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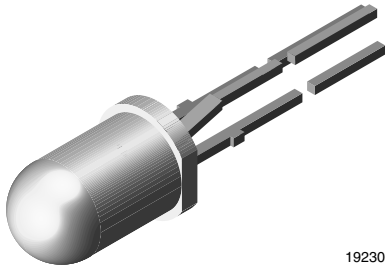
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Bicolor LED in Ø 5 mm Untinted Diffused Package



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



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 °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 ≤ 10 μs | I _{FSM} | 1 | A |
| Power dissipation per diode | T _{amb} ≤ 55 °C | P _V | 100 | mW |
| Total power dissipation | T _{amb} ≤ 55 °C | P _{tot} | 150 | mW |
| Junction temperature | | T _j | 100 | °C |
| Operating temperature range | | T _{amb} | - 40 to + 100 | °C |
| Storage temperature range | | T _{stg} | - 55 to + 100 | °C |
| Soldering temperature | t ≤ 5 s, 2 mm from body | T _{sd} | 260 | °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 ⁽¹⁾ | $I_F = 10\text{ mA}$ | I_V | 1 | 2.5 | - | mcd |
| Dominant wavelength | $I_F = 10\text{ mA}$ | λ_d | 612 | - | 625 | nm |
| Peak wavelength | $I_F = 10\text{ mA}$ | λ_p | - | 630 | - | nm |
| Angle of half intensity | $I_F = 10\text{ mA}$ | φ | - | ± 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

⁽¹⁾ 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 ⁽¹⁾ | $I_F = 10\text{ mA}$ | I_V | 1 | 2.5 | - | mcd |
| Dominant wavelength | $I_F = 10\text{ mA}$ | λ_d | 552 | - | 575 | nm |
| Peak wavelength | $I_F = 10\text{ mA}$ | λ_p | - | 565 | - | nm |
| Angle of half intensity | $I_F = 10\text{ mA}$ | φ | - | ± 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

⁽¹⁾ In one packing unit $I_{Vmin.}/I_{Vmax.} \leq 0.5$

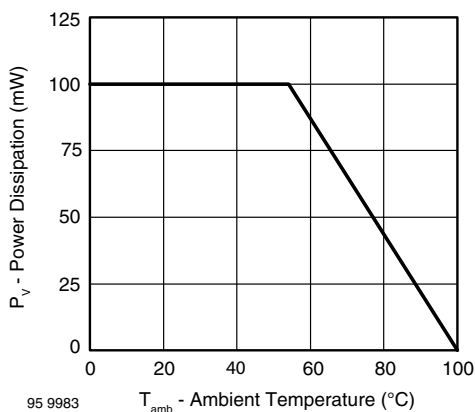
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Power Dissipation vs. Ambient Temperature

