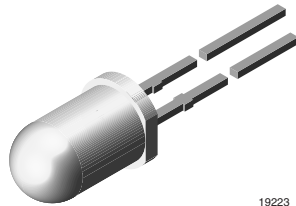


## High Efficiency Blue LED, Ø 5 mm Tinted Diffused Package



19223

### 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 5 mm tinted diffused plastic package. All packing units are categorized in luminous intensity groups. That allows users to assemble LEDs with uniform appearance.

### FEATURES

- GaN on SiC technology
- Standard Ø 5 mm T-1¾ 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

### APPLICATIONS

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

### PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: standard
- Angle of half intensity: ± 30°

### PARTS TABLE

PART	COLOR, LUMINOUS INTENSITY	TECHNOLOGY
TLHB5400	Blue, $I_V > 6.3$ mcd	GaN on SiC

### ABSOLUTE MAXIMUM RATINGS <sup>1)</sup> TLHB5400

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	5	V
DC Forward current	$T_{amb} \leq 65$ °C	$I_F$	20	mA
Surge forward current	$t_p \leq 10$ µs	$I_{FSM}$	0.1	A
Power dissipation	$T_{amb} \leq 65$ °C	$P_V$	100	mW
Junction temperature		$T_j$	100	°C
Operating temperature range		$T_{amb}$	- 40 to + 100	°C
Storage temperature range		$T_{stg}$	- 40 to + 100	°C
Soldering temperature	$t \leq 5$ s, 2 mm from body	$T_{sd}$	260	°C
Thermal resistance junction/ambient		$R_{thJA}$	350	K/W

Note:

<sup>1)</sup>  $T_{amb} = 25$  °C, unless otherwise specified

OPTICAL AND ELECTRICAL CHARACTERISTICS <sup>1)</sup> TLHB5400, BLUE						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity <sup>2)</sup>	$I_F = 20 \text{ mA}$	$I_V$	6.3	15		mcd
Dominant wavelength	$I_F = 10 \text{ mA}$	$\lambda_d$		466		nm
Peak wavelength	$I_F = 10 \text{ mA}$	$\lambda_p$		428		nm
Angle of half intensity	$I_F = 10 \text{ mA}$	$\varphi$		$\pm 30$		deg
Forward voltage	$I_F = 20 \text{ mA}$	$V_F$		3.9	4.5	V
Reverse voltage	$I_R = 10 \mu\text{A}$	$V_R$	5			V

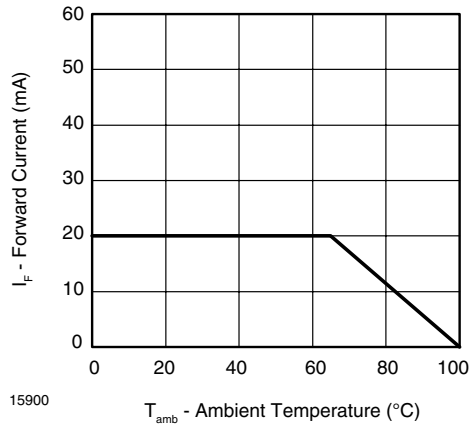
Note:

