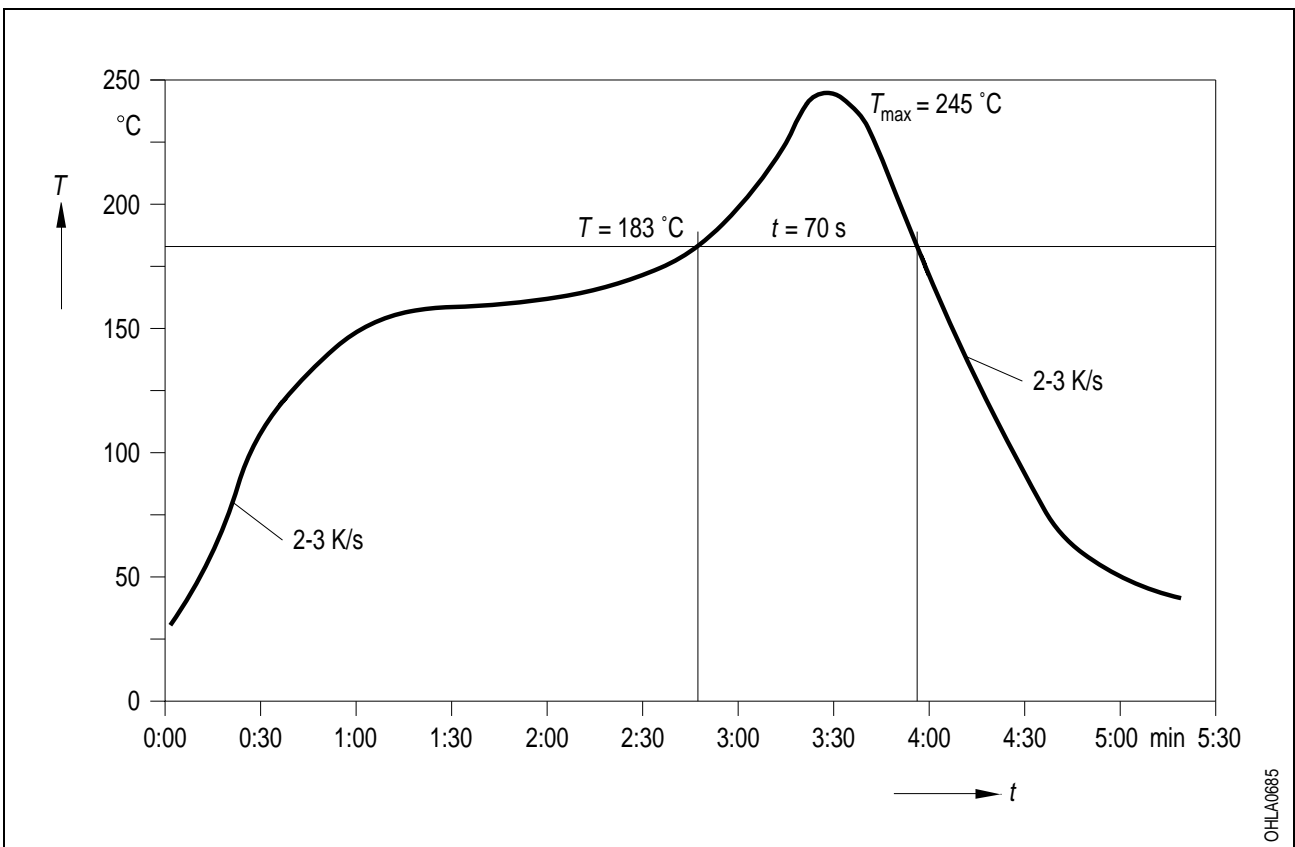
Infrarot/Vapor-Phase Reflow-Lötung  
Infrared Vapor-Phase Reflow-Soldering



OHAP0662

**Empfohlenes Lötprofil**  
**Recommended Soldering Profile**

nach CECC 00802 für Infrarot/Vapor-Phase Reflow-Lötung  
acc. to CECC 00802 for Infrared Vapor-Phase Reflow-Soldering



OHLA0685

