

Hyper 3 mm (T1) LED, Non Diffused Hyper-Bright LED

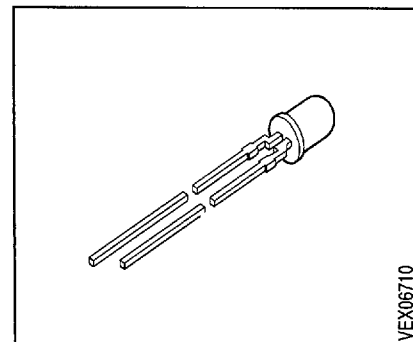
LS 3336, LA 3336, LO 3336
LY 3336

Besondere Merkmale

- nicht eingefärbtes, klares Gehäuse
- zur Einkopplung in Lichtleiter
- als optischer Indikator einsetzbar
- Lötspieße mit Aufsetzebene
- gegurtet lieferbar
- Störimpulsfest nach DIN 40839

Features

- colorless, clear package
- optical coupling into light pipes
- for use as optical indicator
- solder leads with stand-off
- available taped on reel
- load dump resistant acc. to DIN 40839



Typ Type	Emissionsfarbe Color of Emission	Gehäusefarbe Color of Package	Lichtstärke Luminous Intensity $I_F = 20 \text{ mA}$ $I_V \text{ (mcd)}$	Bestellnummer Ordering Code
LS 3336-QT	super-red	colorless clear	63 ... 500	Q62703-Q3482
LS 3336-R			100 ... 200	Q62703-Q3484
LS 3336-S			160 ... 320	Q62703-Q3485
LS 3336-T			250 ... 500	Q62703-Q3813
LS 3336-RU			100 ... 800	Q62703-Q3486
LA 3336-RU	amber	colorless clear	100 ... 800	Q62703-Q3554
LA 3336-S			160 ... 320	Q62703-Q3551
LA 3336-T			250 ... 500	Q62703-Q3552
LA 3336-U			400 ... 800	Q62703-Q3553
LA 3336-SV			160 ... 1250	Q62703-Q3555
LO 3336-RU	orange	colorless clear	100 ... 800	Q62703-Q3144
LO 3336-S			160 ... 320	Q62703-Q3176
LO 3336-T			250 ... 500	Q62703-Q3170
LO 3336-U			400 ... 800	Q62703-Q3307
LO 3336-SV			160 ... 1250	Q62703-Q3177
LY 3336-RU	yellow	colorless clear	100 ... 800	Q62703-Q3487
LY 3336-S			160 ... 320	Q62703-Q3489
LY 3336-T			250 ... 500	Q62703-Q3490
LY 3336-U			400 ... 800	Q62703-Q3814
LY 3336-SV			160 ... 1250	Q62703-Q3491

Streuung der Lichtstärke in einer Verpackungseinheit $I_{V \max} / I_{V \min} \leq 2.0$.
Luminous intensity ratio in one packaging unit $I_{V \max} / I_{V \min} \leq 2.0$.

Grenzwerte
Maximum Ratings

Bezeichnung Parameter	Symbol Symbol	Werte Values		Einheit Unit
		LS, LO, LA	LY	
Betriebstemperatur Operating temperature range	T_{op}	- 55 ... + 100		°C
Lagertemperatur Storage temperature range	T_{stg}	- 55 ... + 100		°C
Sperrschichttemperatur Junction temperature	T_j	+ 100		°C
Durchlaßstrom Forward current	I_F	30	20	mA
Stoßstrom Surge current $t \leq 10 \mu s, D = 0.005$	I_{FM}	1	0.2	A
Sperrspannung ¹⁾ Reverse voltage ¹⁾	V_R	3		V
Verlustleistung Power dissipation $T_A \leq 25 \text{ °C}$	P_{tot}	80	55	mW
Wärmewiderstand Thermal resistance Sperrschicht / Umgebung Junction / air	$R_{th JA}$	500		K/W

¹⁾ Belastung in Sperrichtung sollte vermieden werden.

