

## CHIPLED

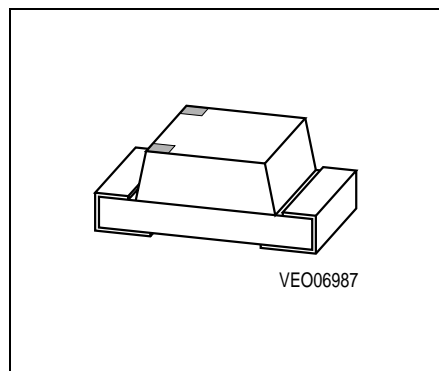
## LY R970, LO R970, LS R970

### Besondere Merkmale

- Gehäusebauform: 0805
- Industriestandard bzgl. Lötpadraster
- geringe Bauteilhöhe
- für IR-Lötung geeignet
- für Hinterleuchtungen und als opt. Indikator einsetzbar
- gegurtet (8-mm-Filmgurt)

### Features

- 0805 package
- Industry standard footprint
- low profile
- suitable for IR reflow soldering process
- for use as optical indicator and backlighting
- available taped on reel (8 mm tape)



Typ	Emissions- farbe	Farbe der Lichtaustritts- fläche	Lichtstärke	Lichtstrom	Bestellnummer
Type	Color of Emission	Color of the Light Emitting Area	Luminous Intensity $I_F = 20 \text{ mA}$ $I_V \text{ (mcd)}$	Luminous Flux $I_F = 20 \text{ mA}$ $\Phi_V \text{ (mlm)}$	Ordering Code
LY R970-JO	yellow	colorless clear	$\geq 4.0$ (7 typ.)	60 (typ.)	Q62702-P5104
LO R970-JO	orange		$\geq 4.0$ (7 typ.)	60 (typ.)	Q62702-P5100
LS R970-JO	super-red		$\geq 4.0$ (7 typ.)	60 (typ.)	Q62702-P5102

**Grenzwerte**  
**Maximum Ratings**

Bezeichnung Parameter	Symbol Symbol	Werte Values	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 $t \leq 10 \mu s, D = 0.005$	$I_{FM}$	0.1	A
Sperrspannung Reverse voltage	$V_R$	5	V
Verlustleistung, $T_A = 25 \text{ °C}$ Power dissipation, $T_A = 25 \text{ °C}$	$P_{tot}$	75	mW
Wärmewiderstand Sperrschicht / Umgebung Thermal resistance Junction / air	$R_{th JA}$	610	K/W

