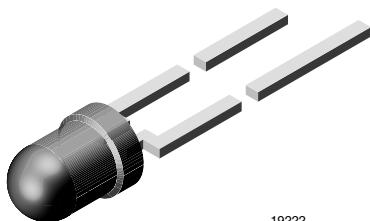


High Efficiency Blue LED, Ø 3 mm Tinted Diffused Package



19222

FEATURES

- GaN on SiC technology
- Standard Ø 3 mm (T-1) package
- Small mechanical tolerances
- Wide viewing angle
- Very high intensity
- Luminous intensity categorized
- ESD class 1
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC


RoHS
COMPLIANT

DESCRIPTION

This device has been redesigned in 1998 replacing SiC by GaN technology to meet the increasing demand for high efficiency blue LEDs.

It is housed in a 3 mm tinted diffused plastic package.

All packing units are categorized in luminous intensity groups. That allows users to assemble LEDs with uniform appearance.

APPLICATIONS

- Status lights
- Off/on indicator
- Background illumination
- Readout lights
- Maintenance lights
- Legend light

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 3 mm
- Product series: standard
- Angle of half intensity: $\pm 30^\circ$

PARTS TABLE

PART	COLOR, LUMINOUS INTENSITY	TECHNOLOGY
TLHB4400	Blue, $I_V > 6.3$ mcd	GaN on SiC

ABSOLUTE MAXIMUM RATINGS ¹⁾ TLHB4400

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	5	V
DC Forward current	$T_{amb} \leq 60^\circ\text{C}$	I_F	20	mA
Surge forward current	$t_p \leq 10 \mu\text{s}$	I_{FSM}	0.1	A
Power dissipation	$T_{amb} \leq 60^\circ\text{C}$	P_V	100	mW
Junction temperature		T_j	100	$^\circ\text{C}$
Operating temperature range		T_{amb}	- 40 to + 100	$^\circ\text{C}$
Storage temperature range		T_{stg}	- 40 to + 100	$^\circ\text{C}$
Soldering temperature	$t \leq 5$ s, 2 mm from body	T_{sd}	260	$^\circ\text{C}$
Thermal resistance junction/ambient		R_{thJA}	400	K/W

Note:

¹⁾ $T_{amb} = 25^\circ\text{C}$, unless otherwise specified

OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLHB4400, BLUE						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity ²⁾	$I_F = 20\text{ mA}$	I_V	6.3	15		mcd
Dominant wavelength	$I_F = 10\text{ mA}$	λ_d		466		nm
Peak wavelength	$I_F = 10\text{ mA}$	λ_p		428		nm
Angle of half intensity	$I_F = 10\text{ mA}$	ϕ		± 30		deg
Forward voltage	$I_F = 20\text{ mA}$	V_F		3.9	4.5	V
Reverse voltage	$I_R = 10\text{ }\mu\text{A}$	V_R	5			V

Note:

