

TOSHIBA INFRARED LED GaAs INFRARED EMITTER

TLN117

- OPTO-ELECTRONIC SWITCH
- FLOPPY DISK DRIVE
- OPTICAL MOUSE
- OPTICAL TOUCH SENSOR

- Small side view epoxy resin package
- High radiant intensity : $I_E = 0.8 \text{ mW/sr (MIN.)}$ at $I_F = 20 \text{ mA}$
- Half value angle : $\theta_{\frac{1}{2}} = \pm 15^\circ \text{ (TYP.)}$
- Optimum in combination with the following photo detectors which have identical external dimensions.

| | |
|------------------------------|----------------|
| Photo Transistor | TPS621, TPS622 |
| Photo Dairilngton Transistor | TPS625, TPS626 |

MAXIMUM RATINGS (Ta = 25°C)

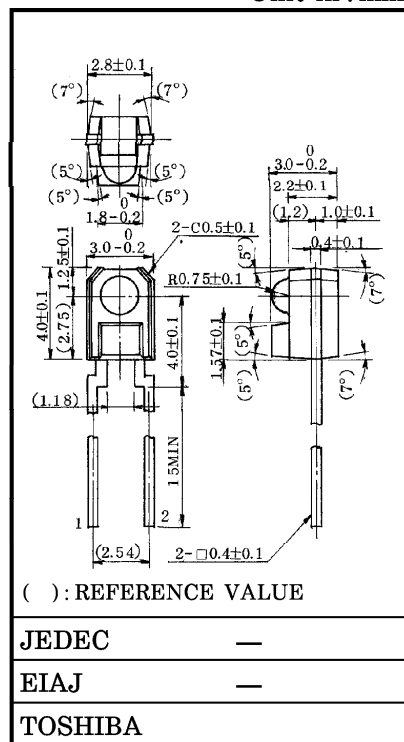
| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|--------------------------------------|-------------------------------|--------------|---------|
| Forward Current | I_F | 50 | mA |
| Pulse Forward Current | I_{FP} | 600 (Note 1) | mA |
| Forward Current Derating (Ta > 25°C) | $\Delta I_F / ^\circ\text{C}$ | -0.33 | mA / °C |
| Reverse Voltage | V_R | 5 | V |
| Operating Temperature Range | T_{opr} | -25~85 | °C |
| Storage Temperature Range | T_{stg} | -40~100 | °C |
| Soldering Temperature (5s) | T_{sol} | 260 (Note 2) | °C |

- Note 1. Pulse Width $\leq 100 \mu\text{s}$, Repetitive Frequency = 100Hz
 2. Soldering portion of lead : above 2mm from the body of the device.

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

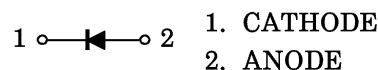
| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT | |
|--------------------------|------------------------|-----------------------|------------|----------|------|---------------|---------|
| Forward Voltage | V_F | $I_F = 10 \text{ mA}$ | 1.0 | 1.15 | 1.30 | V | |
| Reverse Current | I_R | $V_R = 5 \text{ V}$ | — | — | 10 | μA | |
| Radiant Intensity | I_E | $I_F = 20 \text{ mA}$ | TLN117 | 0.8 | — | — | mW / sr |
| | | | TLN117 (A) | 0.8 | — | 3 | |
| | | | TLN117 (B) | 2 | — | 7.5 | |
| | | | TLN117 (C) | 5 | — | 18.7 | |
| Radiant Power | P_O | $I_F = 20 \text{ mA}$ | — | 2.5 | — | mW | |
| Peak Emission Wavelength | λ_P | $I_F = 20 \text{ mA}$ | — | 940 | — | nm | |
| Spectral Line Half Width | $\Delta\lambda$ | $I_F = 20 \text{ mA}$ | — | 50 | — | nm | |
| Half Value Angle | $\theta_{\frac{1}{2}}$ | $I_F = 20 \text{ mA}$ | — | ± 15 | — | ° | |

Unit in : mm



Weight : 0.1g (TYP.)

PIN CONNECTION



961001EAC2

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PRECAUTION

Please be careful of the followings.

1. When the lead is formed, the lead shall be formed at a distance of 2mm from the body without leaving forming stress to the body of the device.
Soldering shall be performed after lead forming.

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- Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.
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