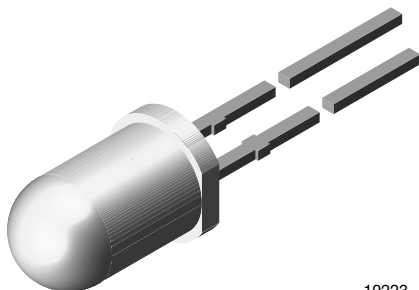


# High Efficiency LED, Ø 5 mm Tinted Non-Diffused Package



19223

## DESCRIPTION

The TLHR5200 was developed for standard applications like general indicating and lighting purposes.

It is housed in a 5 mm tinted non-diffused plastic package. The small viewing angle of these devices provides a high brightness.

All LEDs are categorized in luminous intensity groups.

That allows users to assemble LEDs with uniform appearance.

## PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: standard
- Angle of half intensity:  $\pm 14^\circ$

## FEATURES

- Standard T-1 $\frac{3}{4}$  package
- Small mechanical tolerances
- Suitable for DC and high peak current
- Small viewing angle
- Luminous intensity categorized
- TLHR5200 with stand-offs
- 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
- Background illumination
- Readout lights
- Maintenance lights
- Legend light

## 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.		
TLHR5200	Red	10	50	-	10	612	-	630	10	-	2	3	20	GaAsP on GaP

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

### TLHR5200

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V <sub>R</sub>	6	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>	1	A
Power dissipation	T <sub>amb</sub> ≤ 65 °C	P <sub>V</sub>	100	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 to ambient		R <sub>thJA</sub>	350	K/W

**OPTICAL AND ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)  
**TLHR5200, RED**

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity <sup>(1)</sup>	$I_F = 10\text{ mA}$	TLHR5200	$I_V$	10	50	-	mcd
Dominant wavelength	$I_F = 10\text{ mA}$		$\lambda_d$	612	-	630	nm
Peak wavelength	$I_F = 10\text{ mA}$		$\lambda_p$	-	635	-	nm
Angle of half intensity	$I_F = 10\text{ mA}$		$\phi$	-	$\pm 14$	-	$^{\circ}$
Forward voltage	$I_F = 20\text{ mA}$		$V_F$	-	2	3	V
Reverse voltage	$I_R = 10\text{ }\mu\text{A}$		$V_R$	6	15	-	V
Junction capacitance	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$		$C_j$	-	50	-	pF

**Note**

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

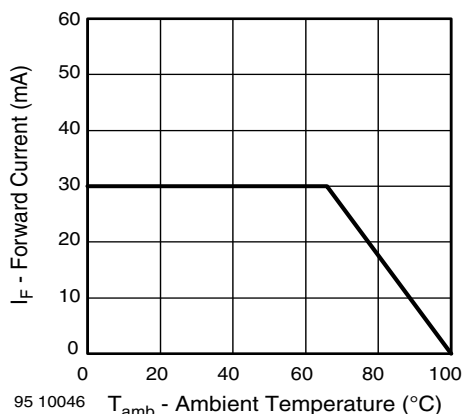
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Forward Current vs. Ambient Temperature

