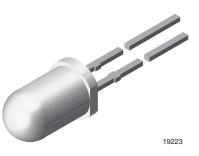
Vishay Semiconductors

Universal LED in Ø 5 mm Tinted Diffused Package



PRODUCT GROUP AND PACKAGE DATA

www.vishay.com

- Product group: LED
- Package: 5 mm
- Product series: standard
- Angle of half intensity: ± 30°

FEATURES

- For DC and pulse operation
- · Luminous intensity categorized
- Standard T-1¾ package
- TLUR540. with stand-offs
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

APPLICATIONS

• General indicating and lighting purposes

| PARTS TABLE | | | | | | | | | | | | | | | |
|----------------|-----|-----------------------------|------|------------------------|--------|------|---------------------------|------------------------|--------|---------------------------|------------|------|--------|---------------|--|
| PART COLOR | | LUMINOUS INTENSITY (mcd) | | at I _F (nm) | | GTH | at I _F (mA) | FORWARD VOLTAGE (V) | | at I _F (mA) | TECHNOLOGY | | | | |
| | | MIN. | TYP. | MAX. | (IIIA) | MIN. | TYP. | MAX. | (IIIA) | MIN. | TYP. | MAX. | (IIIA) | | |
| TLUR5400 | Red | 4 | 15 | - | 10 | - | 630 | - | 10 | - | 2 | 3 | 20 | GaAsP on GaAs | |
| TLUR5400-AS12Z | Red | 4 | 15 | - | 10 | - | 630 | - | 10 | - | 2 | 3 | 20 | GaAsP on GaAs | |
| TLUR5401 | Red | 4 | 15 | 32 | 10 | - | 630 | - | 10 | - | 2 | 3 | 20 | GaAsP on GaAs | |

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25$ °C unless otherwise specified) **TLUR540.**

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|-------------------------------------|-----------------------------|-------------------|-------------|------|
| Reverse voltage | | V _R | 6 | V |
| DC forward current | | I _F | 20 | mA |
| Surge forward current | t _p ≤ 10 μs | I _{FSM} | 1 | А |
| Power dissipation | T _{amb} ≤ 65 °C | Pv | 60 | mW |
| Junction temperature | | Tj | 100 | °C |
| Operating temperature range | | T _{amb} | -40 to +100 | °C |
| Storage temperature range | | T _{stg} | -55 to +100 | °C |
| Soldering temperature | $t \le 5$ s, 2 mm from body | T _{sd} | 260 | °C |
| Thermal resistance junction/ambient | | R _{thJA} | 500 | K/W |

OPTICAL AND ELECTRICAL CHARACTERISTICS ($T_{amb} = 25$ °C, unless otherwise specified) **TLUR540.**, **RED**

| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|-------------------------|---------------------------------|----------|----------------|------|------|------|------|
| Luminous intensity | l _F = 10 mA | TLUR5400 | Iv | 4 | 15 | | mcd |
| Luminous intensity (1) | $I_F = 10 \text{ mA}$ | TLUR5401 | Ι _V | 4 | 15 | 32 | mcd |
| Dominant wavelength | I _F = 10 mA | | λ _d | - | 630 | - | nm |
| Peak wavelength | I _F = 10 mA | | λρ | - | 640 | - | nm |
| Angle of half intensity | I _F = 10 mA | | φ | - | ± 30 | - | deg |
| Forward voltage | I _F = 20 mA | | V _F | - | 2 | 3 | V |
| Reverse voltage | I _R = 10 μA | | V _R | 6 | 15 | - | V |
| Junction capacitance | V _R = 0 V, f = 1 MHz | | Cj | - | 50 | - | pF |

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

Rev. 2.1, 16-Mar-15



RoHS

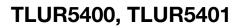
COMPLIANT

HALOGEN

FREE

<u>GREEN</u>

(5-2008)