¹⁾ Reverse biasing should be avoided.

Kennwerte ($T_A = 25\text{ °C}$)

Characteristics

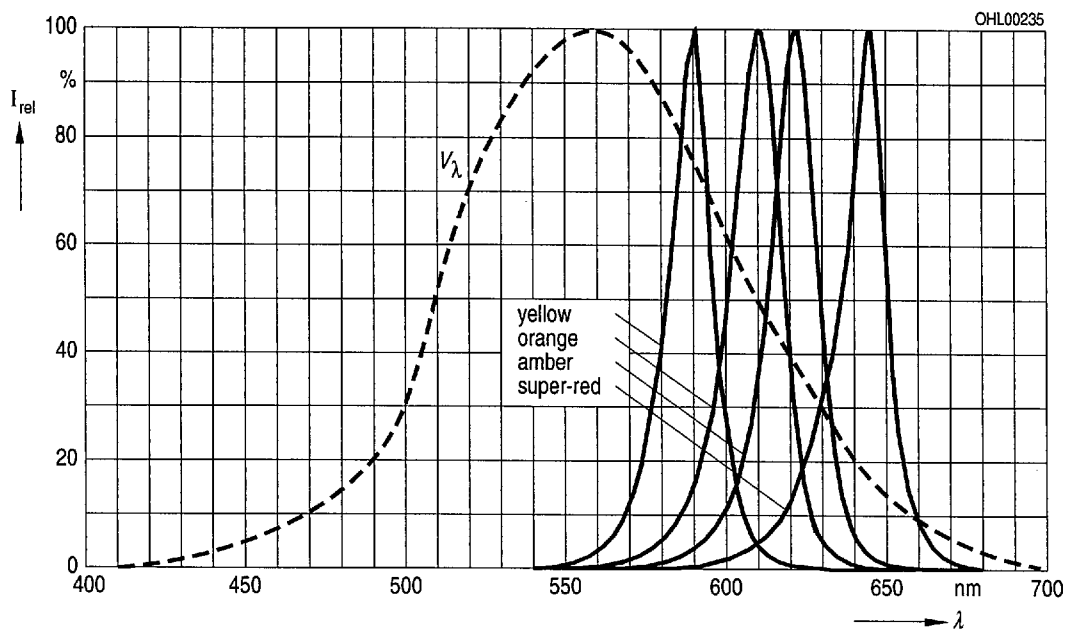
Bezeichnung Parameter	Symbol Symbol	Werte Values				Einheit Unit
		LS	LA	LO	LY	
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission (typ.) $I_F = 20\text{ mA}$	λ_{peak}	645	622	610	591	nm
Dominantwellenlänge (typ.) Dominant wavelength (typ.) $I_F = 20\text{ mA}$	λ_{dom}	632	615	605	587	nm
Spektrale Bandbreite bei 50% $I_{\text{rel max}}$ (typ.) Spectral bandwidth at 50% $I_{\text{rel max}}$ (typ.) $I_F = 20\text{ mA}$	$\Delta\lambda$	16	16	16	15	nm
Abstrahlwinkel bei 50% I_v (Vollwinkel) Viewing angle at 50% I_v	2ϕ	50	50	50	50	Grad deg.
Durchlaßspannung (typ.) Forward voltage (max.) $I_F = 20\text{ mA}$	V_F V_F	2.0 2.6	2.0 2.6	2.0 2.6	2.0 2.6	V V
Sperrstrom (typ.) Reverse current (max.) $V_R = 3\text{ V}$	I_R I_R	0.01 10	0.01 10	0.01 10	0.01 10	μA μA
Temperaturkoeffizient von λ_{dom} ($I_F = 20\text{ mA}$) Temperature coefficient of λ_{dom} ($I_F = 20\text{ mA}$)	TC_{λ}	0.014	0.062	0.067	0.096	nm/K
Temperaturkoeffizient von λ_{peak} , (typ.) $I_F = 20\text{ mA}$ Temperature coefficient of λ_{peak} , (typ.) $I_F = 20\text{ mA}$	TC_{λ}	0.14	0.13	0.13	0.13	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	- 1.95	- 1.78	- 1.67	- 2.51	mV/K

