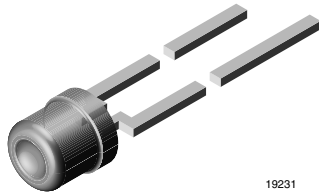


## DH Backlighting LED in $\varnothing$ 3 mm Tinted Non-Diffused Package



### DESCRIPTION

The TLVD4200 serie was developed for backlighting in the extrem bright double heterojunction (DH) red GaAIAs on GaAs technology. Due to its special shape the spatial distribution of the radiation is qualified for backlighting.

To optimize the brightness of backlighting a custom-built reflector (with scattering) is required. Uniform illumination can be enhanced by covering the front of the reflector with diffusor material.

This is a bright and flexible solution for backlighting different areas.

### PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 3 mm backlighting
- Product series: standard
- Angle of half intensity:  $\pm 85^\circ$

### FEATURES

- High brightness
- Wide viewing angle
- Categorized for luminous flux
- Available in DH red
- Tinted clear package
- Low power dissipation
- Low self heating
- Rugged design
- High reliability
- Lead (Pb)-free device

### APPLICATIONS

- Backlighting of display panels, LCD displays, symbols on switches, keyboards, graphic boards and measuring scales
- Illumination of large areas e.g. dot matrix displays

### PARTS TABLE

PART	COLOR, LUMINOUS INTENSITY	TECHNOLOGY
TLVD4200	Red, $\phi_V > 40$ mlm	GaAIAs on GaAs

### ABSOLUTE MAXIMUM RATINGS<sup>1)</sup> TLVD420.

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	6	V
DC Forward current		$I_F$	50	mA
Surge forward current	$t_p \leq 10 \mu s$	$I_{FSM}$	1	A
Power dissipation	$T_{amb} \leq 60^\circ C$	$P_V$	100	mW
Junction temperature		$T_j$	100	$^\circ C$
Operating temperature range		$T_{amb}$	- 40 to + 100	$^\circ C$
Storage temperature range		$T_{stg}$	- 55 to + 100	$^\circ C$
Soldering temperature	$t \leq 5$ s, 2 mm from body	$T_{sd}$	260	$^\circ C$
Thermal resistance junction/ ambient		$R_{thJA}$	400	K/W

Note:

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

OPTICAL AND ELECTRICAL CHARACTERISTICS <sup>1)</sup> TLVD4200, RED						
PARAMETER	TEST CONDITION	SYMBOL	MIN	TYP.	MAX	UNIT
Luminous flux	$I_F = 15 \text{ mA}$	$\phi_V$	40	80		mlm
Dominant wavelength	$I_F = 10 \text{ mA}$	$\lambda_d$		640		nm
Peak wavelength	$I_F = 10 \text{ mA}$	$\lambda_p$		650		nm
Angle of half intensity	$I_F = 10 \text{ mA}$	$\varphi$		$\pm 85$		deg
Forward voltage	$I_F = 20 \text{ mA}$	$V_F$		1.8	2.2	V
Reverse voltage	$I_R = 10 \mu\text{A}$	$V_R$	6	15		V
Junction capacitance	$V_R = 0, f = 1 \text{ MHz}$	$C_j$		50		pF

Note:

