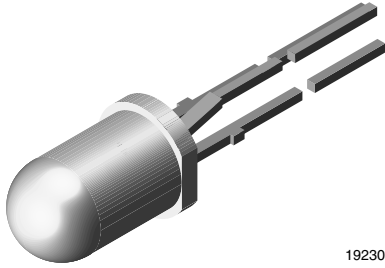


## Bicolor LED in Ø 5 mm Untinted Diffused Package



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 <sub>F</sub> (mA)	WAVELENGTH (nm)			at I <sub>F</sub> (mA)	FORWARD VOLTAGE (V)			at I <sub>F</sub> (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<sub>amb</sub> = 25 °C, unless otherwise specified)

#### TLUV5300

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage per diode		V <sub>R</sub>	6	V
DC forward current per diode		I <sub>F</sub>	30	mA
Surge forward current per diode	t <sub>p</sub> ≤ 10 μs	I <sub>FSM</sub>	1	A
Power dissipation per diode	T <sub>amb</sub> ≤ 55 °C	P <sub>V</sub>	100	mW
Total power dissipation	T <sub>amb</sub> ≤ 55 °C	P <sub>tot</sub>	150	mW
Junction temperature		T <sub>j</sub>	100	°C
Operating temperature range		T <sub>amb</sub>	- 40 to + 100	°C
Storage temperature range		T <sub>stg</sub>	- 55 to + 100	°C
Soldering temperature	t ≤ 5 s, 2 mm from body	T <sub>sd</sub>	260	°C
Thermal resistance junction/ambient per diode		R <sub>thJA</sub>	450	K/W
Thermal resistance junction/ambient total		R <sub>thJA</sub>	300	K/W



OPTICAL AND ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified) TLUV5300, RED						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Per diode						
Luminous intensity <sup>(1)</sup>	I <sub>F</sub> = 10 mA	I <sub>V</sub>	1	2.5	-	mcd
Dominant wavelength	I <sub>F</sub> = 10 mA	λ <sub>d</sub>	612	-	625	nm
Peak wavelength	I <sub>F</sub> = 10 mA	λ <sub>p</sub>	-	630	-	nm
Angle of half intensity	I <sub>F</sub> = 10 mA	φ	-	± 30	-	deg
Forward voltage	I <sub>F</sub> = 20 mA	V <sub>F</sub>	-	2	3	V
Reverse voltage	I <sub>R</sub> = 10 μA	V <sub>R</sub>	6	15	-	V
Junction capacitance	V <sub>R</sub> = 0 V, f = 1 MHz	C <sub>j</sub>	-	50	-	pF

Note

(1) In one packing unit I<sub>Vmin</sub>/I<sub>Vmax</sub> ≤ 0.5

OPTICAL AND ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified) TLUV5300, GREEN						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Per diode						
Luminous intensity <sup>(1)</sup>	I <sub>F</sub> = 10 mA	I <sub>V</sub>	1	2.5	-	mcd
Dominant wavelength	I <sub>F</sub> = 10 mA	λ <sub>d</sub>	552	-	575	nm
Peak wavelength	I <sub>F</sub> = 10 mA	λ <sub>p</sub>	-	565	-	nm
Angle of half intensity	I <sub>F</sub> = 10 mA	φ	-	±30	-	deg
Forward voltage	I <sub>F</sub> = 20 mA	V <sub>F</sub>	-	2.4	3	V
Reverse voltage	I <sub>R</sub> = 10 μA	V <sub>R</sub>	6	15	-	V
Junction capacitance	V <sub>R</sub> = 0 V, f = 1 MHz	C <sub>j</sub>	-	50	-	pF