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

Relative spectral emission

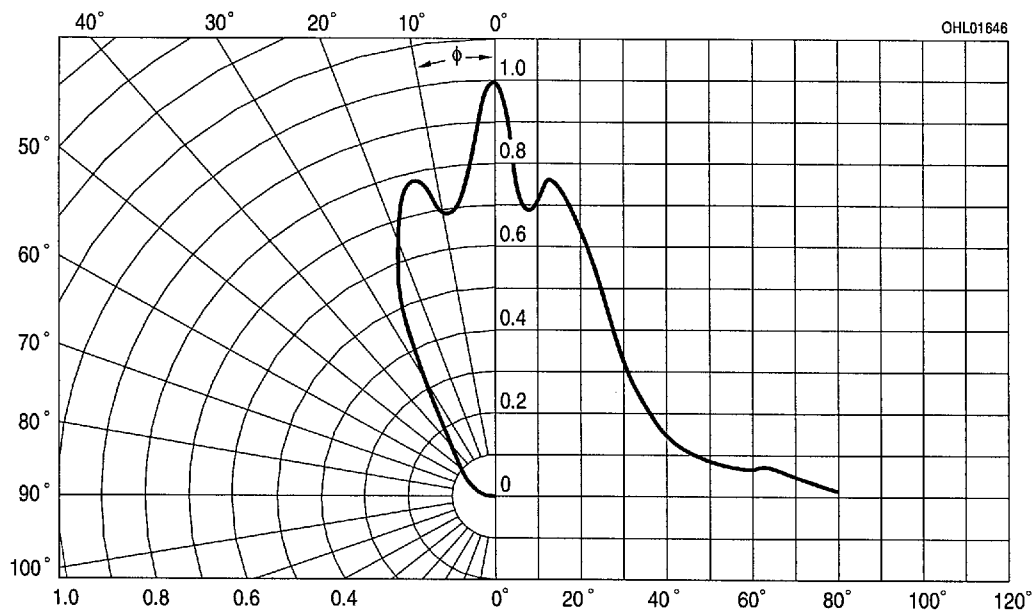
$V(\lambda)$ = spektrale Augenempfindlichkeit

