

## High Intensity Blue LED, $\varnothing$ 3 mm Tinted Non Diffused

Color	Type	Technology	Angle of half intensity $\pm\varphi$
Blue	TLHB4200	SiC	15°

### Description

The TLHB4200 is a high power silicon carbide LED with a 470 nm peak wavelength.

This new blue LED is housed in a 3 mm tinted non diffused plastic package.

The special lens concentrates the luminous flux into a narrow radiation pattern to achieve a very high luminous intensity.

### Features

- Bright blue light source
- Narrow viewing angle ( $\varphi = \pm 15^\circ$ )
- Typical forward voltage 3 V
- $\varnothing$  3 mm (T-1) tinted non diffused package
- Categorized for luminous intensity
- Low power consumption

### Applications

Blue indicators

Blue displays

Blue light source for spectrophotometers, colorimeters, blood analysers, tissue analysers

## Absolute Maximum Ratings

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

**Blue (TLHB4200)**

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage			$V_R$	6	V
DC forward current			$I_F$	60	mA
Power dissipation	$T_{amb} \leq 25^{\circ}\text{C}$		$P_V$	200	mW
Junction temperature			$T_j$	100	$^{\circ}\text{C}$
Operating temperature range			$T_{amb}$	-20 to +80	$^{\circ}\text{C}$
Storage temperature range			$T_{stg}$	-55 to +100	$^{\circ}\text{C}$
Soldering temperature	$t \leq 5 \text{ s}$ , 2 mm from body		$T_{sd}$	260	$^{\circ}\text{C}$
Thermal resistance junction/ambient			$R_{thJA}$	400	K/W

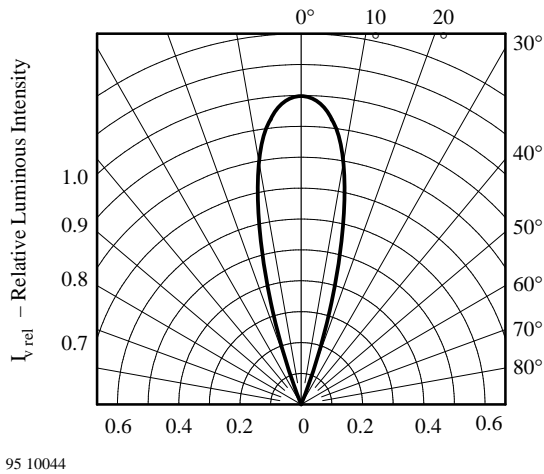
## Optical and Electrical Characteristics

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

**Blue (TLHB4200)**

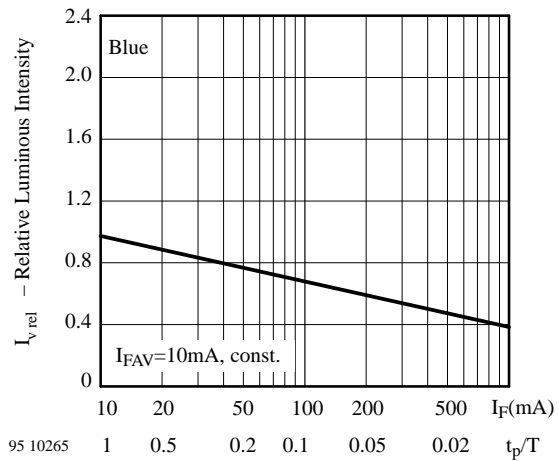
Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	$I_F = 20 \text{ mA}$ , $I_{Vmin}/I_{Vmax} \geq 0.5$		$I_V$	1.6	3.5		mcd
Luminous flux	$I_F = 20 \text{ mA}$		$\phi_V$		2		mlm
Dominant wavelength	$I_F = 50 \text{ mA}$		$\lambda_d$		470		nm
Spectral line half width	$I_F = 50 \text{ mA}$		$\Delta\lambda$		70		nm
Angle of half intensity	$I_F = 20 \text{ mA}$		$\phi$		$\pm 15$		deg
Forward voltage	$I_F = 20 \text{ mA}$		$V_F$		3.1	3.5	V
Reverse voltage	$I_R = 10 \mu\text{A}$		$V_R$	6	60		V

