TLHB4400

High Efficiency Blue LED, ø 3 mm Tinted Diffused Package

Color	Type	Technology	Angle of Half Intensity ±φ
Blue	TLHB4400	SiC	25˚

Description

The TLHB4400 is a silicon carbide LED with 470 nm peak wavelength.
It is housed in a 3 mm tinted diffused plastic package.
Diffusants, tints and optical design are balanced to yield superior light output and wide viewing angle.

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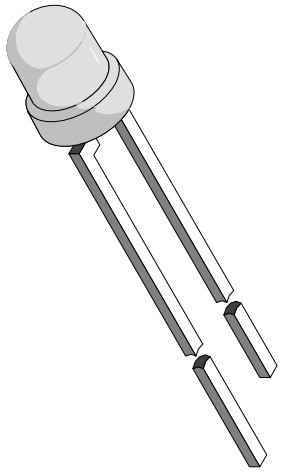

Features

- Bright blue light source
- Wide viewing angle (φ = ±25˚)
- Typical forward voltage 3 V
- ø 3 mm (T-1) tinted diffused package
- Categorized for luminous intensity
- Low power consumption

Applications

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

TLHB4400

Absolute Maximum Ratings

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

Blue (TLHB4400)

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage			V_R	6	V
DC forward current	$T_{amb} \leq 60^\circ C$		I_F	30	mA
Power dissipation	$T_{amb} \leq 60^\circ C$		P_V	100	mW
Junction temperature			T_j	100	°C
Operating temperature range			T_{amb}	–20 to +80	°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}	400	K/W

Optical and Electrical Characteristics

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

Blue (TLHB4400)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	I_F = 20 mA, $I_{Vmin}/I_{Vmax} \geq 0.5$		I_V	0.63	1.5		mcd
Luminous flux	I_F = 20 mA		ϕ_V		2		mlm
Peak wavelength	I_F = 50 mA		λ_p		470		nm
Spectral line half width	I_F = 50 mA		$\Delta\lambda$		70		nm
Angle of half intensity	I_F = 20 mA		φ		±25		deg
Forward voltage	I_F = 20 mA		V_F		3.1	3.5	V
Reverse voltage	I_R = 10 µA		V_R	6	60		V

Typical Characteristics (T_{amb} = 25°C, unless otherwise specified)