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

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

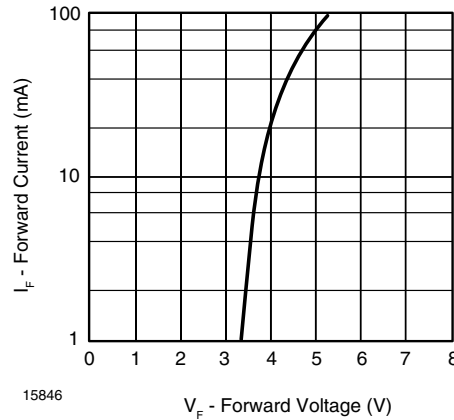
## TYPICAL CHARACTERISTICS

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



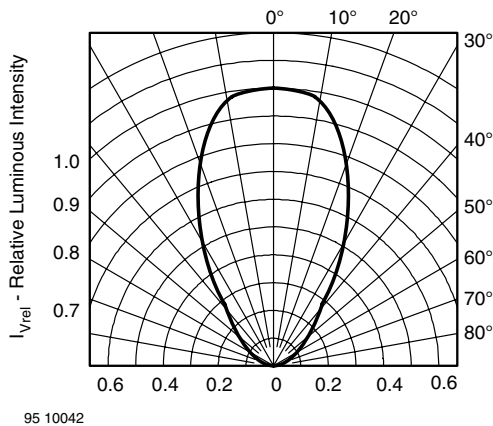
15900

Figure 1. Forward Current vs. Ambient Temperature



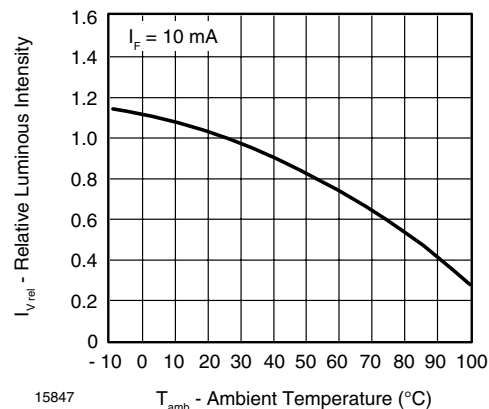
15846

Figure 3. Forward Current vs. Forward Voltage



95 10042

Figure 2. Rel. Luminous Intensity vs. Angular Displacement



15847

Figure 4. Rel. Luminous Flux vs. Ambient Temperature

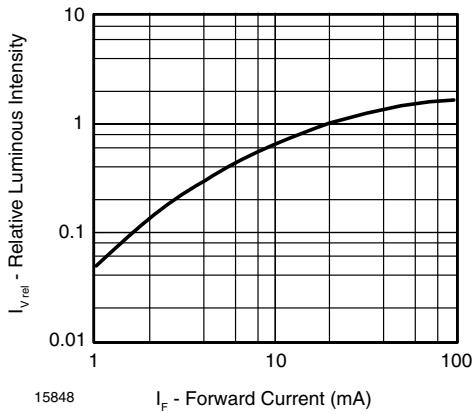


Figure 5. Rel. Luminous Flux vs. Forward Current

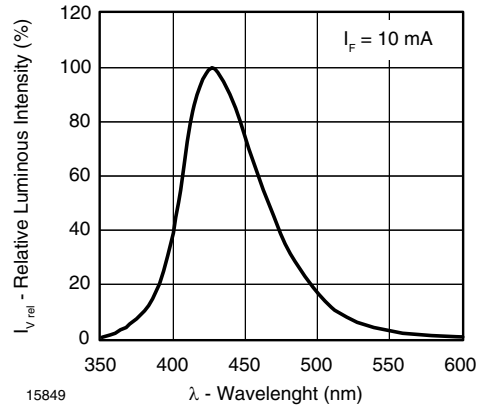
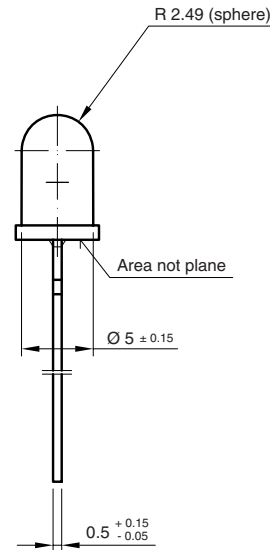
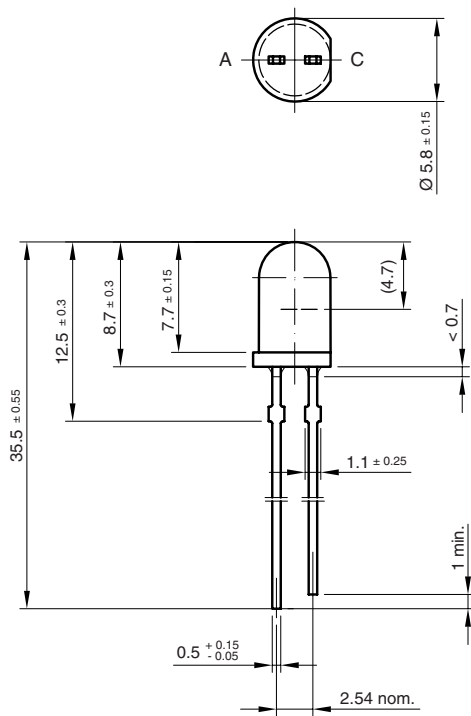


Figure 6. Relative Intensity vs. Wavelength

**PACKAGE DIMENSIONS** in millimeters



technical drawings according to DIN specifications

6.544-5258.02-4  
Issue: 6; 19.05.09  
95 10916



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