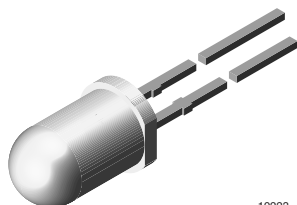


High Intensity LED, Ø 5 mm Untinted Non-Diffused



19223

FEATURES

- AllnGaP technology
- Standard T-1¾ package
- Small mechanical tolerances
- Suitable for DC and high peak current
- Very small viewing angle
- Very high intensity
- Luminous intensity categorized
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC


RoHS
COMPLIANT

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: $\pm 4^\circ$

APPLICATIONS

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

PARTS TABLE

PART	COLOR, LUMINOUS INTENSITY	TECHNOLOGY
TLHE5800	Yellow, $I_V > 1000$ mcd	AllnGaP on GaAs

ABSOLUTE MAXIMUM RATINGS ¹⁾ TLHE5800

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	5	V
DC forward current	$T_{amb} \leq 65^\circ\text{C}$	I_F	30	mA
Surge forward current	$t_p \leq 10 \mu\text{s}$	I_{FSM}	0.1	A
Power dissipation	$T_{amb} \leq 65^\circ\text{C}$	P_V	80	mW
Junction temperature		T_j	100	$^\circ\text{C}$
Operating temperature range		T_{amb}	- 40 to + 100	$^\circ\text{C}$
Storage temperature range		T_{stg}	- 55 to + 100	$^\circ\text{C}$
Soldering temperature	$t \leq 5$ s, 2 mm from body	T_{sd}	260	$^\circ\text{C}$
Thermal resistance junction/ambient		R_{thJA}	350	K/W

Note:

¹⁾ $T_{amb} = 25^\circ\text{C}$, unless otherwise specified

OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLHE5800, YELLOW

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity ²⁾	$I_F = 20 \text{ mA}$	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	$I_R = 10 \mu\text{A}$	V_R	5			V
Junction capacitance	$V_R = 0, f = 1 \text{ MHz}$	C_j		15		pF

Notes:

