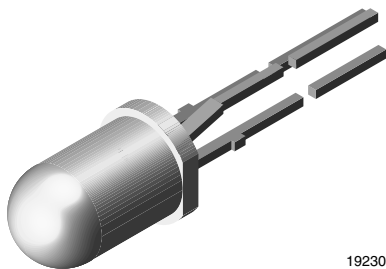


## Bicolor LED in Ø 5 mm Untinted Diffused Package



19230

### PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: bicolor
- Angle of half intensity:  $\pm 30^\circ$

### FEATURES

- Even luminance of the emitting surface
- Ideal as flush mounted panel indicators
- For DC and pulse operation
- Color mixing possible due to separate anode terminals
- Luminous intensity selected into groups
- Categorized for green color
- Wide viewing angle
- Common cathode
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### APPLICATIONS

- Indicating and illumination purposes

### PARTS TABLE

PART	COLOR	LUMINOUS INTENSITY (mcd)			at $I_F$ (mA)	WAVELENGTH (nm)			at $I_F$ (mA)	FORWARD VOLTAGE (V)			at $I_F$ (mA)	TECHNOLOGY
		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		
TLUV5300	Red	1	2.5	-	10	612	-	625	10	-	2	3	20	GaAsP on GaP
TLUV5300	Green	1	2.5	-	10	552	-	575	10	-	2.4	3	20	GaAsP on GaP

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25^\circ\text{C}$ , unless otherwise specified)

#### TLUV5300

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage per diode		$V_R$	6	V
DC forward current per diode		$I_F$	30	mA
Surge forward current per diode	$t_p \leq 10 \mu\text{s}$	$I_{FSM}$	1	A
Power dissipation per diode	$T_{amb} \leq 55^\circ\text{C}$	$P_V$	100	mW
Total power dissipation	$T_{amb} \leq 55^\circ\text{C}$	$P_{tot}$	150	mW
Junction temperature		$T_j$	100	$^\circ\text{C}$
Operating temperature range		$T_{amb}$	- 40 to + 100	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	- 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 per diode		$R_{thJA}$	450	K/W
Thermal resistance junction/ambient total		$R_{thJA}$	300	K/W

**OPTICAL AND ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)  
**TLUV5300, RED**

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Per diode						
Luminous intensity <sup>(1)</sup>	$I_F = 10\text{ mA}$	$I_V$	1	2.5	-	mcd
Dominant wavelength	$I_F = 10\text{ mA}$	$\lambda_d$	612	-	625	nm
Peak wavelength	$I_F = 10\text{ mA}$	$\lambda_p$	-	630	-	nm
Angle of half intensity	$I_F = 10\text{ mA}$	$\varphi$	-	$\pm 30$	-	deg
Forward voltage	$I_F = 20\text{ mA}$	$V_F$	-	2	3	V
Reverse voltage	$I_R = 10\text{ }\mu\text{A}$	$V_R$	6	15	-	V
Junction capacitance	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$	$C_j$	-	50	-	pF

**Note**
<sup>(1)</sup> In one packing unit  $I_{Vmin}/I_{Vmax} \leq 0.5$ 
**OPTICAL AND ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)  
**TLUV5300, GREEN**

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Per diode						
Luminous intensity <sup>(1)</sup>	$I_F = 10\text{ mA}$	$I_V$	1	2.5	-	mcd
Dominant wavelength	$I_F = 10\text{ mA}$	$\lambda_d$	552	-	575	nm
Peak wavelength	$I_F = 10\text{ mA}$	$\lambda_p$	-	565	-	nm
Angle of half intensity	$I_F = 10\text{ mA}$	$\varphi$	-	$\pm 30$	-	deg
Forward voltage	$I_F = 20\text{ mA}$	$V_F$	-	2.4	3	V
Reverse voltage	$I_R = 10\text{ }\mu\text{A}$	$V_R$	6	15	-	V
Junction capacitance	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$	$C_j$	-	50	-	pF

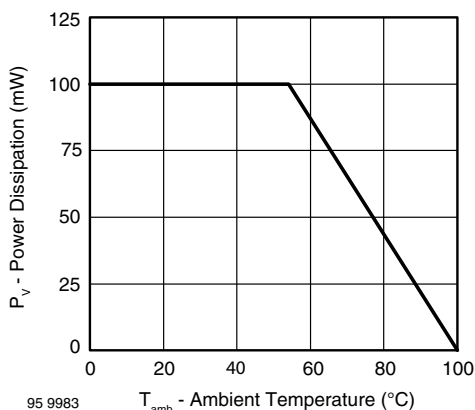
**Note**
<sup>(1)</sup> In one packing unit  $I_{Vmin}/I_{Vmax} \leq 0.5$ 
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Power Dissipation vs. Ambient Temperature