Standard eye response curve

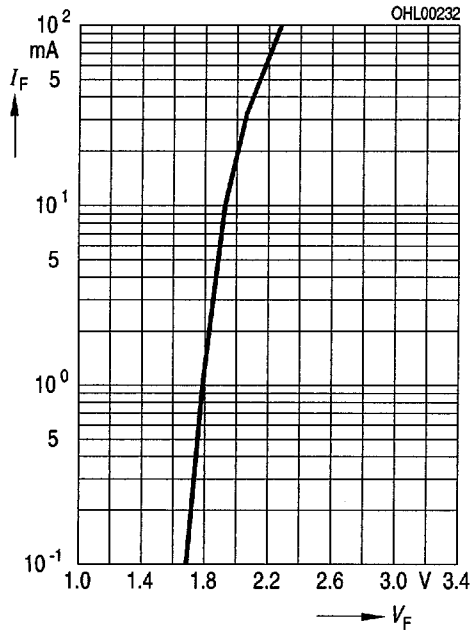


Abstrahlcharakteristik $I_{\text{rel}} = f(\varphi)$

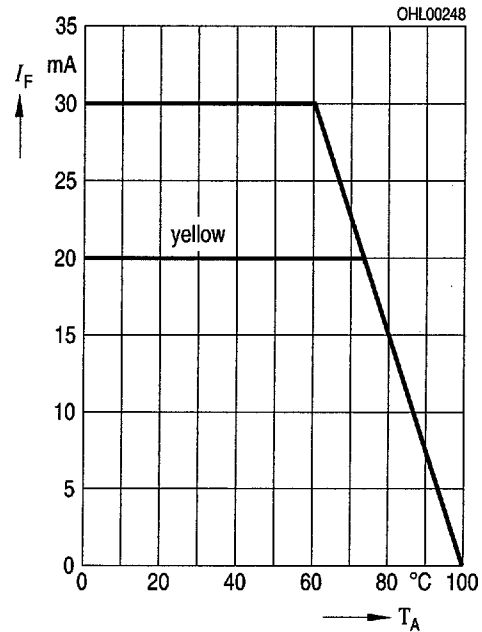
Radiation characteristic



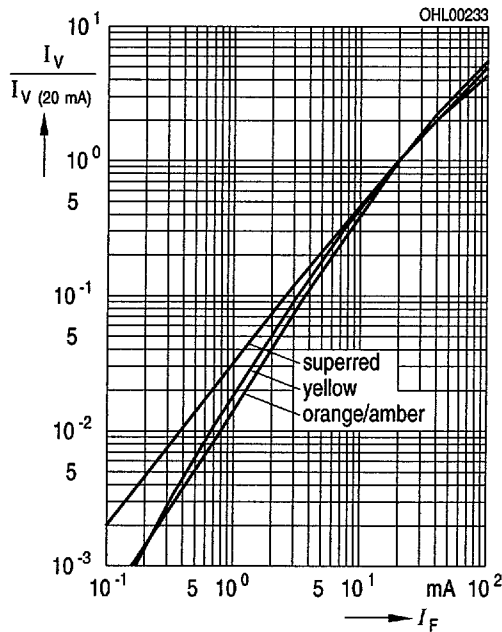
Durchlaßstrom $I_F = f(V_F)$
Forward current
 $T_A = 25^\circ\text{C}$



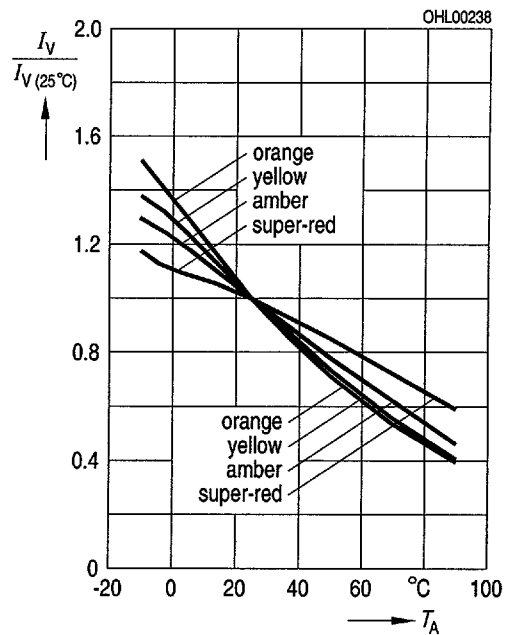
Maximal zulässiger Durchlaßstrom
Max. permissible forward current
 $I_F = f(T_A)$



Relative Lichtstärke $I_V / I_{V(20\text{ mA})} = f(I_F)$
Relative luminous intensity
 $T_A = 25^\circ\text{C}$

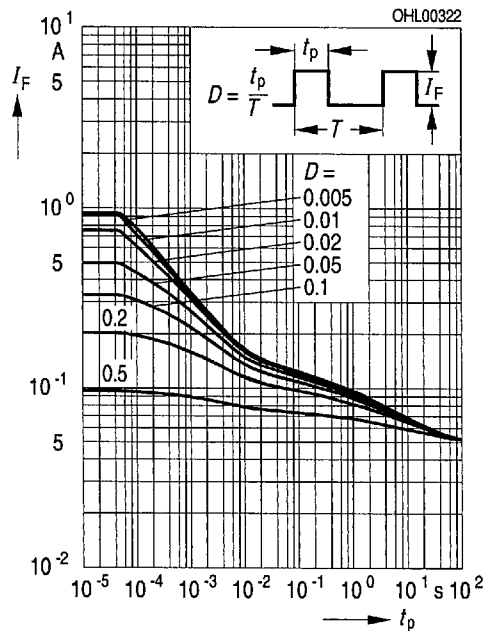


Relative Lichtstärke $I_V / I_{V(25^\circ\text{C})} = f(T_A)$
Relative luminous intensity
 $I_F = 20\text{ mA}$