¹⁾ $T_{\text{amb}} = 25^\circ\text{C}$, unless otherwise specified

²⁾ In one packing unit $I_{V\text{min.}}/I_{V\text{max.}} \leq 0.5$

TYPICAL CHARACTERISTICS

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

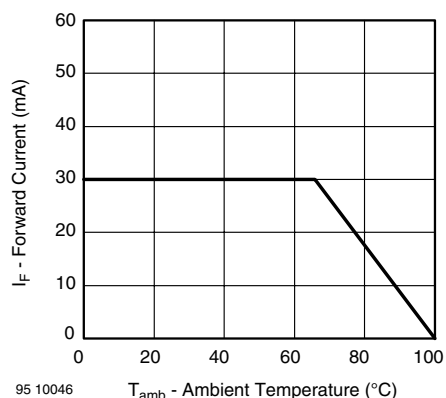


Figure 1. Forward Current vs. Ambient Temperature

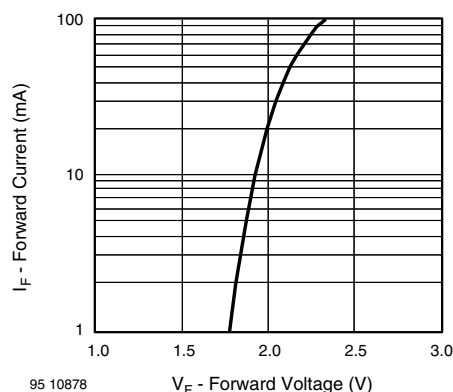


Figure 3. Forward Current vs. Forward Voltage

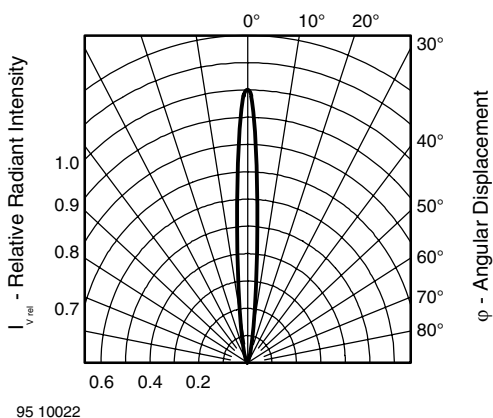


Figure 2. Rel. Luminous Intensity vs. Angular Displacement

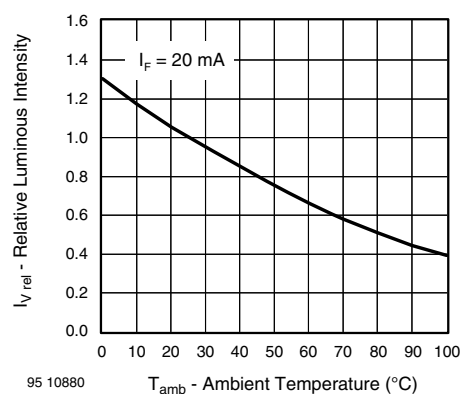


Figure 4. Rel. Luminous Intensity vs. Ambient Temperature

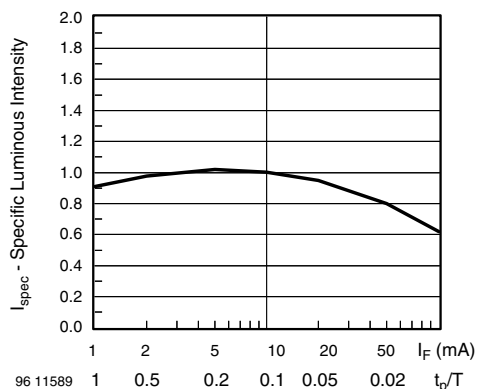


Figure 5. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

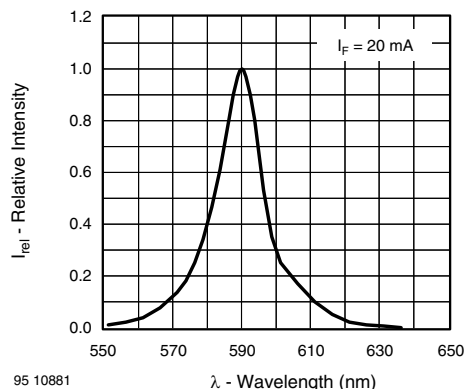


Figure 7. Relative Intensity vs. Wavelength

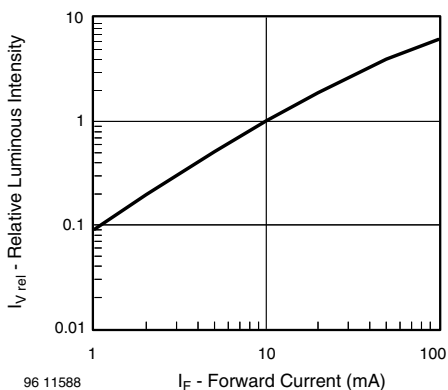
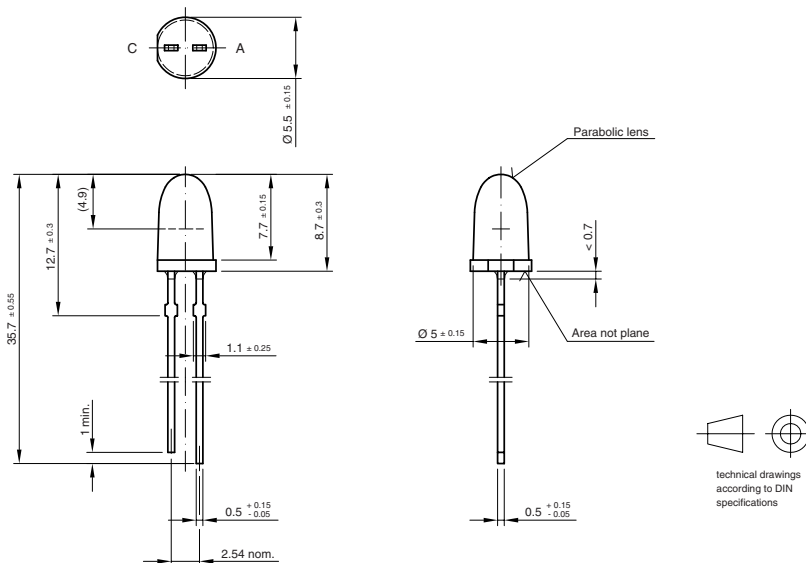


Figure 6. Relative Luminous Intensity vs. Forward Current

PACKAGE DIMENSIONS in millimeters



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