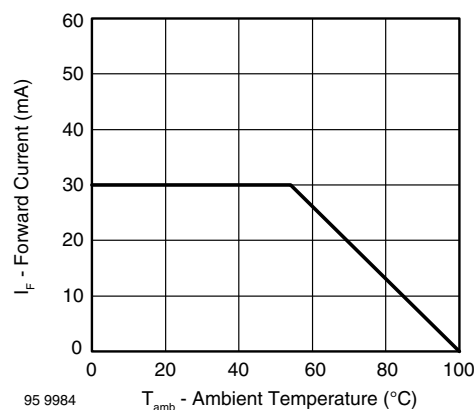


Fig. 2 - Forward Current vs. Ambient Temperature for InGaN

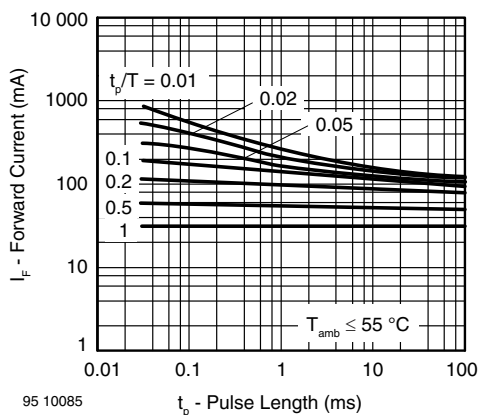


Fig. 3 - Forward Current vs. Pulse Length

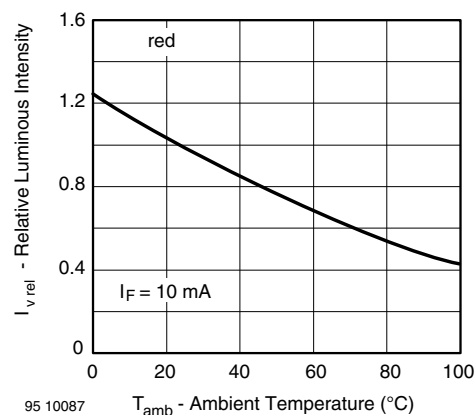


Fig. 6 - Relative Luminous Intensity vs. Ambient Temperature

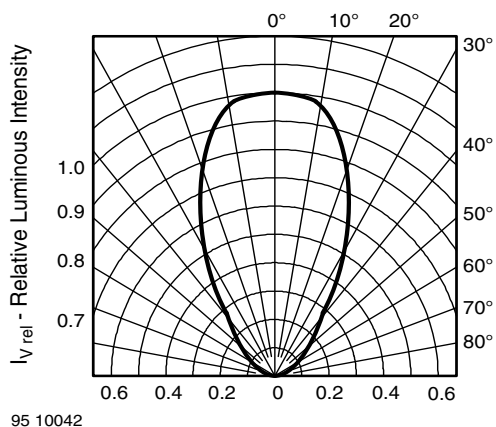


Fig. 4 - Relative Luminous Intensity vs. Angular Displacement

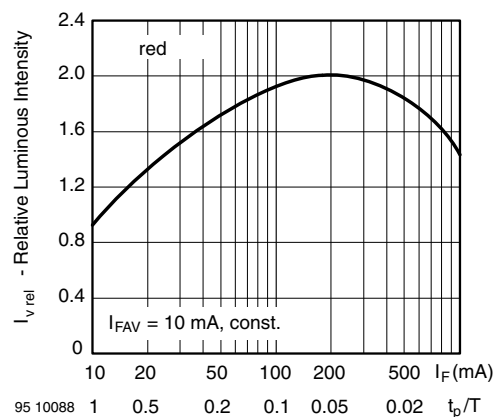


