

High Intensity LED, Ø 5 mm Untinted Non-Diffused Package



19223

DESCRIPTION

This device has been designed to meet the increasing demand for extremely bright yellow LEDs.

It is housed in a 5 mm untinted non-diffused plastic package. The very small viewing angle of this device provides a very high luminous intensity.

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: standard
- Angle of half intensity: $\pm 4^\circ$

FEATURES

- AllnGaP technology
- Standard T-1 $\frac{3}{4}$ package
- Small mechanical tolerances
- Suitable for DC and high peak current
- Very small viewing angle
- Very high intensity
- Luminous intensity categorized
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912



APPLICATIONS

- Status lights
- Off/on indicator
- Lightpipe
- Outdoor display
- Medical instruments
- Maintenance lights
- Legend lights

PARTS TABLE														
PART	COLOR	LUMINOUS INTENSITY (mcd)			at I _F (mA)	WAVELENGTH (nm)			at I _F (mA)	FORWARD VOLTAGE (V)			at I _F (mA)	TECHNOLOGY
		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		
TLHE5800	Yellow	1000	3500	-	20	581	588	594	10	-	2	2.6	20	AllnGaP on GaAs

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)				
TLHE5800				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V _R	5	V
DC forward current	T _{amb} ≤ 65 °C	I _F	30	mA
Surge forward current	t _p ≤ 10 μs	I _{FSM}	0.1	A
Power dissipation	T _{amb} ≤ 65 °C	P _V	80	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 ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
TLHE5800, YELLOW						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity ⁽¹⁾	$I_F = 20\text{ mA}$	I_V	1000	3500	-	mcd
Dominant wavelength	$I_F = 10\text{ mA}$	λ_d	581	588	594	nm
Peak wavelength	$I_F = 10\text{ mA}$	λ_p	-	590	-	nm
Angle of half intensity	$I_F = 10\text{ mA}$	ϕ	-	± 4	-	deg
Forward voltage	$I_F = 20\text{ mA}$	V_F	-	2	2.6	V
Reverse voltage	$I_R = 10\text{ }\mu\text{A}$	V_R	5	-	-	V
Junction capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	C_j	-	15	-	pF

Note

⁽¹⁾ In one packing unit $I_{Vmin}/I_{Vmax} \leq 0.5$

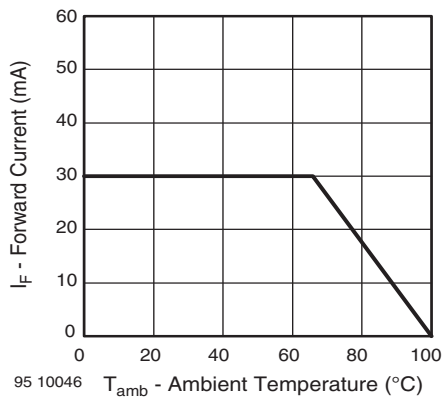
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Forward Current vs. Ambient Temperature