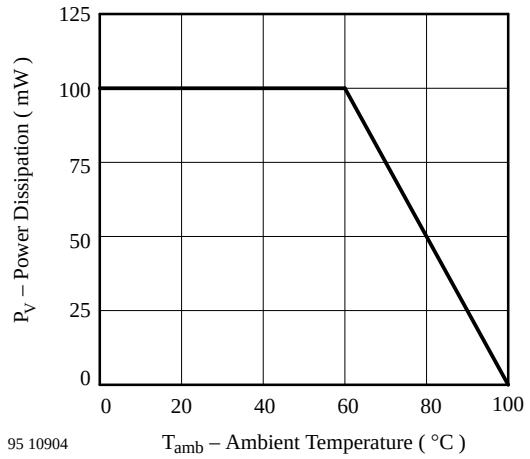

Figure 1. Power Dissipation vs. Ambient Temperature

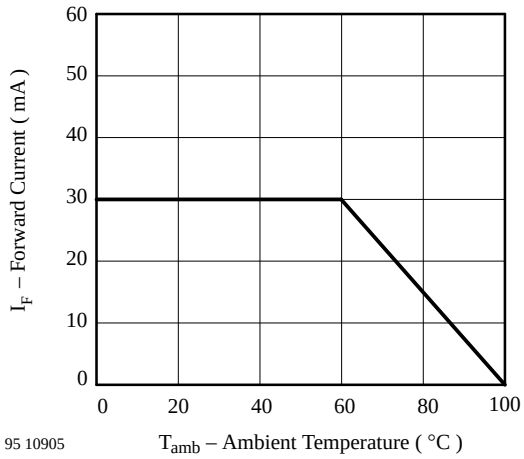

Figure 2. Forward Current vs. Ambient Temperature

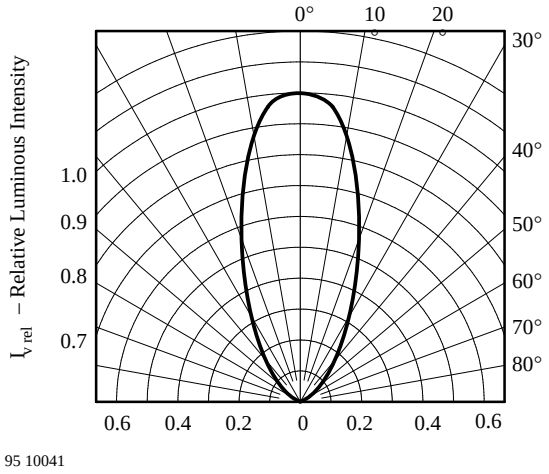

Figure 3. Rel. Luminous Intensity vs. Angular Displacement

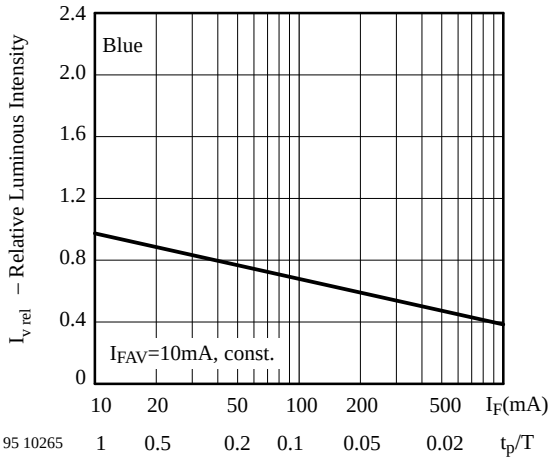

Figure 6. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

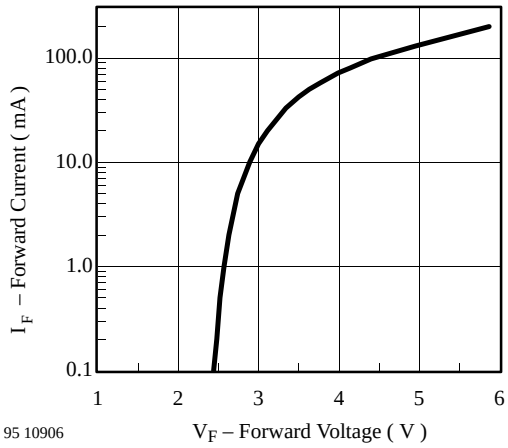

Figure 4. Forward Current vs. Forward Voltage