Fig. 7 - Relative Luminous Intensity vs. Forward Current/Duty Cycle

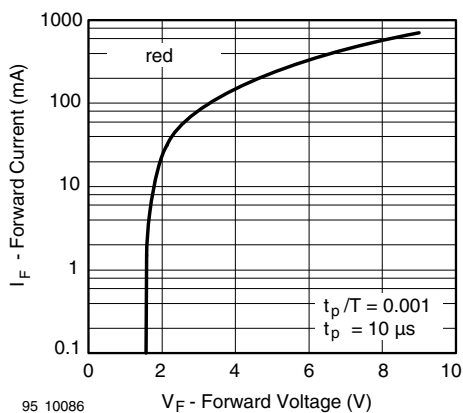


Fig. 5 - Forward Current vs. Forward Voltage

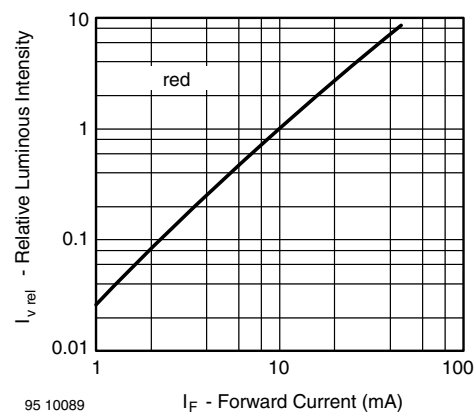


Fig. 8 - Relative Luminous Intensity vs. Forward Current

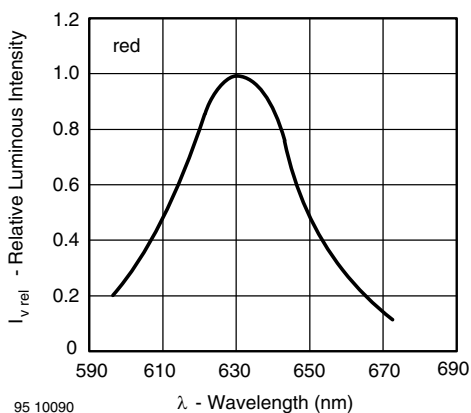


Fig. 9 - Relative Intensity vs. Wavelength

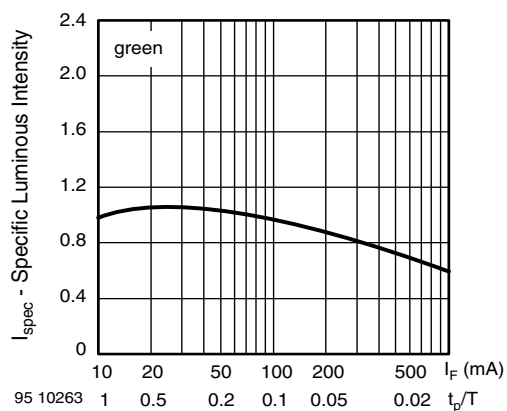


Fig. 12 - Specific Luminous Intensity vs. Forward Current

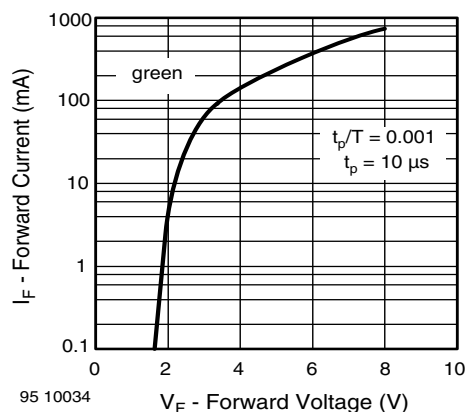