Note

(1) In one packing unit I<sub>Vmin</sub>/I<sub>Vmax</sub> ≤ 0.5

TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

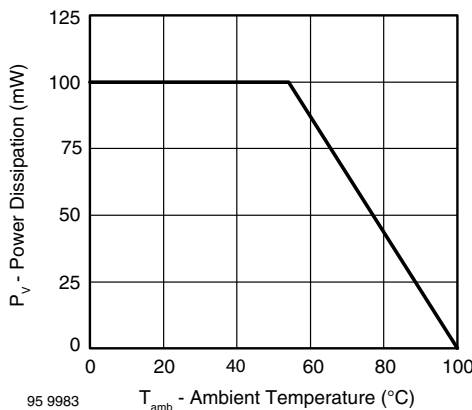


Fig. 1 - Power Dissipation vs. Ambient Temperature

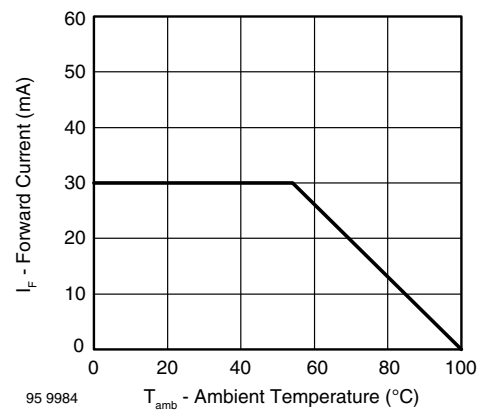


Fig. 2 - Forward Current vs. Ambient Temperature for InGaN

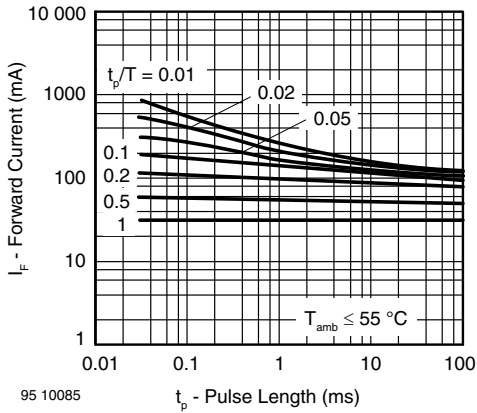


Fig. 3 - Forward Current vs. Pulse Length

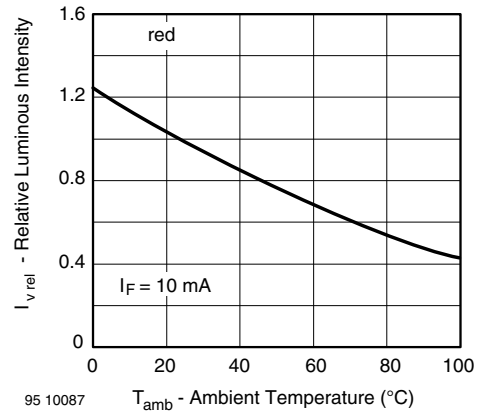


Fig. 6 - Relative Luminous Intensity vs. Ambient Temperature

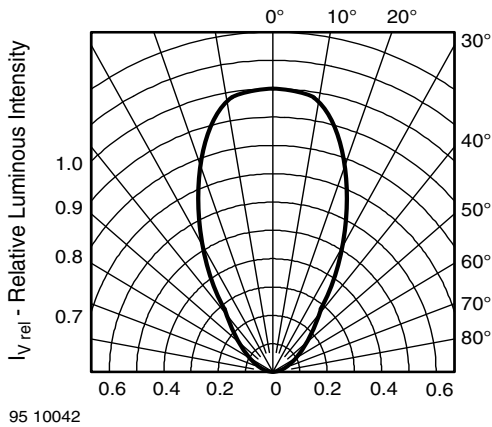


