High Efficiency LED, ∅ 5 mm Untinted Non-Diffused

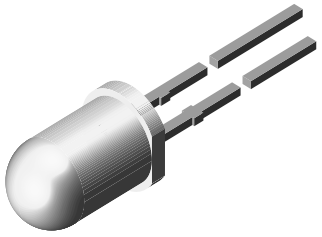
Description

The TLH.5800 series was developed for standard applications which need a very small radiation angle or a very high luminous intensity.

It is housed in a 5 mm untinted non-diffused plastic package. The very small viewing angle of these devices provide a very high luminous intensity.

The yellow and green LEDs are categorized in luminous intensity and additionally in wavelength groups.

That allows users to assemble LEDs with uniform appearance.



e2 Pb Pb-free

Features

- Standard T-1¾ package
- Small mechanical tolerances
- Suitable for DC and high peak current
- Very small viewing angle
- Very high intensity
- Luminous intensity categorized
- Yellow and green color categorized
- Lead-free device

Applications

Status lights
OFF / ON indicator
Lightpipe
Outdoor display
Medical instruments
Maintenance lights
Legend lights

Parts Table

Part	Color, Luminous Intensity	Angle of Half Intensity (±φ)	Technology
TLHY5800	Yellow, I_V > 100 mcd	4 °	GaAsP on GaP
TLHG5800	Green, I_V > 400 mcd	4 °	GaP on GaP
TLHP5800	Pure green, I_V > 25 mcd	4 °	GaP on GaP

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified
TLHY5800 , TLHG5800 , TLHP5800

Parameter	Test condition	Symbol	Value	Unit
Reverse voltage		V_R	6	V
DC Forward current	T_{amb} ≤ 65 °C	I_F	30	mA
Surge forward current	t_p ≤ 10 µs	I_{FSM}	1	A
Power dissipation	T_{amb} ≤ 65 °C	P_V	100	mW
Junction temperature		T_j	100	°C
Operating temperature range		T_{amb}	- 40 to + 100	°C
Storage temperature range		T_{stg}	- 55 to + 100	°C
Soldering temperature	t ≤ 5 s, 2 mm from body	T_{sd}	260	°C
Thermal resistance junction/ ambient		R_{thJA}	350	K/W

Optical and Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Yellow

TLHY5800

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Luminous intensity [1]	I_F = 20 mA	I_V	100	250		mcd
Dominant wavelength	I_F = 10 mA	λ_d	581		594	nm
Peak wavelength	I_F = 10 mA	λ_p		585		nm
Angle of half intensity	I_F = 10 mA	φ		± 4		deg
Forward voltage	I_F = 20 mA	V_F		2.4	3	V
Reverse voltage	I_R = 10 µA	V_R	6	15		V
Junction capacitance	V_R = 0, f = 1 MHz	C_j		50		pF

[1] in one Packing Unit $I_{Vmin}/I_{Vmax} \leq 0.5$

Green

TLHG5800

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Luminous intensity [1]	I_F = 20 mA	I_V	400	700		mcd
Dominant wavelength	I_F = 10 mA	λ_d	562		575	nm
Peak wavelength	I_F = 10 mA	λ_p		565		nm
Angle of half intensity	I_F = 10 mA	φ		± 4		deg
Forward voltage	I_F = 20 mA	V_F		2.4	3	V
Reverse voltage	I_R = 10 µA	V_R	6	15		V
Junction capacitance	V_R = 0, f = 1 MHz	C_j		50		pF

[1] in one Packing Unit $I_{Vmin}/I_{Vmax} \leq 0.5$

Pure green

TLHP5800

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Luminous intensity [1]	I_F = 20 mA	I_V	25	85		mcd
Dominant wavelength	I_F = 10 mA	λ_d	555		565	nm
Peak wavelength	I_F = 10 mA	λ_p		555		nm
Angle of half intensity	I_F = 10 mA	φ		± 4		deg
Forward voltage	I_F = 20 mA	V_F		2.4	3	V
Reverse voltage	I_R = 10 µA	V_R	6	15		V
Junction capacitance	V_R = 0, f = 1 MHz	C_j		50		pF

[1] in one Packing Unit $I_{Vmin}/I_{Vmax} \leq 0.5$

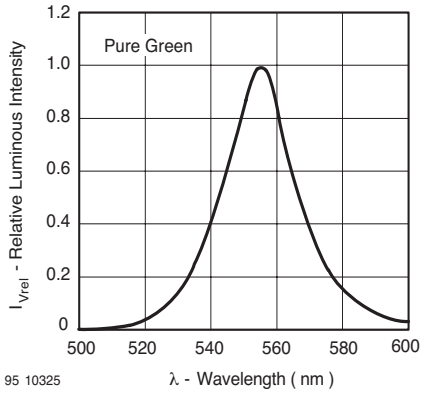
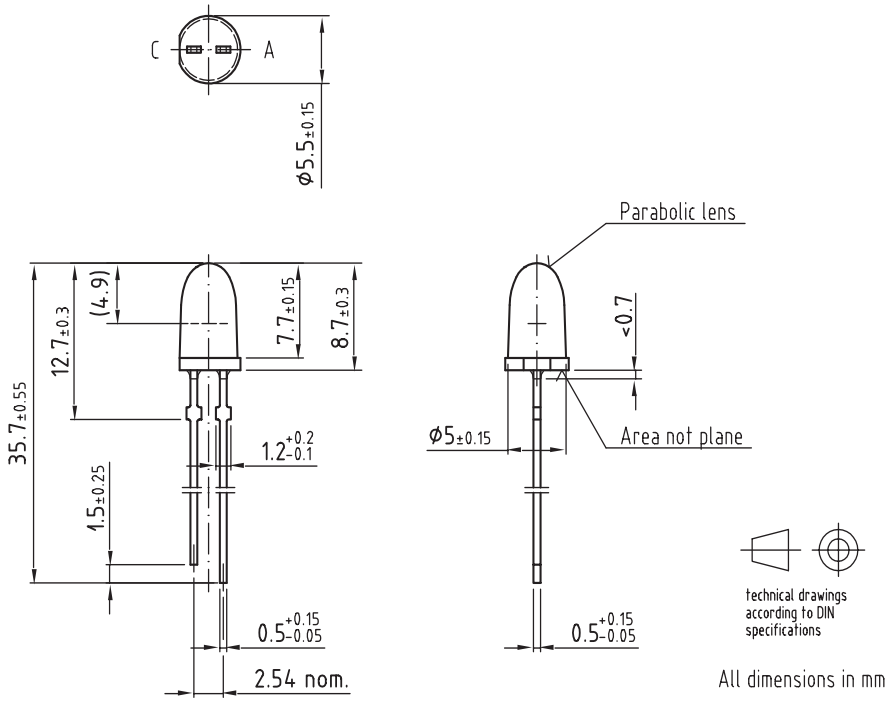


Figure 19. Relative Intensity vs. Wavelength

Package Dimensions in mm



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