¹⁾ $T_{amb} = 25\text{ }^\circ\text{C}$ unless otherwise specified

²⁾ In one packing unit $I_{Vmax}/I_{Vmin.} \leq 0.5$

TYPICAL CHARACTERISTICS

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

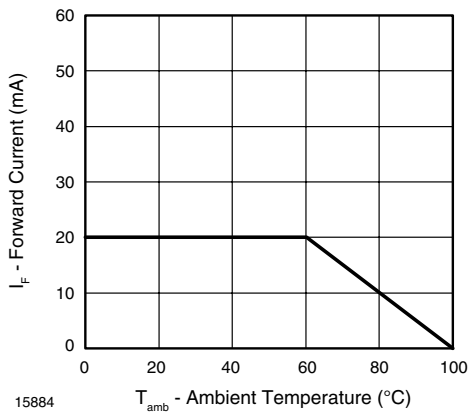


Figure 1. Forward Current vs. Ambient Temperature for InGaN

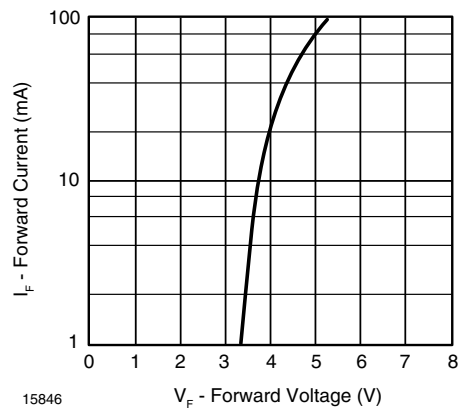


Figure 3. Forward Current vs. Forward Voltage

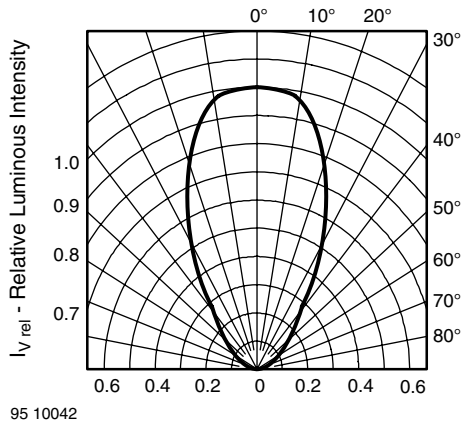


Figure 2. Rel. Luminous Intensity vs. Angular Displacement

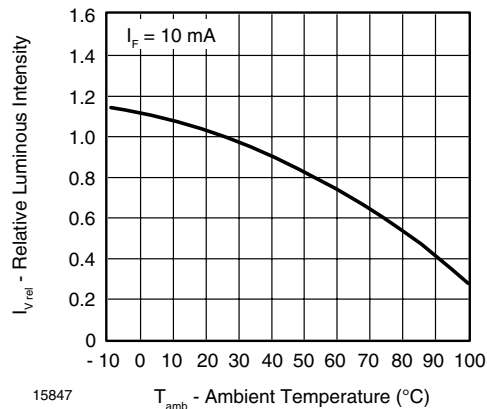


Figure 4. Rel. Luminous Flux vs. Ambient Temperature

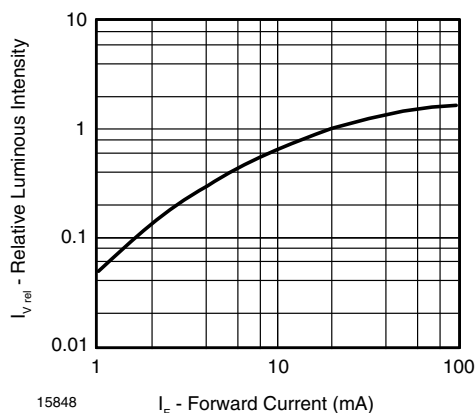


Figure 5. Relative Luminous Flux vs. Forward Current

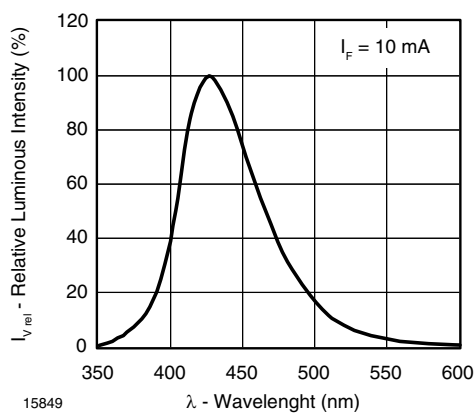
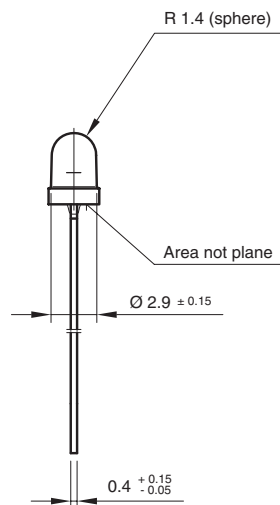
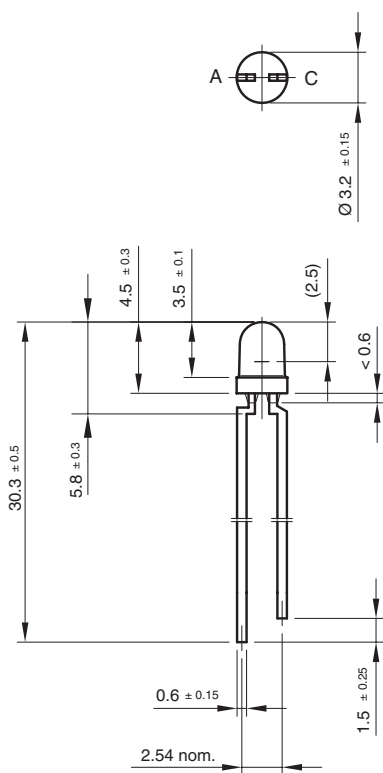


Figure 6. Relative Intensity vs. Wavelength

PACKAGE DIMENSIONS in millimeters



technical drawings
according to DIN
specifications

Drawing-No.: 6.544-5255.01-4
Issue: 7; 25.09.08
95 10913



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