Fig. 10 - Forward Current vs. Forward Voltage

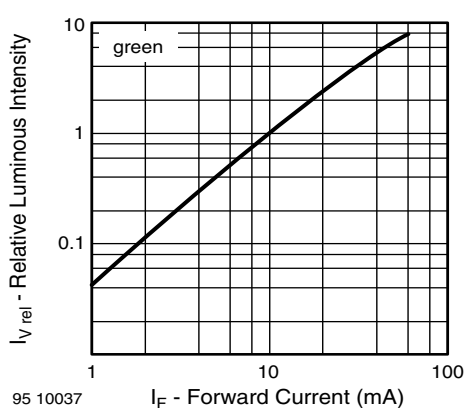


Fig. 13 - Relative Luminous Intensity vs. Forward Current

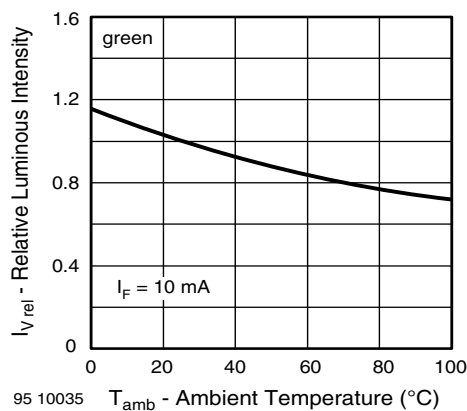


Fig. 11 - Relative Luminous Intensity vs. Ambient Temperature

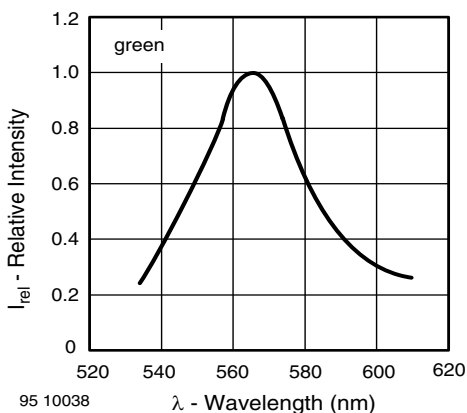
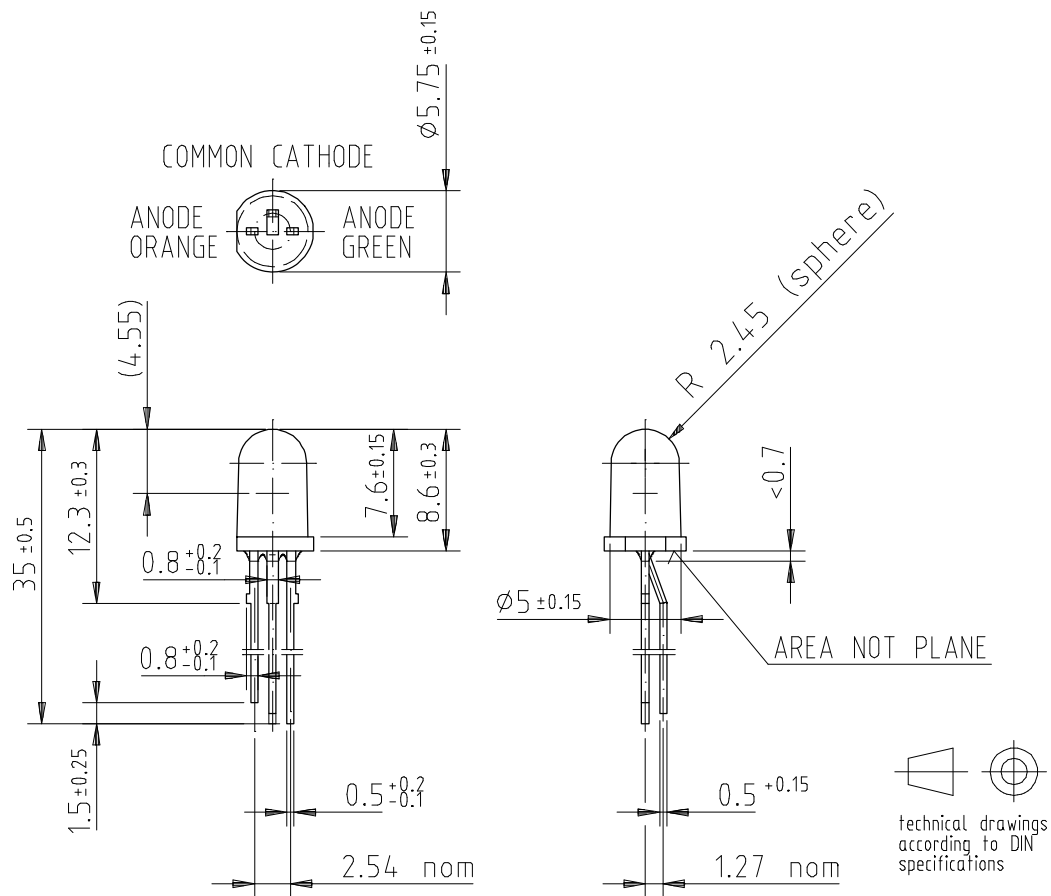


Fig. 14 - Relative Intensity vs. Wavelength

**PACKAGE DIMENSIONS** in millimeters


95 11271



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