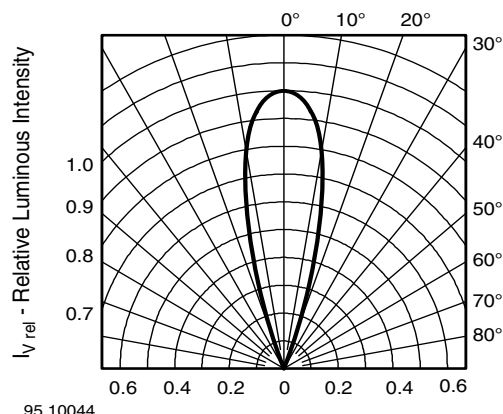


Fig. 3 - Relative Luminous Intensity vs. Angular Displacement

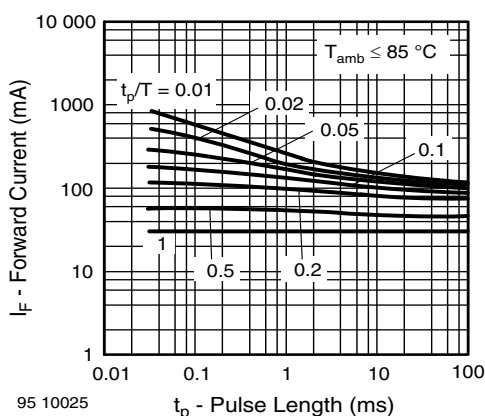


Fig. 2 - Forward Current vs. Pulse Length

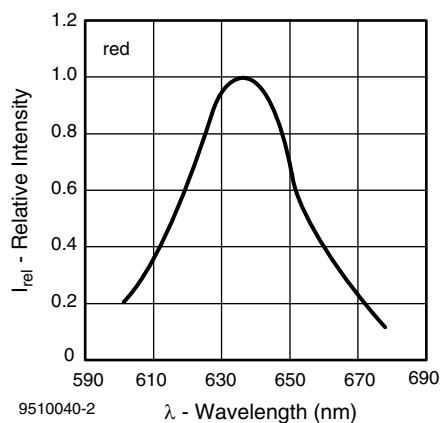


Fig. 4 - Relative Intensity vs. Wavelength

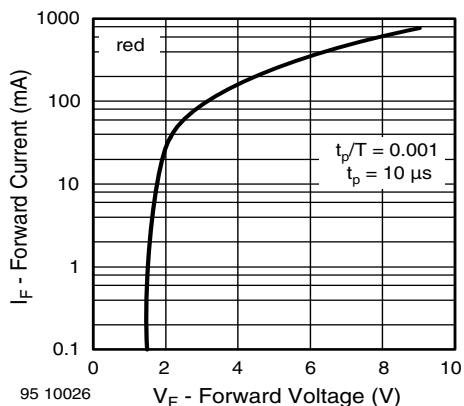


Fig. 5 - Forward Current vs. Forward Voltage

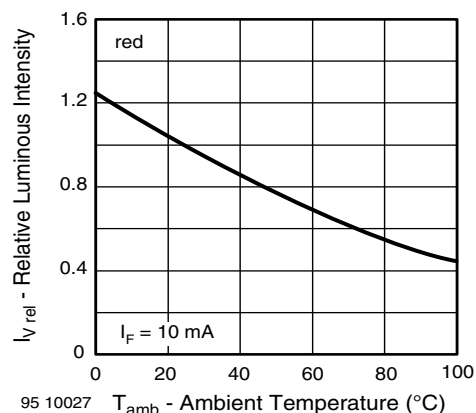


Fig. 7 - Relative Luminous Intensity vs. Ambient Temperature

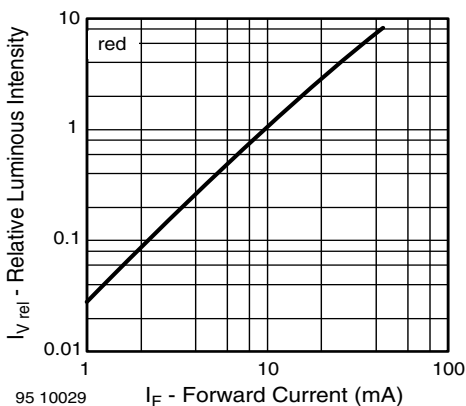
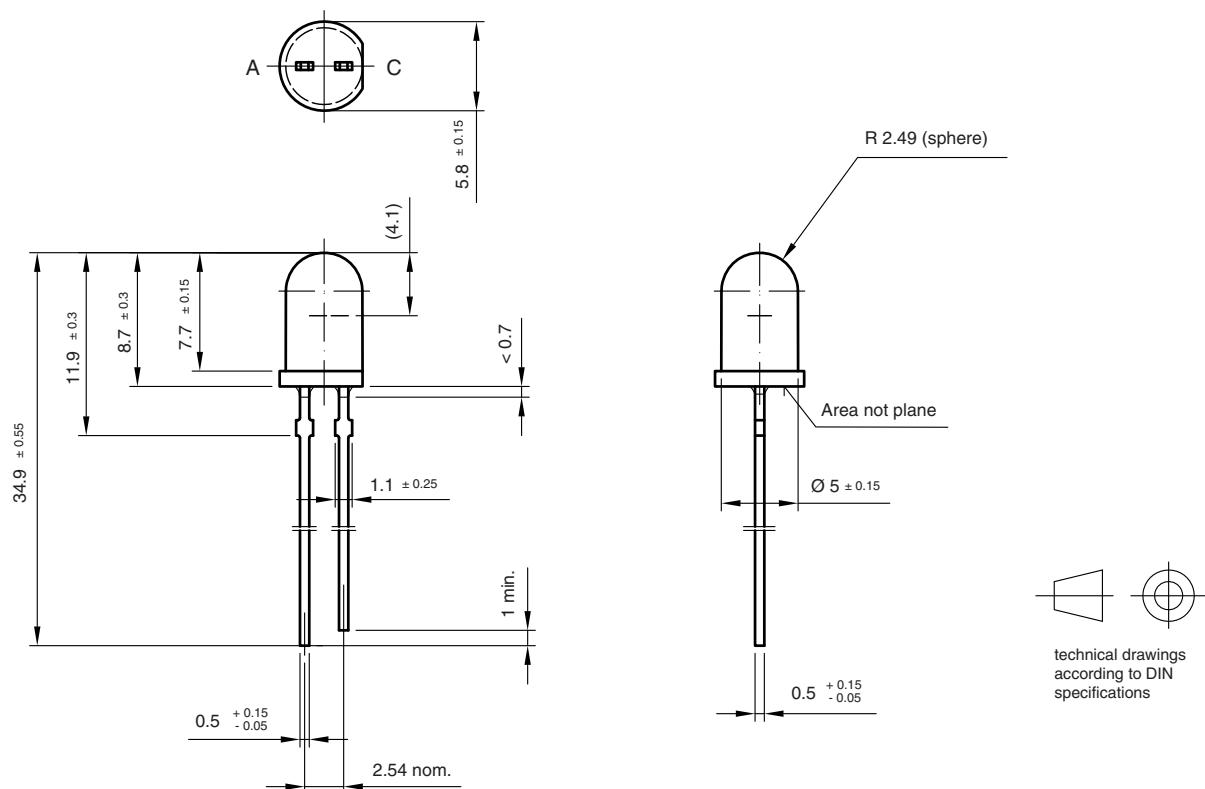


Fig. 6 - Relative Luminous Intensity vs. Forward Current

### PACKAGE DIMENSIONS in millimeters



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96 12119



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