## Typical Characteristics ( $T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified)



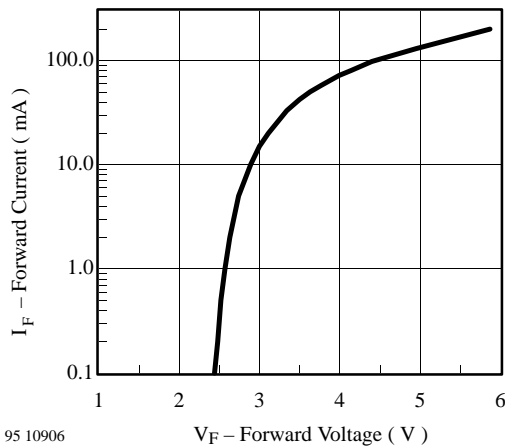
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Figure 1. Rel. Luminous Intensity vs. Angular Displacement



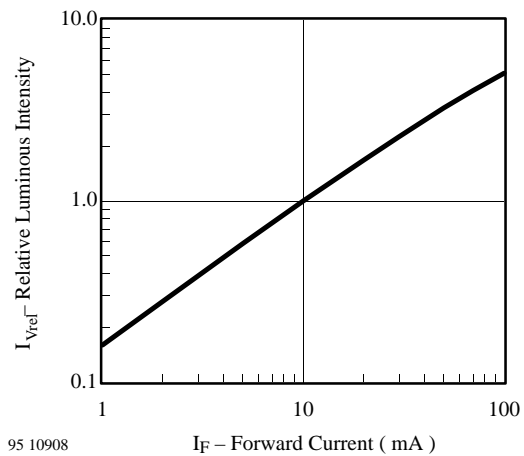
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Figure 4. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle



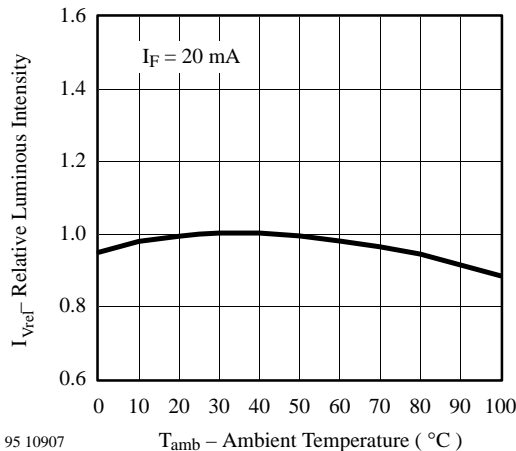
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Figure 2. Forward Current vs. Forward Voltage



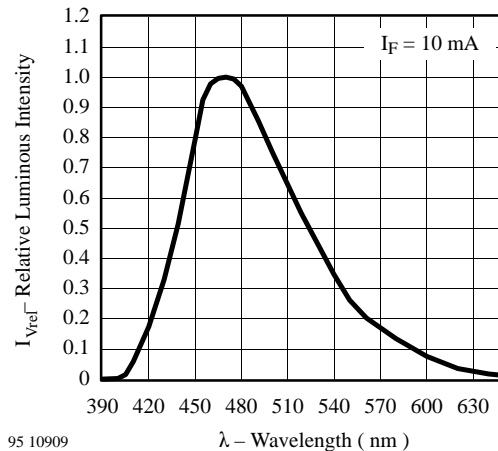
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Figure 5. Relative Luminous Intensity vs. Forward Current



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Figure 3. Rel. Luminous Intensity vs. Ambient Temperature



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Figure 6. Relative Luminous Intensity vs. Wavelength

