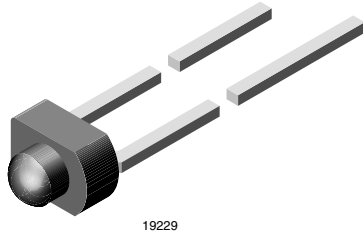


Universal LED, \varnothing 1.8 mm Tinted Diffused Miniplast Package



FEATURES

- Three colors
- For DC and pulse operation
- Luminous intensity categorized
- End-to-end stackable in centre-to-centre spacing of 0.1" (2.54 mm)
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 1.8 mm (miniplast)
- Product series: standard
- Angle of half intensity: $\pm 20^\circ$

APPLICATIONS

- General indicating and lighting purposes

PARTS TABLE

| PART | COLOR, LUMINOUS INTENSITY | TECHNOLOGY |
|----------|--|--------------|
| TLUO2400 | Red, $I_V > 1.6$ mcd | GaAsP on GaP |
| TLUO2401 | Red, $I_V = (4 \text{ to } 20)$ mcd | GaAsP on GaP |
| TLUY2400 | Yellow, $I_V > 1$ mcd | GaAsP on GaP |
| TLUY2401 | Yellow, $I_V = (2.5 \text{ to } 12.5)$ mcd | GaAsP on GaP |
| TLUG2400 | Green, $I_V > 1.6$ mcd | GaP on GaP |
| TLUG2401 | Green, $I_V = (4 \text{ to } 20)$ mcd | GaP on GaP |

ABSOLUTE MAXIMUM RATINGS¹⁾ TLUO240., TLUY240., TLUG240.

| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
|-------------------------------------|---------------------------------------|----------|------------|---------------|------------------|
| Reverse voltage | | | V_R | 6 | V |
| DC Forward current | | TLUO2400 | I_F | 30 | mA |
| | | TLUY2400 | I_F | 30 | mA |
| | | TLUG2400 | I_F | 30 | mA |
| Surge forward current | $t_p \leq 10 \mu\text{s}$ | | I_{FSM} | 1 | A |
| Power dissipation | $T_{amb} \leq 55^\circ\text{C}$ | TLUO2400 | P_V | 100 | mW |
| | | TLUY2400 | P_V | 100 | mW |
| | | TLUG2400 | P_V | 100 | 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 | $t \leq 3 \text{ s}$, 2 mm from body | | T_{sd} | 260 | $^\circ\text{C}$ |
| | $t \leq 5 \text{ s}$, 4 mm from body | | T_{sd} | 260 | $^\circ\text{C}$ |
| Thermal resistance junction/ambient | | TLUO2400 | R_{thJA} | 450 | K/W |
| | | TLUY2400 | R_{thJA} | 450 | K/W |
| | | TLUG2400 | R_{thJA} | 450 | K/W |

Note:

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



| OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLUO240., RED | | | | | | | |
|--|--------------------------------|----------|-------------|-----|----------|-----|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN | TYP. | MAX | UNIT |
| Luminous intensity ²⁾ | $I_F = 10 \text{ mA}$ | TLUO2400 | I_V | 1.6 | 2 | | mcd |
| | | TLUO2401 | I_V | 4 | 5 | 20 | 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 | | ± 20 | | 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 | $V_R = 0, f = 1 \text{ MHz}$ | | C_j | | 50 | | pF |

Note:

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

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

| OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLUY240., YELLOW | | | | | | | |
|---|--------------------------------|----------|-------------|-----|----------|------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN | TYP. | MAX | UNIT |
| Luminous intensity ²⁾ | $I_F = 10 \text{ mA}$ | TLUY2400 | I_V | 1 | 4 | | mcd |
| | | TLUY2401 | I_V | 2.5 | 8 | 12.5 | mcd |
| Dominant wavelength | $I_F = 10 \text{ mA}$ | | λ_d | 581 | | 594 | nm |
| Peak wavelength | $I_F = 10 \text{ mA}$ | | λ_p | | 585 | | nm |
| Angle of half intensity | $I_F = 10 \text{ mA}$ | | φ | | ± 20 | | 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 | $V_R = 0, f = 1 \text{ MHz}$ | | C_j | | 50 | | pF |

Note:

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

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

| OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLUG240., GREEN | | | | | | | |
|--|--------------------------------|----------|-------------|-----|----------|-----|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN | TYP. | MAX | UNIT |
| Luminous intensity ²⁾ | $I_F = 10 \text{ mA}$ | TLUG2400 | I_V | 1.6 | 5 | | mcd |
| | | TLUG2401 | I_V | 4 | 12 | 20 | mcd |
| Dominant wavelength | $I_F = 10 \text{ mA}$ | | λ_d | 562 | | 575 | nm |
| Peak wavelength | $I_F = 10 \text{ mA}$ | | λ_p | | 565 | | nm |
| Angle of half intensity | $I_F = 10 \text{ mA}$ | | φ | | ± 20 | | 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 | $V_R = 0, f = 1 \text{ MHz}$ | | C_j | | 50 | | pF |

Note:

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

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

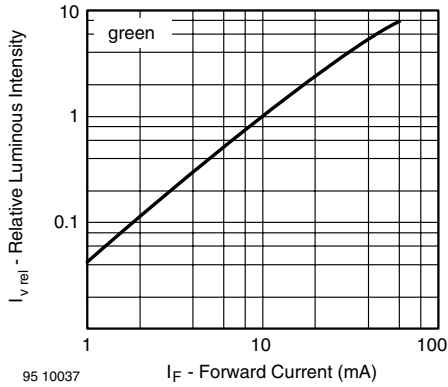


Figure 19. Relative Luminous Intensity vs. Forward Current

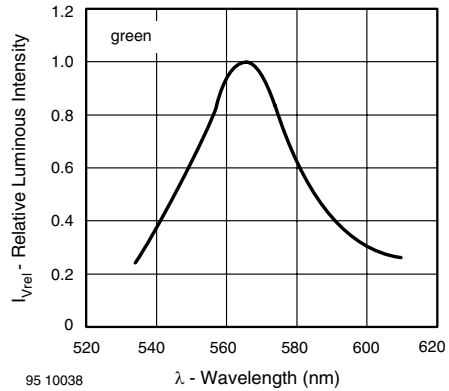


Figure 20. Relative Intensity vs. Wavelength

PACKAGE DIMENSIONS in millimeters