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

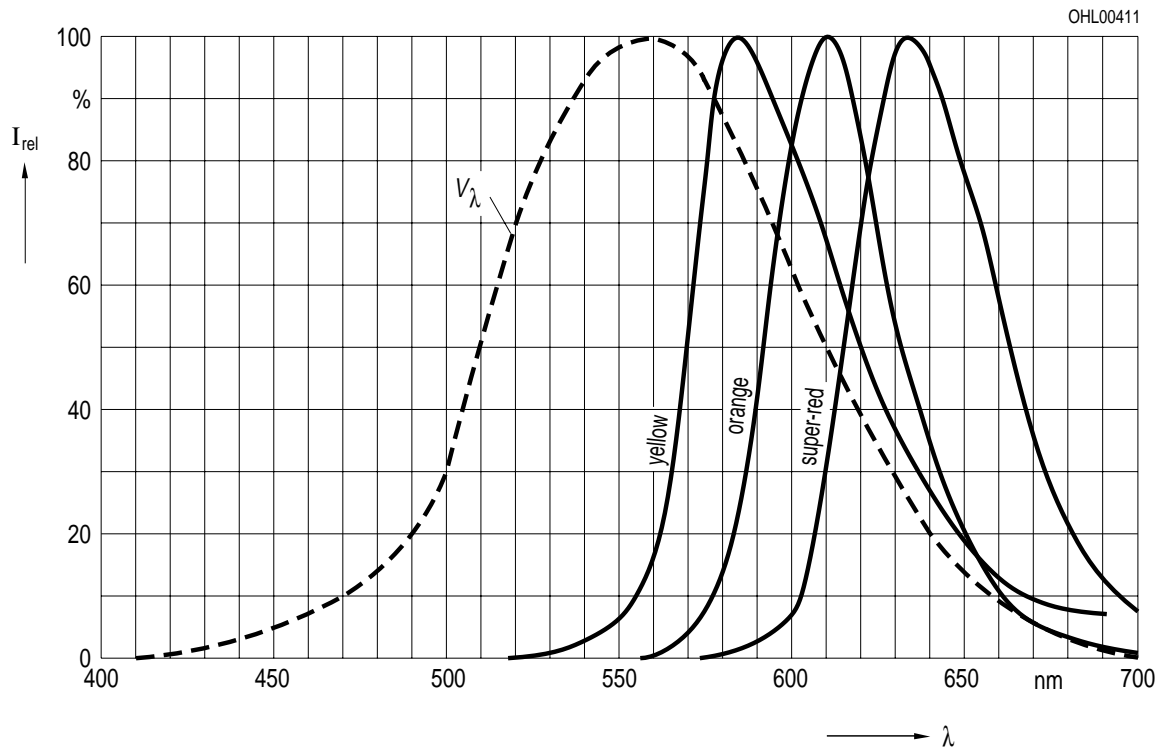
**Characteristics**

Bezeichnung Parameter	Symbol Symbol	Werte Values			Einheit Unit
		LY	LO	LS	
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission (typ.) $I_F = 20\text{ mA}$	$\lambda_{\text{peak}}$	586	610	635	nm
Dominantwellenlänge (typ.) Dominant wavelength (typ.) $I_F = 20\text{ mA}$	$\lambda_{\text{dom}}$	590	605	628	nm
Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$ (typ.) Spectral bandwidth at 50 % $I_{\text{rel max}}$ (typ.) $I_F = 20\text{ mA}$	$\Delta\lambda$	45	40	45	nm
Abstrahlwinkel bei 50 % $I_v$ (Vollwinkel) Viewing angle at 50 % $I_v$	$2\phi$	160	160	160	Grad deg.
Durchlaßspannung (typ.) Forward voltage (max.) $I_F = 20\text{ mA}$	$V_F$ $V_F$	2.3 2.9	2.3 2.9	2.3 2.9	V V
Sperrstrom (typ.) Reverse current (max.) $V_R = 5\text{ V}$	$I_R$ $I_R$	0.01 10	0.01 10	0.01 10	$\mu\text{A}$ $\mu\text{A}$
Temperaturkoeffizient von $\lambda_{\text{peak}}$ (typ.) ( $I_F = 20\text{ mA}$ ) Temperature coefficient of $\lambda_{\text{peak}}$ (typ.) ( $I_F = 20\text{ mA}$ )	$TC_{\lambda_{\text{peak}}}$	0.1	0.1	0.1	nm/K
Temperaturkoeffizient von $\lambda_{\text{dom}}$ , $I_F = 20\text{ mA}$ (typ.) Temperature coefficient of $\lambda_{\text{dom}}$ , $I_F = 20\text{ mA}$ (typ.)	$TC_{\lambda_{\text{dom}}}$	0.08	0.08	0.08	nm/K
Temperaturkoeffizient von $V_F$ , $I_F = 20\text{ mA}$ (typ.) Temperature coefficient of $V_F$ , $I_F = 20\text{ mA}$ (typ.)	$TC_{V_F}$	- 1.9	- 1.9	- 1.9	mV/K