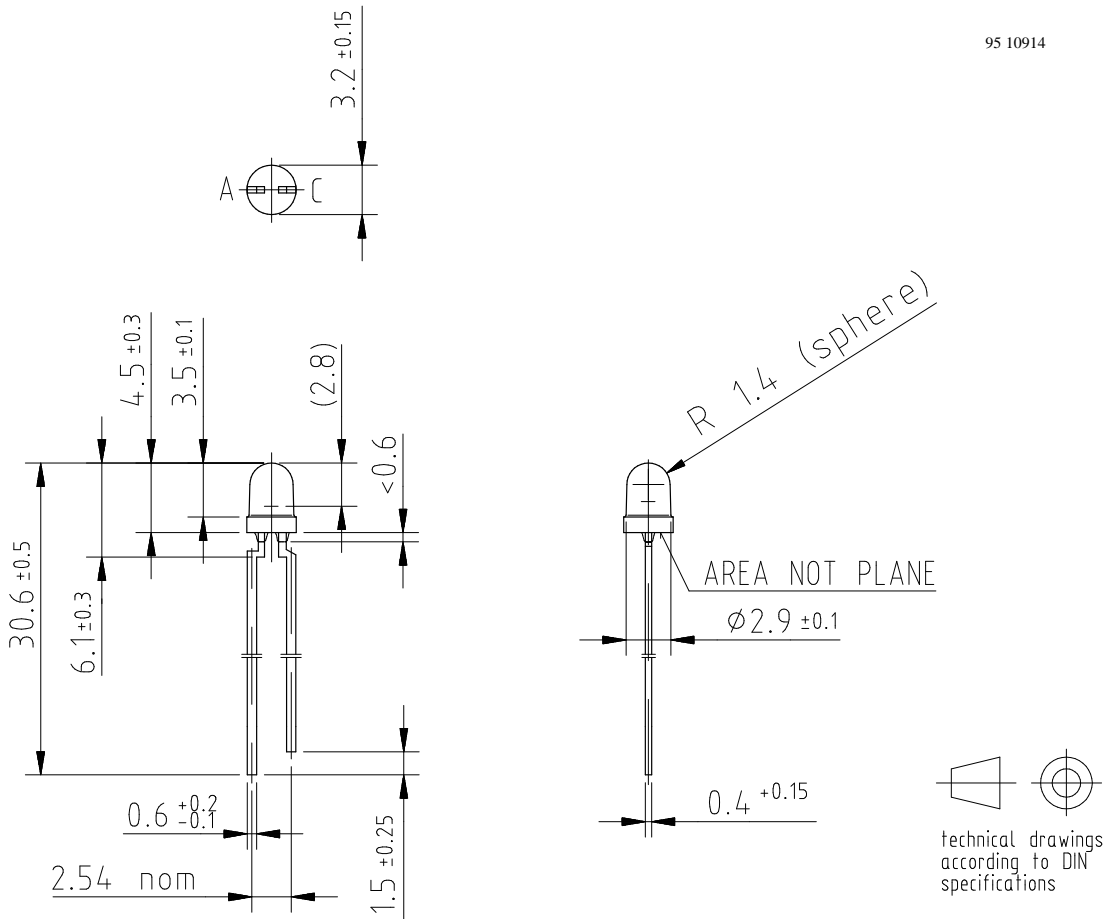
# TLHB4200

# TEMIC

TELEFUNKEN Semiconductors

## Dimensions in mm

95 10914



## Ozone Depleting Substances Policy Statement

It is the policy of **TEMIC TELEFUNKEN microelectronic GmbH** to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

**TEMIC TELEFUNKEN microelectronic GmbH** semiconductor division has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

**TEMIC** can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

**We reserve the right to make changes to improve technical design and may do so without further notice.**

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use TEMIC products for any unintended or unauthorized application, the buyer shall indemnify TEMIC against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

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