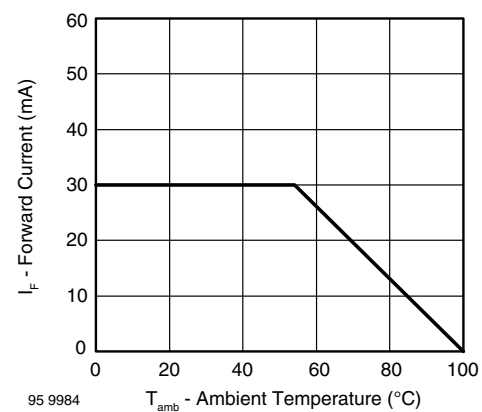


Fig. 2 - Forward Current vs. Ambient Temperature for InGaN

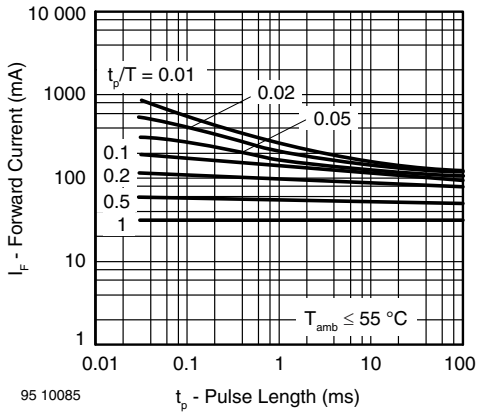


Fig. 3 - Forward Current vs. Pulse Length

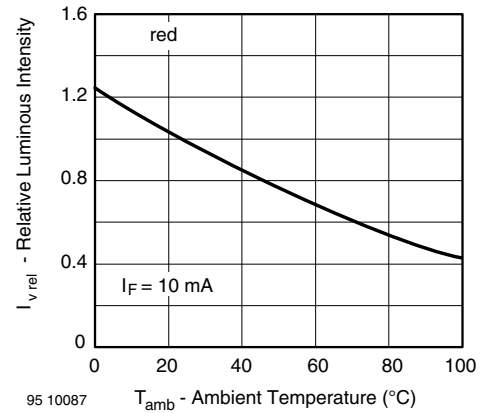


Fig. 6 - Relative Luminous Intensity vs. Ambient Temperature

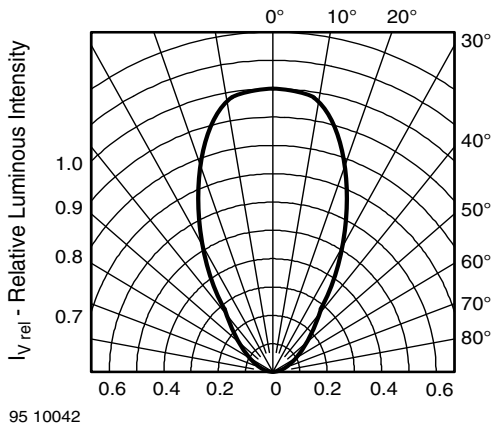


Fig. 4 - Relative Luminous Intensity vs. Angular Displacement

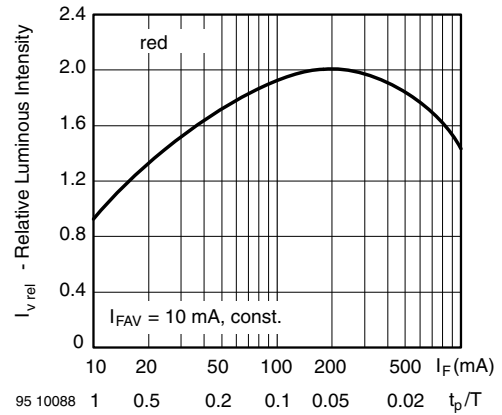