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

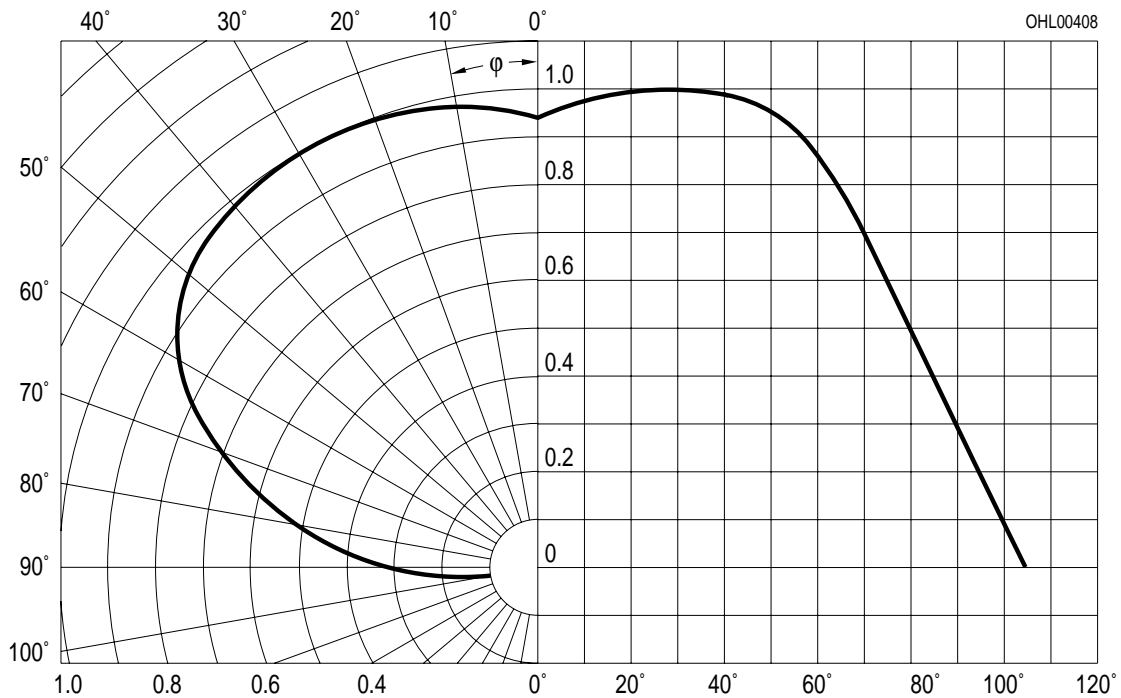
**Relative spectral emission**

$V(\lambda)$  = spektrale Augenempfindlichkeit  
Standard eye response curve



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

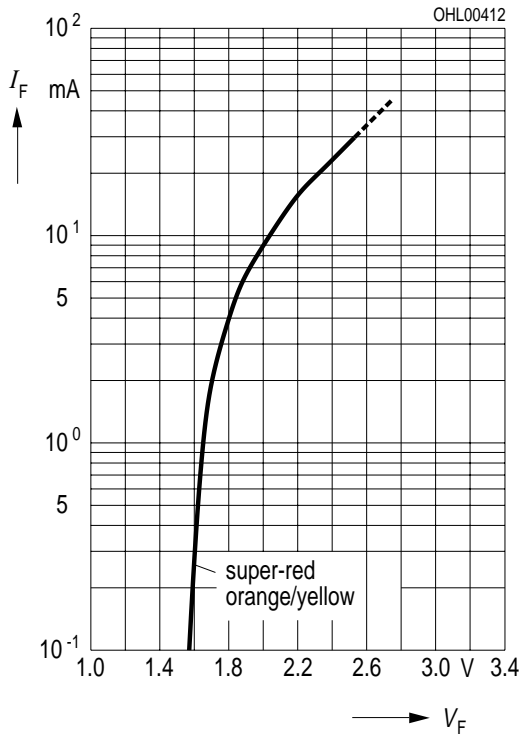
**Radiation characteristic**



**Durchlaßstrom  $I_F = f(V_F)$**

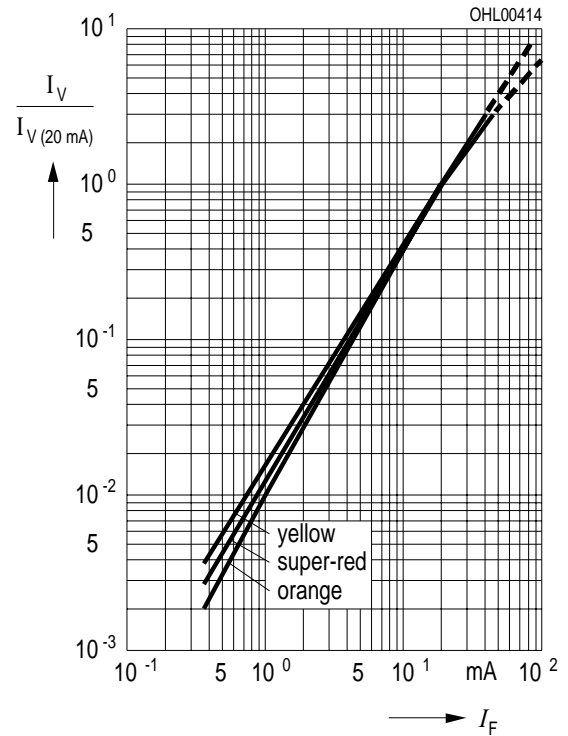
**Forward current**

$T_A = 25\text{ °C}$



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

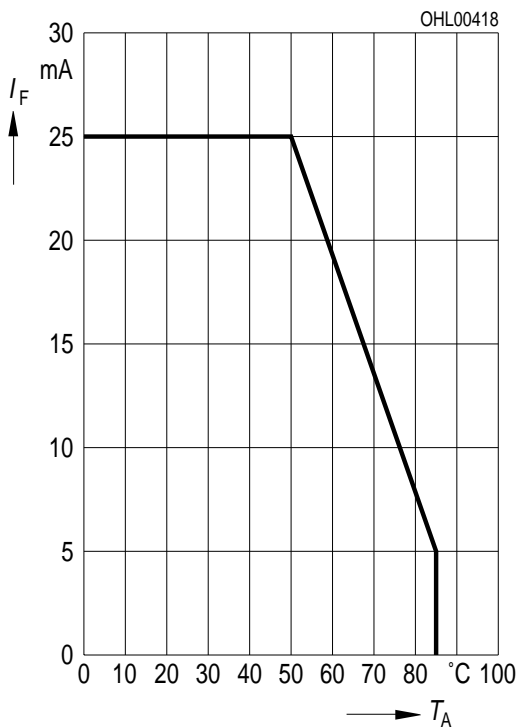
**Relative luminous intensity  $T_A = 25\text{ °C}$**



**Maximal zulässiger Durchlaßstrom**

**Max. permissible forward current**

$I_F = f(T_A)$



**Relative Lichtstärke  $I_V / I_{V(25\text{ °C})} = f(T_A)$**

**Relative luminous intensity**

$I_F = 20\text{ mA}$

