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[TLHF5400](#)

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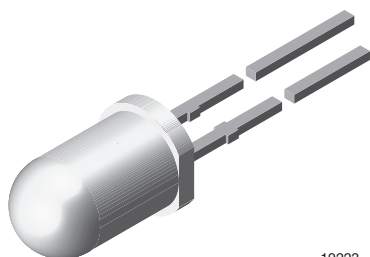


www.vishay.com

**TLHF5400**

Vishay Semiconductors

## High Intensity LED, Ø 5 mm Tinted 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 tinted diffused plastic package. Despite 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:  $\pm 30^\circ$

### FEATURES

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



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### APPLICATIONS

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

### PARTS TABLE

PART	COLOR	LUMINOUS INTENSITY (mcd)			at I <sub>F</sub> (mA)	WAVELENGTH (nm)			at I <sub>F</sub> (mA)	FORWARD VOLTAGE (V)			at I <sub>F</sub> (mA)	TECHNOLOGY
		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		
TLHF5400	Soft orange	16	160	-	10	598	605	611	10	-	2	2.6	20	AllnGaP on GaAs

### ABSOLUTE MAXIMUM RATINGS (T<sub>amb</sub> = 25 °C unless otherwise specified)

#### TLHF5400

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V <sub>R</sub>	5	V
DC forward current	T <sub>amb</sub> ≤ 65 °C	I <sub>F</sub>	30	mA
Surge forward current	t <sub>p</sub> ≤ 10 μs	I <sub>FSM</sub>	0.1	A
Power dissipation	T <sub>amb</sub> ≤ 65 °C	P <sub>V</sub>	80	mW
Junction temperature		T <sub>j</sub>	100	°C
Operating temperature range		T <sub>amb</sub>	- 40 to + 100	°C
Storage temperature range		T <sub>stg</sub>	- 55 to + 100	°C
Soldering temperature	t ≤ 5 s, 2 mm from body	T <sub>sd</sub>	260	°C
Thermal resistance junction/ambient		R <sub>thJA</sub>	350	K/W

### OPTICAL AND ELECTRICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

#### TLHF5400, SOFT ORANGE

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity <sup>(1)</sup>	I <sub>F</sub> = 10 mA	I <sub>v</sub>	16	160	-	mcd
Dominant wavelength	I <sub>F</sub> = 10 mA	λ <sub>d</sub>	598	605	611	nm
Peak wavelength	I <sub>F</sub> = 10 mA	λ <sub>p</sub>	-	610	-	nm
Angle of half intensity	I <sub>F</sub> = 10 mA	φ	-	± 30	-	deg
Forward voltage	I <sub>F</sub> = 20 mA	V <sub>F</sub>	-	2	2.6	V
Reverse voltage	I <sub>R</sub> = 10 μA	V <sub>R</sub>	5	-	-	V
Junction capacitance	V <sub>R</sub> = 0 V, f = 1 MHz	C <sub>j</sub>	-	15	-	pF