Fig. 7 - Relative Luminous Intensity vs. Forward Current/Duty Cycle

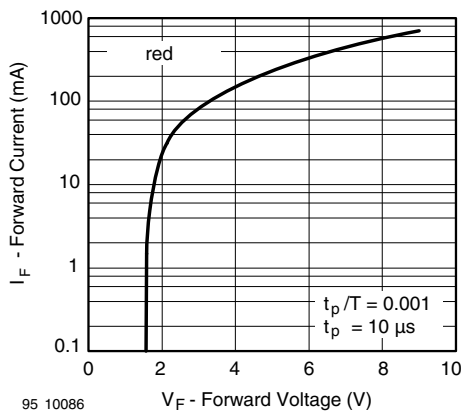


Fig. 5 - Forward Current vs. Forward Voltage

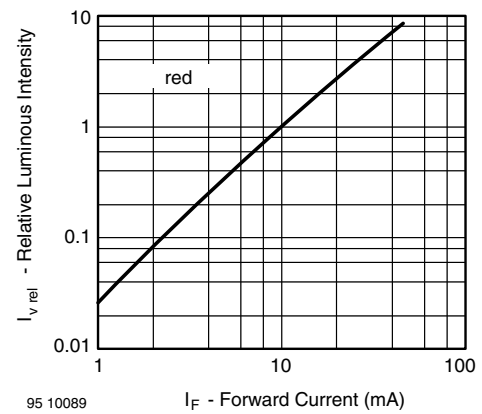


Fig. 8 - Relative Luminous Intensity vs. Forward Current

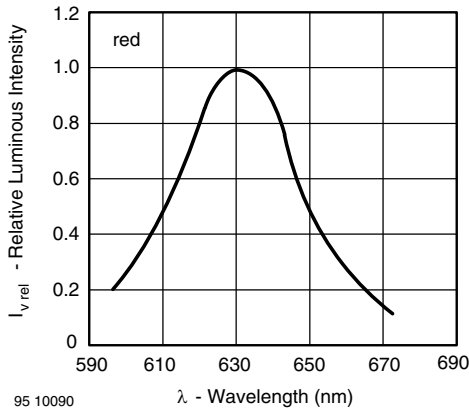


Fig. 9 - Relative Intensity vs. Wavelength

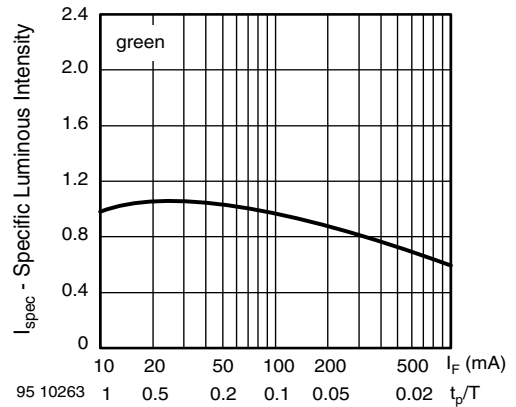


Fig. 12 - Specific Luminous Intensity vs. Forward Current

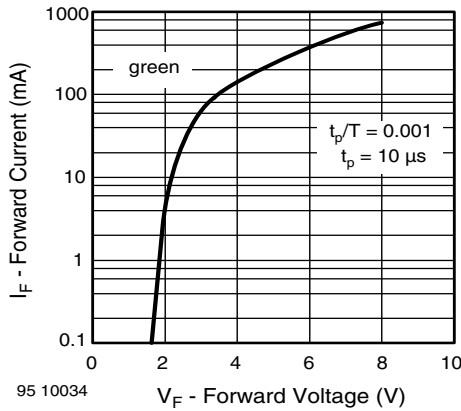