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

## TYPICAL CHARACTERISTICS

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

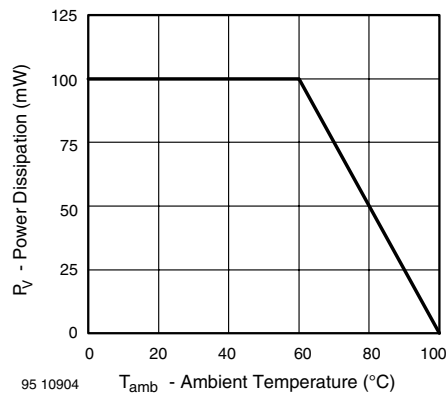


Figure 1. Power Dissipation vs. Ambient Temperature

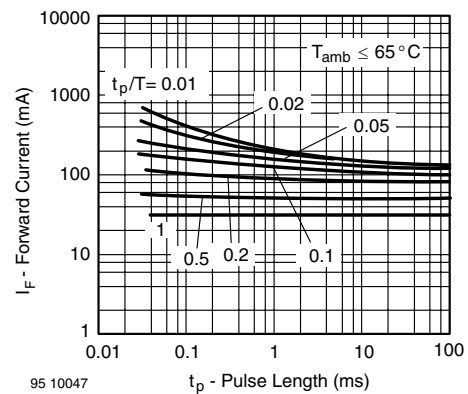


Figure 3. Forward Current vs. Pulse Length

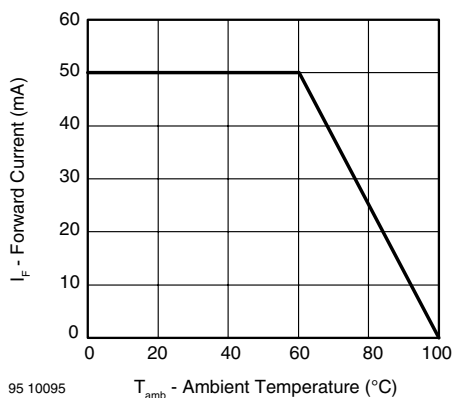


Figure 2. Forward Current vs. Ambient Temperature for InGaN

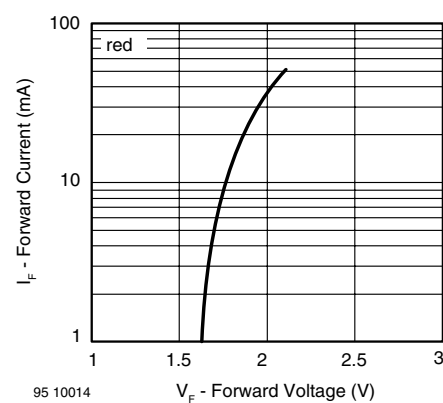
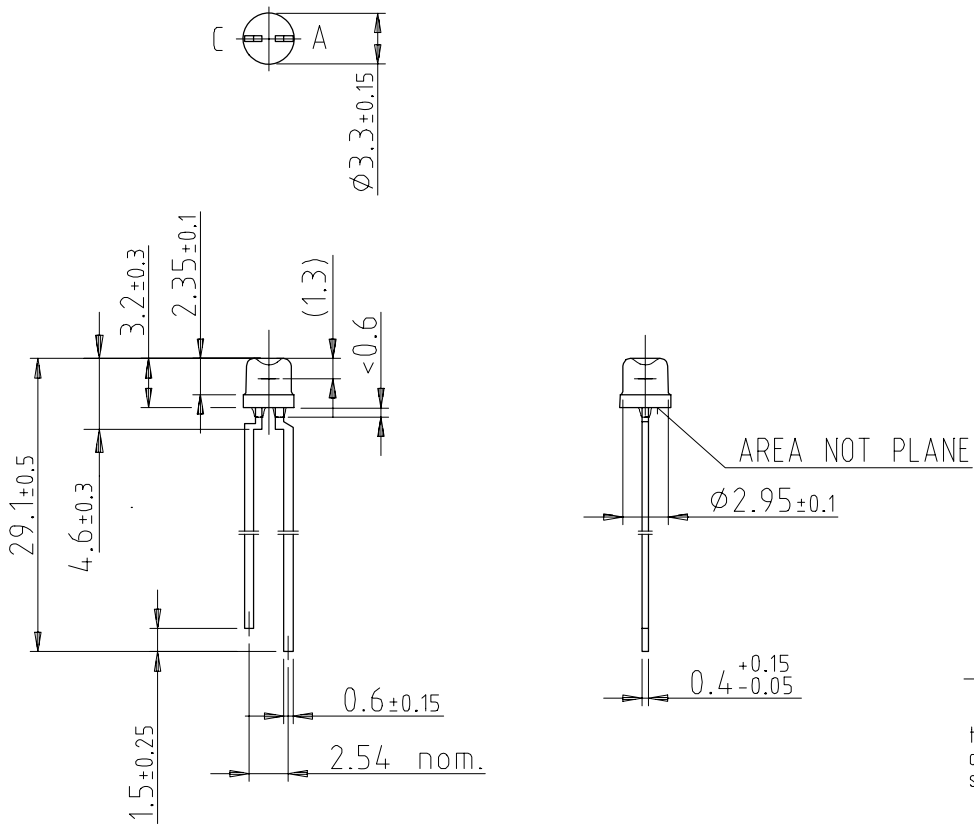


Figure 4.

## PACKAGE DIMENSIONS in millimeters



9510953