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

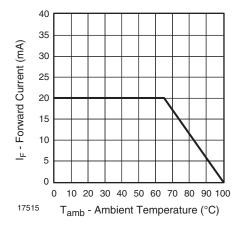


Fig. 1 - Forward Current vs. Ambient Temperature

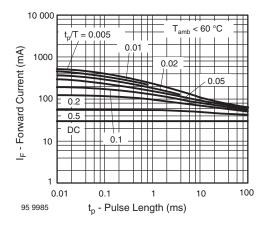


Fig. 2 - Pulse Forward Current vs. Pulse Duration

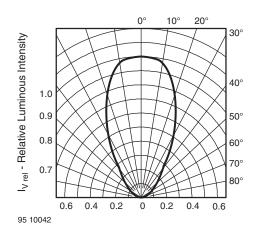


Fig. 3 - Relative Luminous Intensity vs. Angular Displacement

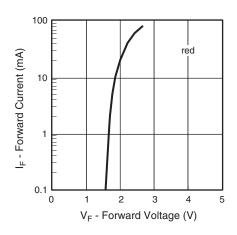


Fig. 4 - Forward Current vs. Forward Voltage

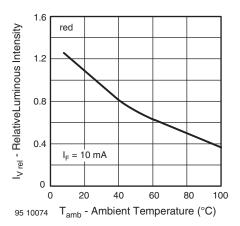


Fig. 5 - Relative Luminous Intensity vs. Ambient Temperature

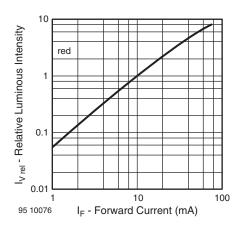


Fig. 6 - Relative Luminous Intensity vs. Forward Current

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TLUR5400, TLUR5401

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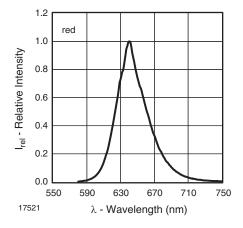
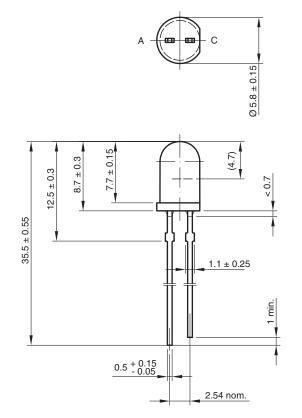
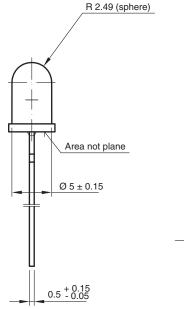


Fig. 7 - Relative Intensity vs. Wavelength

PACKAGE DIMENSIONS in millimeters





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technical drawings according to DIN specifications

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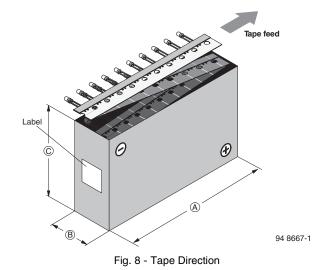
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TLUR5400, TLUR5401

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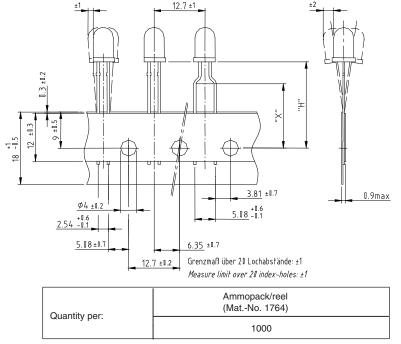
AMMOPACK



Note

• The new nomenclature for ammopack is e.g. ASZ only, without suffix for the LED orientation. The carton box has to be turned to the desired position: "+" for anode first, or "-" for cathode first. AS12Z and AS21Z are still valid for already existing types, BUT NOT FOR NEW DESIGN.

TAPE DIMENSIONS in millimeters



| 948172_1 |
|----------|
|----------|

| Option | Dim. "H" ± 0.5 mm | Dim. "X" ± 0.5 mm |
|--------|-------------------|-------------------|
| AS | 17.3 | |
| MS | 25.5 | |
| CS | 22.0 | |
| LS | 21.0 | |
| BT | 20.0 | 16.0 |



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