Fig. 10 - Forward Current vs. Forward Voltage

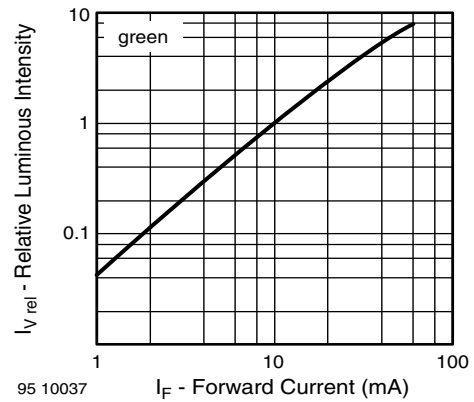


Fig. 13 - Relative Luminous Intensity vs. Forward Current

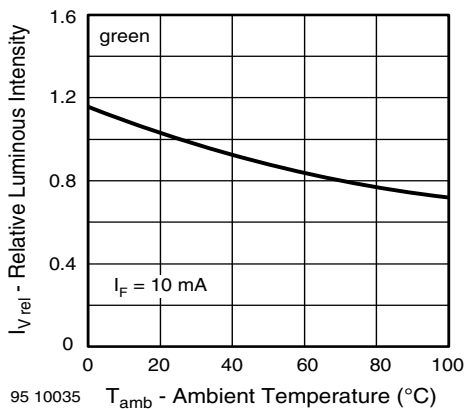


Fig. 11 - Relative Luminous Intensity vs. Ambient Temperature

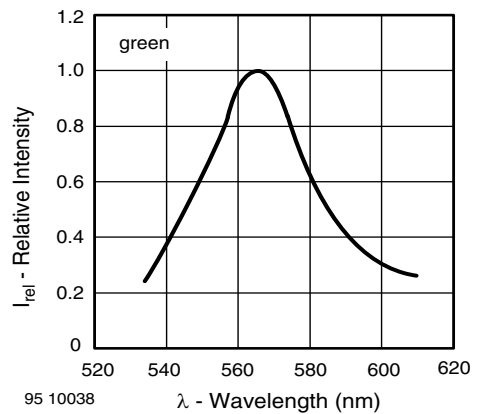
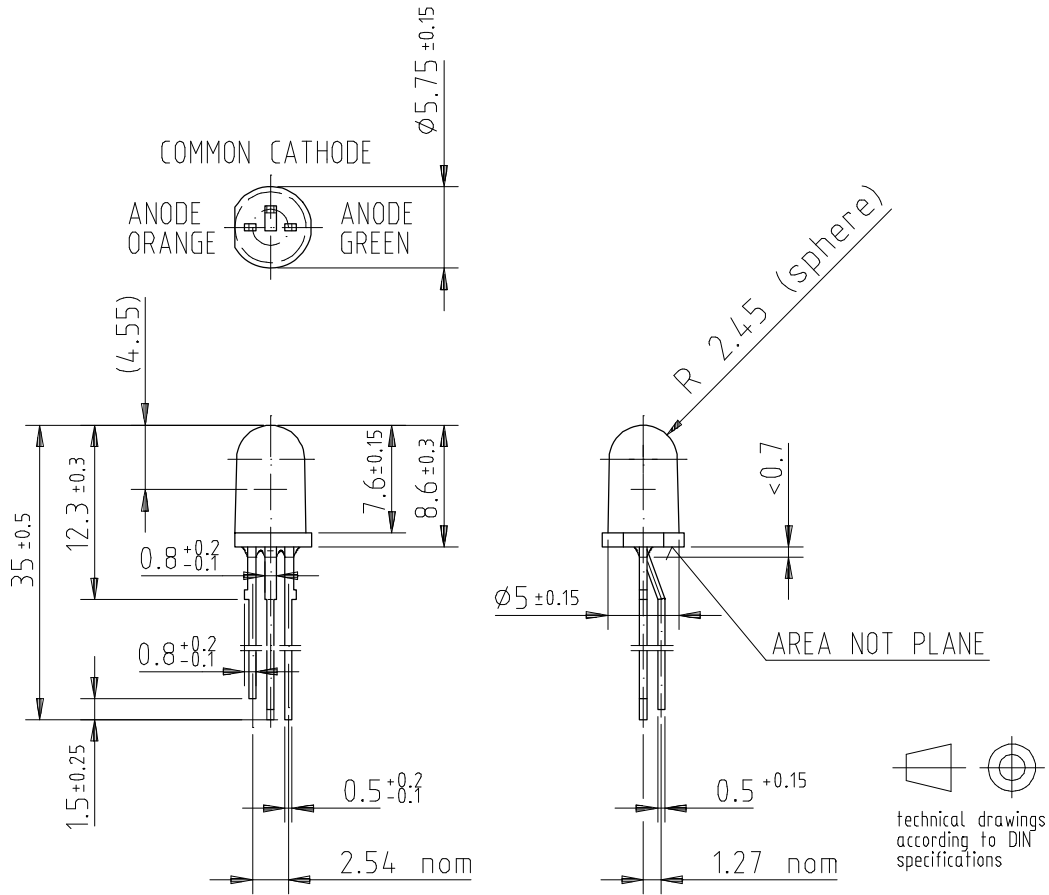


Fig. 14 - Relative Intensity vs. Wavelength



PACKAGE DIMENSIONS in millimeters



95 11271



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