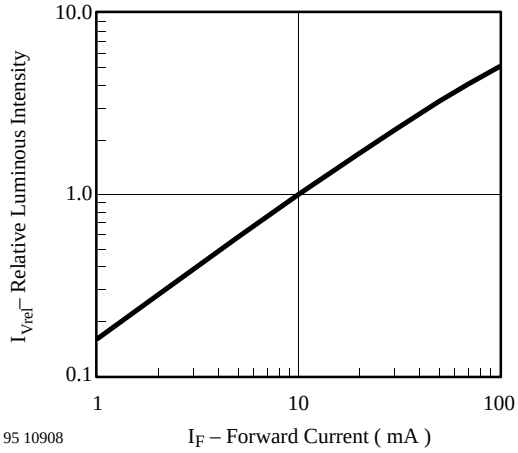

Figure 7. Relative Luminous Intensity vs. Forward Current

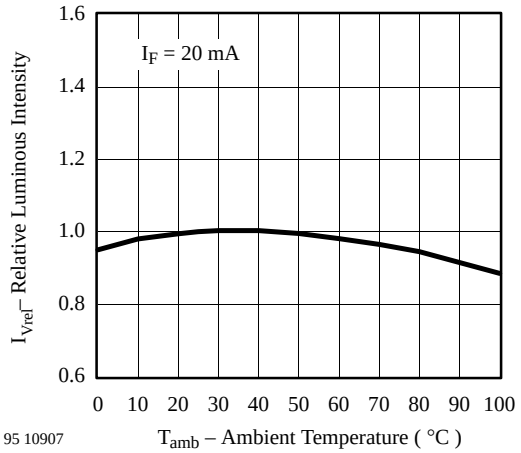

Figure 5. Rel. Luminous Intensity vs. Ambient Temperature

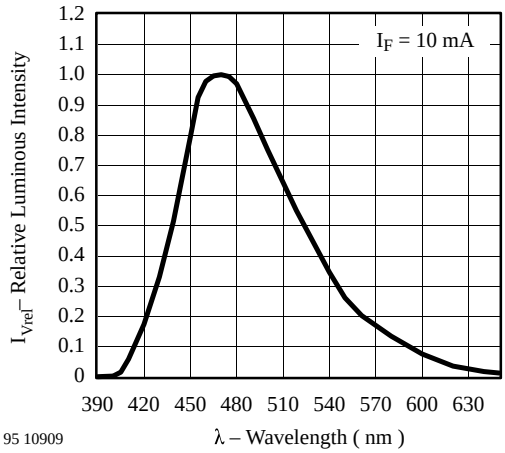

Figure 8. Relative Luminous Intensity vs. Wavelength

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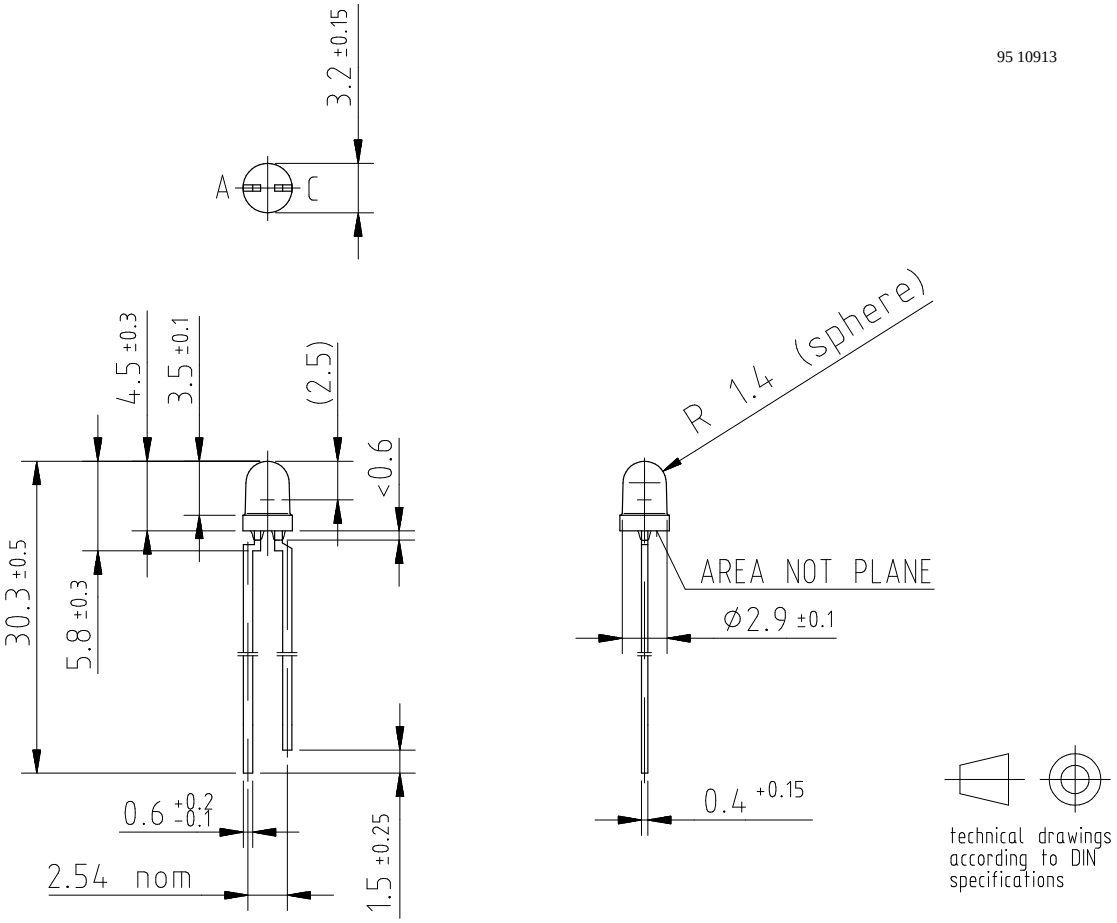
Dimensions in mm



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.

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