Fig. 4 - Relative Luminous Intensity vs. Angular Displacement

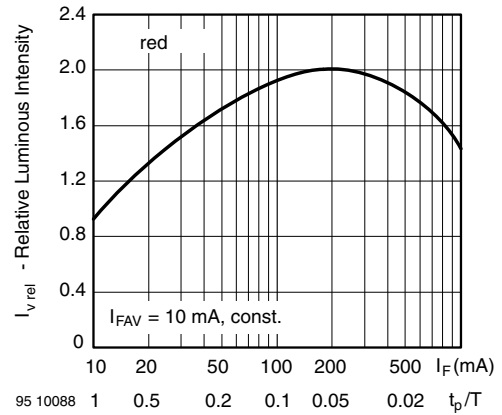


Fig. 7 - Relative Luminous Intensity vs. Forward Current/Duty Cycle

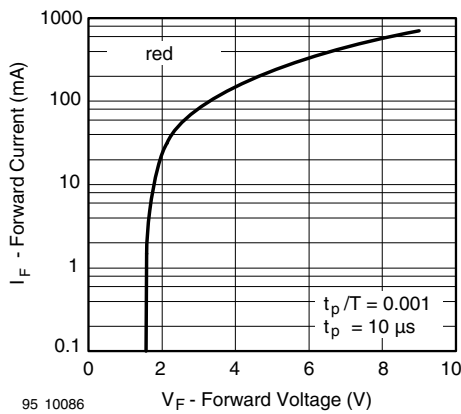


Fig. 5 - Forward Current vs. Forward Voltage

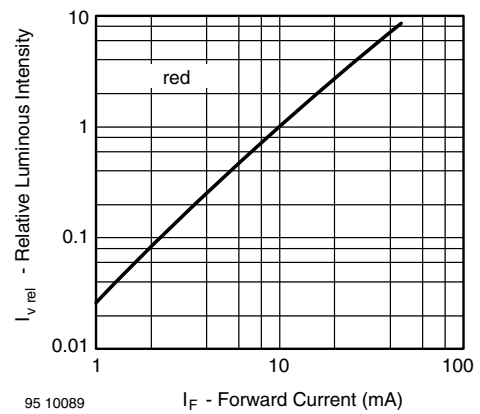


Fig. 8 - Relative Luminous Intensity vs. Forward Current

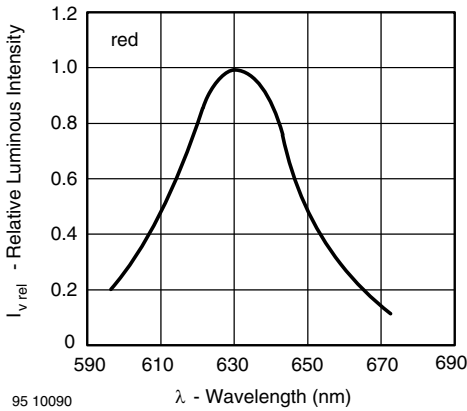


Fig. 9 - Relative Intensity vs. Wavelength

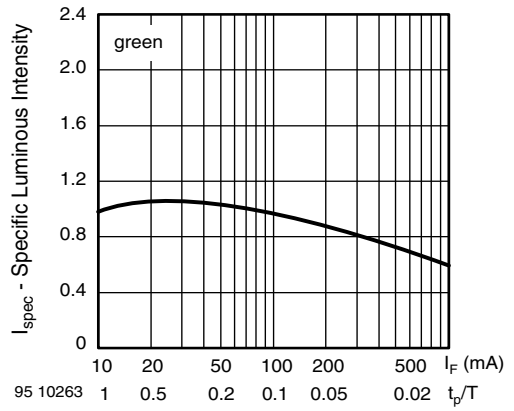


Fig. 12 - Specific Luminous Intensity vs. Forward Current

