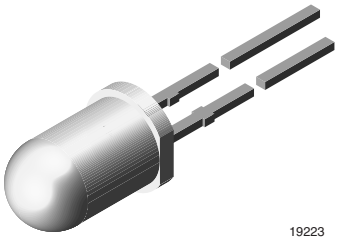
High Intensity LED, Ø 5 mm Tinted Diffused Package



FEATURES

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

Pb-free

e3

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 tinted diffused plastic package. Despit of the wide viewing angle this device provides a high luminous intensity.

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: standard
- Angle of half intensity: ± 30°

APPLICATIONS

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

PARTS TABLE

PART	COLOR, LUMINOUS INTENSITY	TECHNOLOGY
TLHK5400	Red, I_V > 10 mcd	AlInGaP on GaAs

ABSOLUTE MAXIMUM RATINGS [1] TLHK5400

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	5	V
DC Forward current	$T_{amb} \leq 65$ °C	I_F	30	mA
Surge forward current	$t_p \leq 10$ µs	I_{FSM}	0.1	A
Power dissipation	$T_{amb} \leq 65$ °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

Note:
[1] T_{amb} = 25 °C, unless otherwise specified

OPTICAL AND ELECTRICAL CHARACTERISTICS [1] TLHK5400, RED						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Luminous intensity [2]	I_F = 10 mA	I_V	10	50		mcd
Dominant wavelength	I_F = 10 mA	λ_d		630		nm
Peak wavelength	I_F = 10 mA	λ_p		643		nm
Angle of half intensity	I_F = 10 mA	φ		± 30		deg
Forward voltage	I_F = 20 mA	V_F		2	2.6	V
Reverse voltage	I_R = 10 µA	V_R	5			V
Junction capacitance	V_R = 0, f = 1 MHz	C_j		15		pF

Note:
[1] T_{amb} = 25 °C, unless otherwise specified
[2] In one packing unit $I_{Vmin.}/I_{Vmax.} \leq 0.5$