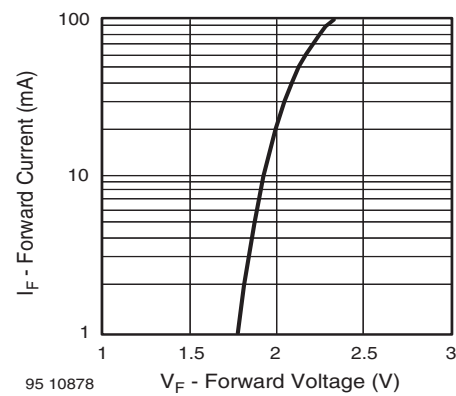


Fig. 3 - Forward Current vs. Forward Voltage

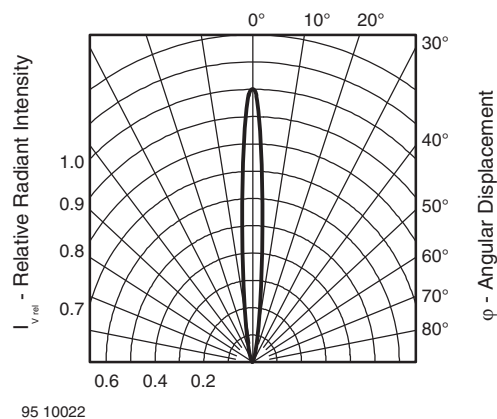


Fig. 2 - Relative Luminous Intensity vs. Angular Displacement

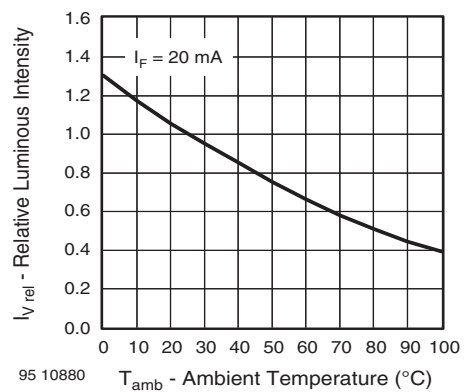


Fig. 4 - Relative Luminous Intensity vs. Ambient Temperature

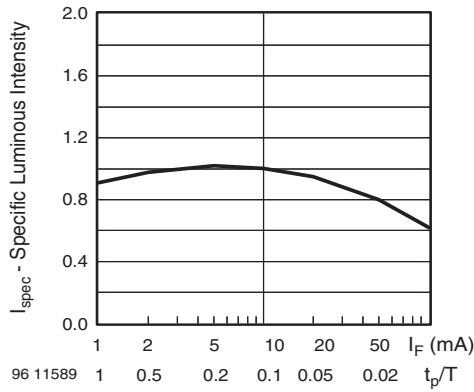


Fig. 5 - Relative Luminous Intensity vs. Forward Current/Duty Cycle

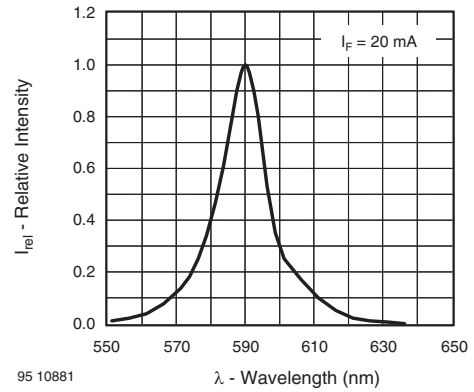


Fig. 7 - Relative Intensity vs. Wavelength

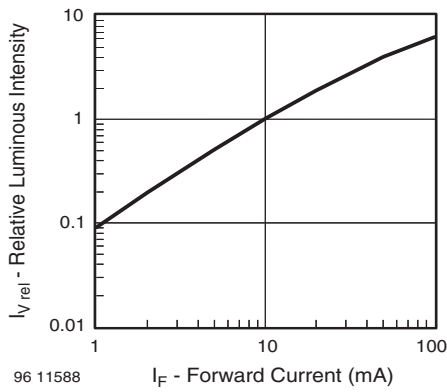
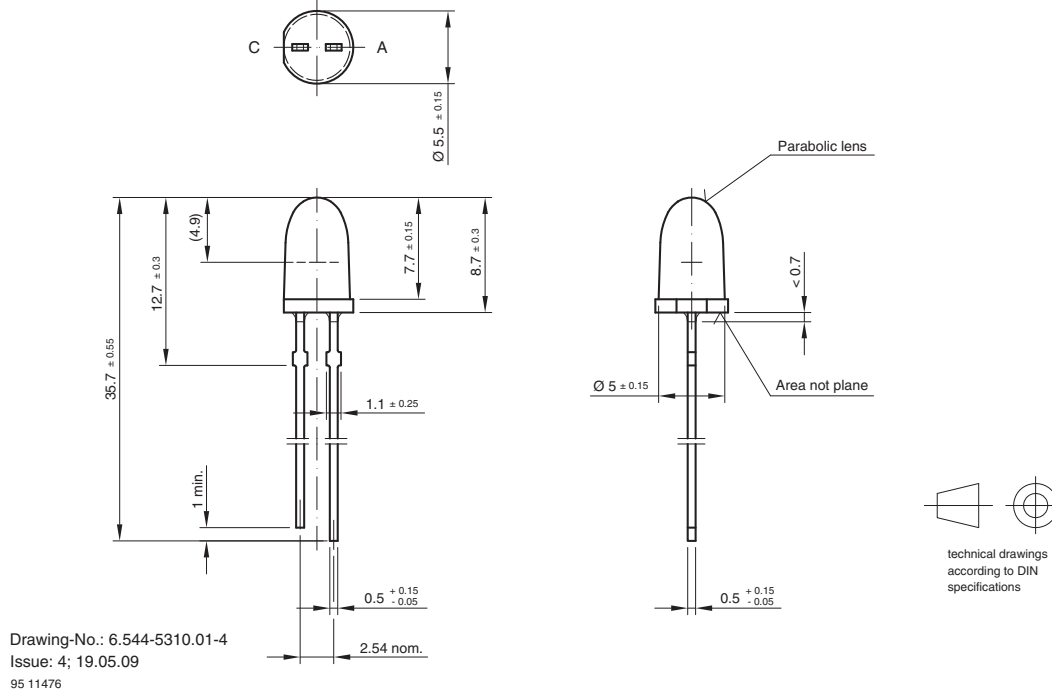


Fig. 6 - Relative Luminous Intensity vs. Forward Current

PACKAGE DIMENSIONS in millimeters





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