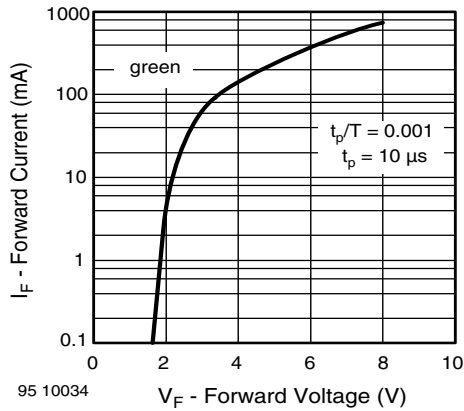


Fig. 10 - Forward Current vs. Forward Voltage

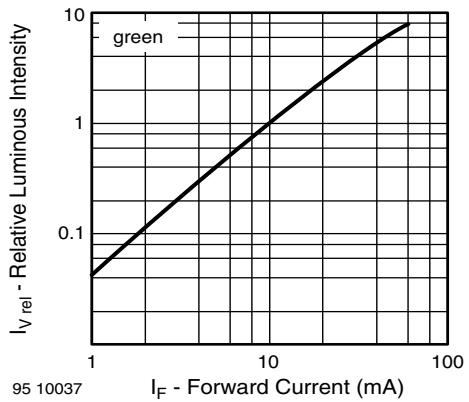


Fig. 13 - Relative Luminous Intensity vs. Forward Current

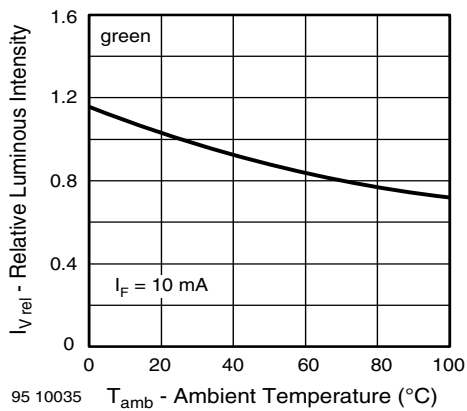


Fig. 11 - Relative Luminous Intensity vs. Ambient Temperature

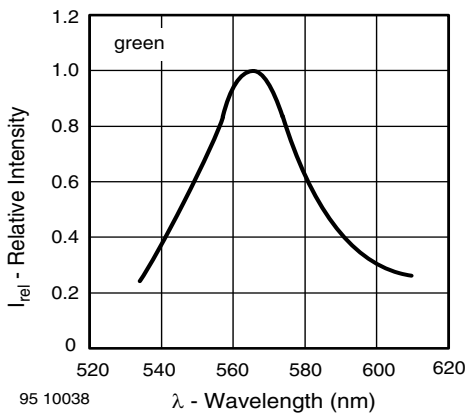
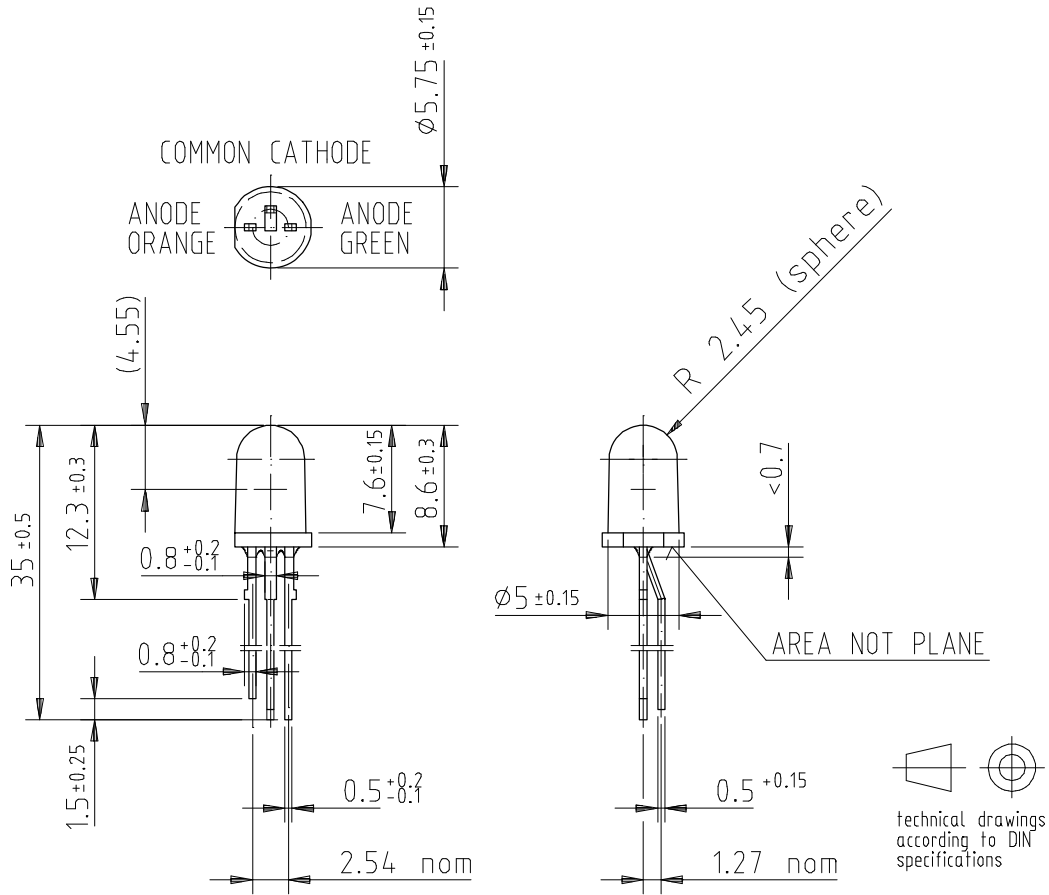


Fig. 14 - Relative Intensity vs. Wavelength



PACKAGE DIMENSIONS in millimeters



95 11271



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