TYPICAL CHARACTERISTICS

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

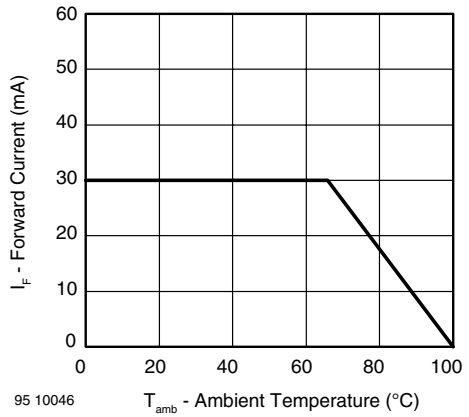


Figure 1. Forward Current vs. Ambient Temperature

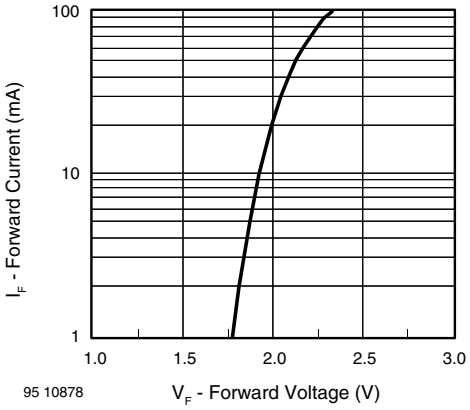


Figure 3. Forward Current vs. Forward Voltage

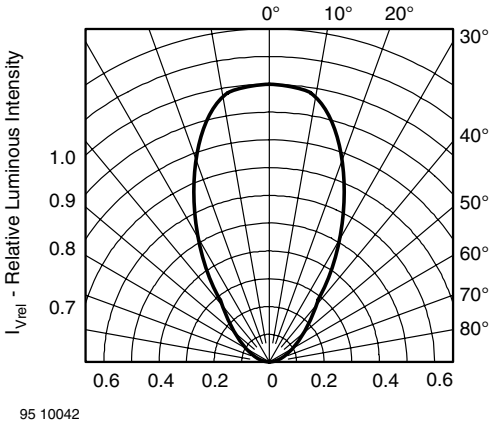


Figure 2. Rel. Luminous Intensity vs. Angular Displacement

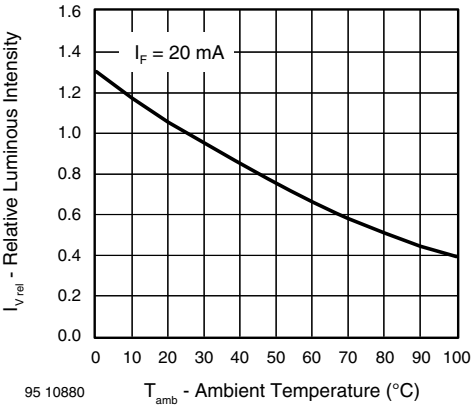


Figure 4. Rel. Luminous Intensity vs. Ambient Temperature

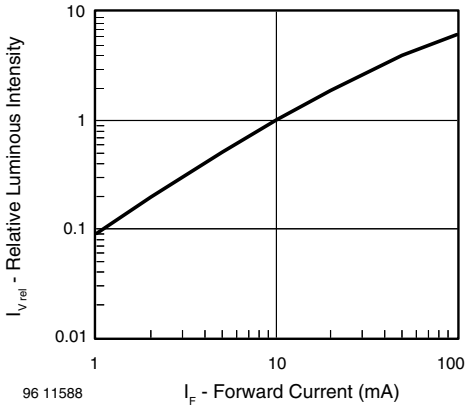


Figure 5. Rel. Luminous Intensity vs. Forward Current

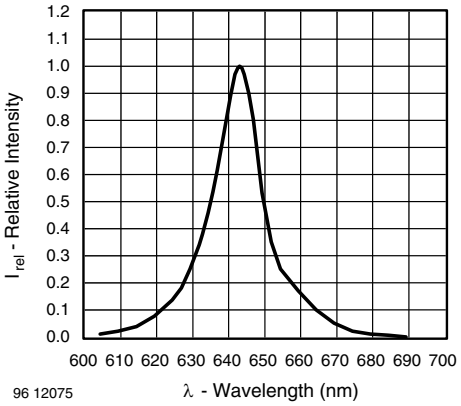
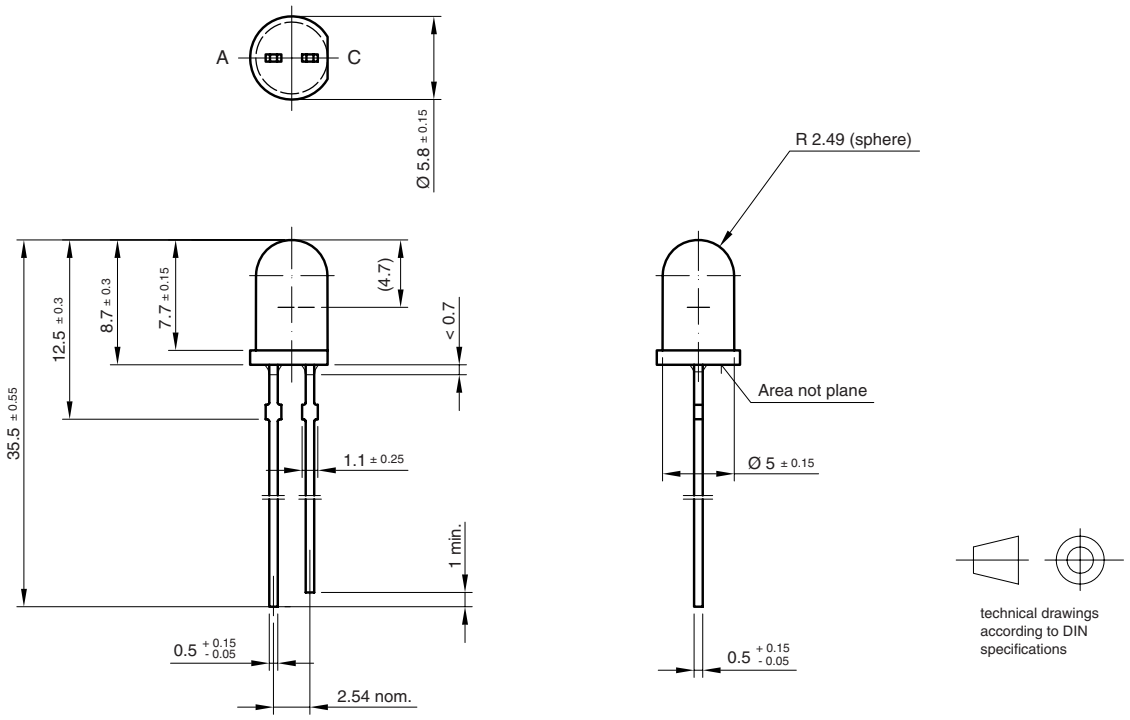


Figure 6. Relative Intensity vs. Wavelength

PACKAGE DIMENSIONS in millimeters



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