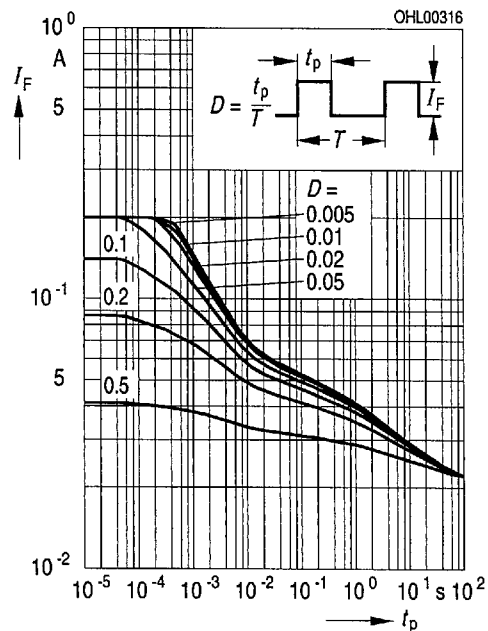
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$ Permissible pulse handling capability LS, LA, LO

Duty cycle $D =$ parameter, $T_A = 25^\circ\text{C}$



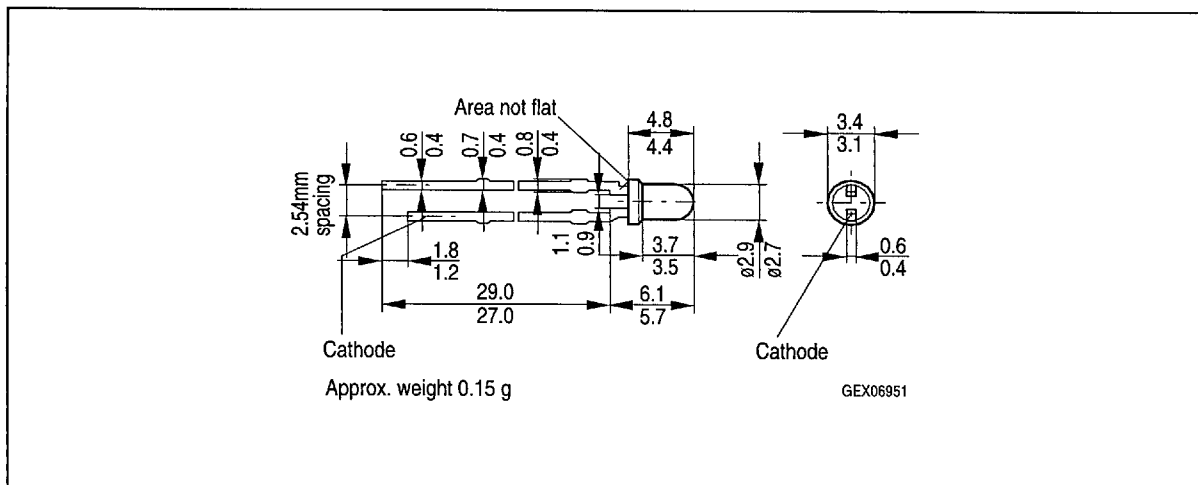
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$ Permissible pulse handling capability LY

Duty cycle $D =$ parameter, $T_A = 25^\circ\text{C}$



Maßzeichnung Package Outlines

(Maße in mm, wenn nicht anders angegeben)
(Dimensions in mm, unless otherwise specified)



Kathodenkennzeichnung: Kürzerer Lötspieß
Cathode mark: Short solder lead