#### Note

<sup>(1)</sup> In one packing unit I<sub>vmin</sub>/I<sub>vmax</sub> ≤ 0.5



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

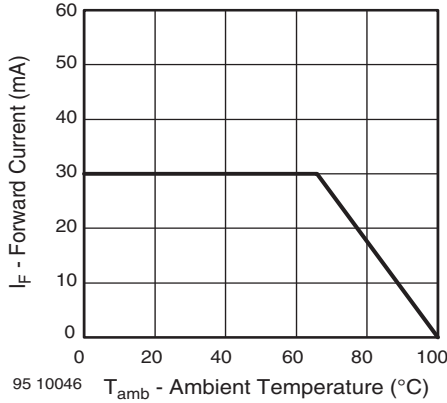


Fig. 1 - Forward Current vs. Ambient Temperature

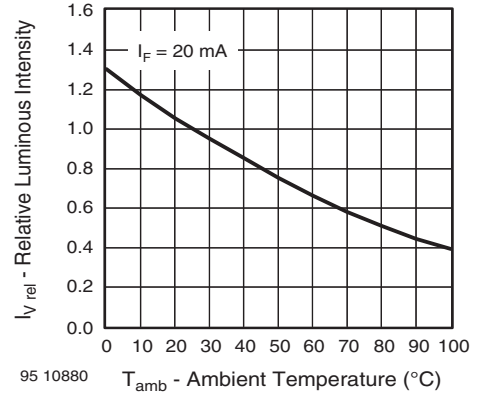


Fig. 4 - Relative Luminous Intensity vs. Ambient Temperature

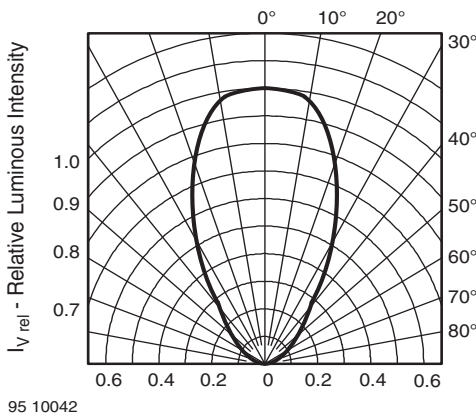


Fig. 2 - Relative Luminous Intensity vs. Angular Displacement

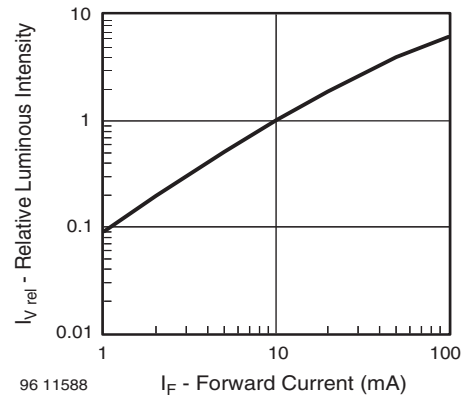


Fig. 5 - Relative Luminous Intensity vs. Forward Current

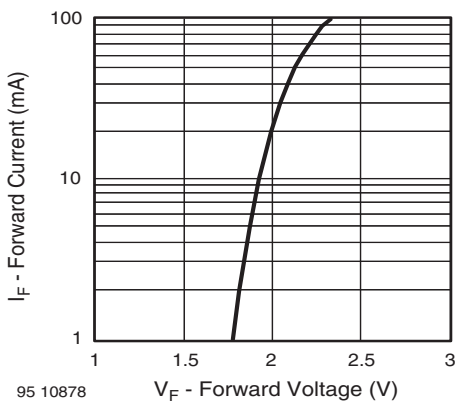


Fig. 3 - Forward Current vs. Forward Voltage

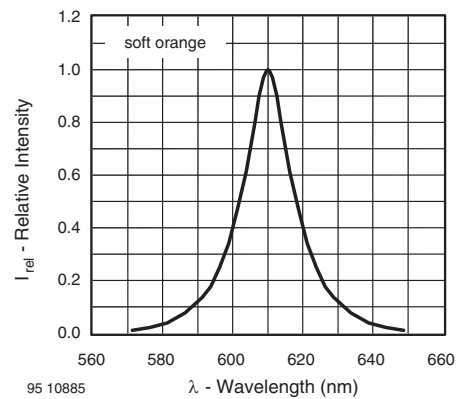


Fig. 6 - Relative Intensity vs. Wavelength

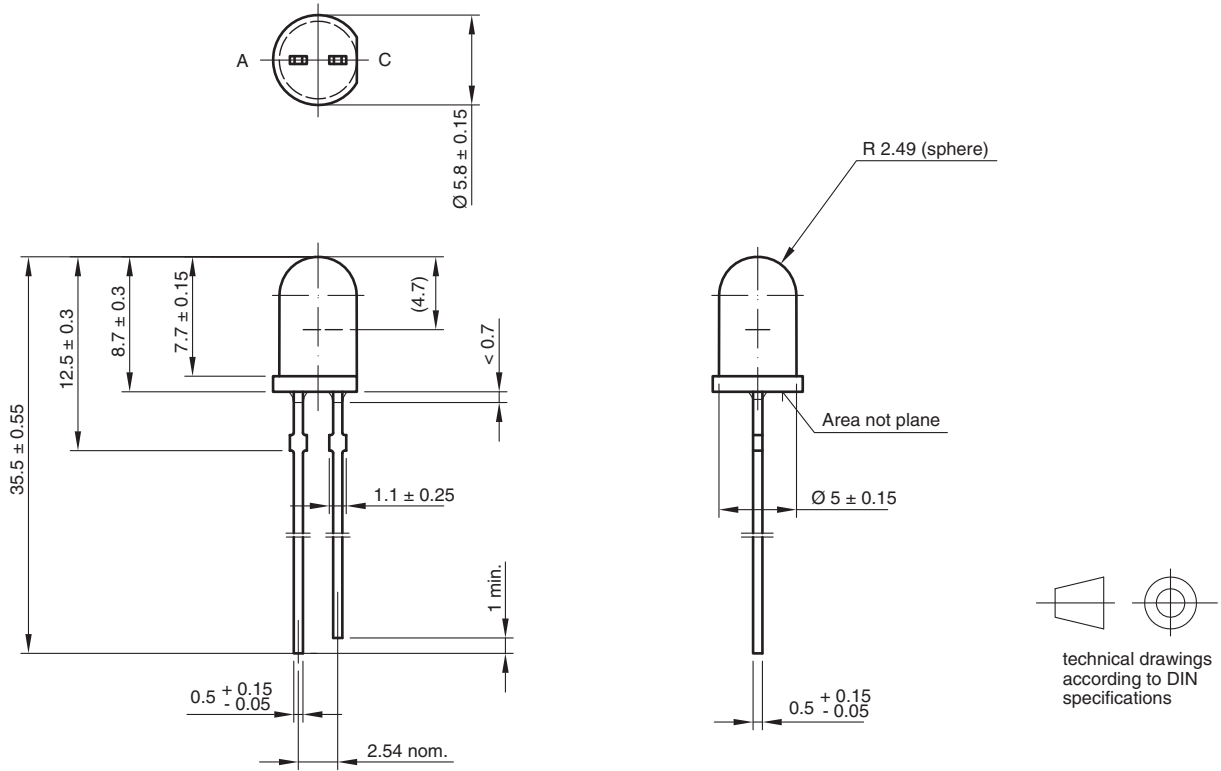


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**PACKAGE DIMENSIONS** in millimeters



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