## TLOU160(F),TLSU160(F),TLYU160(F)

## Panel Circuit Indicator

Unit in mm

- Lead $(\mathrm{Pb})-$ free products (lead: $\mathrm{Sn}-\mathrm{Ag}-\mathrm{Cu})$
- 3 mm package
- InGaAlP technology
- All plastic mold type
- Colorless clear lens
- Lineup: 3 colors (red, orange, yellow)
- Suitable for high-brightness and less electricity consumption.
- All plastic molded lens, provides an excellent on-off contrast ratio.
- Applications: Backlight, light for decoration, switches,
various indicator, personal equipment


## Lineup

| Product | Color | Material |
| :---: | :---: | :---: |
| TLOU160(F) | Orange | InGaAlP |
| TLSU160(F) | Red | InGaAlP |
| TLYU160(F) | Yellow | InGaAlP |

Maximum Ratings ( $\mathbf{T a}=25^{\circ} \mathrm{C}$ )


Weight: 0.14 g

| Product | Forward <br> Current <br> $\mathrm{I}_{\mathrm{F}}(\mathrm{mA})$ | Reverse <br> Voltage <br> $\mathrm{V}_{\mathrm{R}}(\mathrm{V})$ | Power <br> Dissipation <br> $\mathrm{P}_{\mathrm{D}}(\mathrm{mW})$ | Operating <br> Temperature <br> $\mathrm{T}_{\mathrm{opr}}\left({ }^{\circ} \mathrm{C}\right)$ | Storage |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TLOU160(F) | 30 | 4 | 72 | $-30 \sim 85$ | $-40 \sim 120$ |
| TLSU160(F) | 30 | 4 | 72 | $-30 \sim 85$ | $-40 \sim 120$ |
| TLYU160(F) | 30 | 4 | 75 | $-30 \sim 85$ | $-40 \sim 120$ |

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Electrical and Optical Characteristics ( $\mathrm{Ta}=\mathbf{2 5}{ }^{\circ} \mathrm{C}$ )

| Product | Typ.Emission Wavelength |  |  | Luminous Intensity IV |  |  | Forward Voltage $V_{F}$ |  |  | Reverse Current IR |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\lambda_{p}$ | $\Delta \lambda$ | $\mathrm{IF}^{\text {F }}$ | Min | Typ. | $\mathrm{I}_{\mathrm{F}}$ | Typ. | Max | $\mathrm{I}_{\mathrm{F}}$ | Max | $\mathrm{V}_{\mathrm{R}}$ |
| TLOU160(F) | (612) | 15 | 20 | 850 | 2500 | 20 | 2.0 | 2.4 | 20 | 50 | 4 |
| TLSU160(F) | (636) | 17 | 20 | 850 | 1600 | 20 | 2.0 | 2.4 | 20 | 50 | 4 |
| TLYU160(F) | (590) | 13 | 20 | 476 | 1500 | 20 | 2.1 | 2.5 | 20 | 50 | 4 |
| Unit | nm |  | mA | mcd |  | mA | V |  | mA | $\mu \mathrm{A}$ | V |

## Precaution

Please be careful of the followings

- Soldering temperature: $260^{\circ} \mathrm{C}$ max soldering time: 3 s max
(Soldering portion of lead: up to 1.6 mm from the body of the device)
- If the lead is formed, the lead should be formed up to 1.6 mm from the body of the device without forming stress to the resin. Soldering should be performed after lead forming.
- This visible LED lamp also emits some IR light. If a photodetector is located near the LED lamp, please ensure that it will not be affected by this IR light.


## TLOU160(F)





Radiation Pattern


## TLSU160(F)




Radiation Pattern
$\mathrm{Ta}=25^{\circ} \mathrm{C}$



Relative Luminous Intensity -
Wavelength


## TLYU160(F)




Radiation Pattern



Relative Luminous Intensity -
Wavelength


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