

## TOSHIBA LED DISPLAY

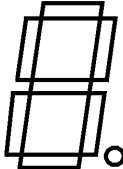
**TLG358, TLG359, TLS358  
TLS359, TLR358, TLR359**

- 13.46mm (0.53") Character Height Numerical Display.
- Application : Numerical Readout for Instrument and Consumer Product.
- Luminous Intensity Ranking Performed Uniform Display.
- Available Both Types of Package Colors.  
 TL□xxx : Gray Color Coated Only on Surface.  
 TL□xxxT : Black Color Coated Only on Surface.

## PRODUCT LINE UP

|                 |           |
|-----------------|-----------|
| TLG358 / TLG359 | GaP GREEN |
| TLS358 / TLS359 | GaAsP RED |
| TLR358 / TLR359 | GaP RED   |

## TYPE No. vs FULLY DISPLAY FONT

| COMMON CATHODE             | COMMON ANODE               | FULLY DISPLAY FONT                                                                  |
|----------------------------|----------------------------|-------------------------------------------------------------------------------------|
| TLG358<br>TLS358<br>TLR358 | TLG359<br>TLS359<br>TLR359 |  |

## MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC                      | SYMBOL                    | RATING | UNIT |
|-------------------------------------|---------------------------|--------|------|
| DC Forward Current / seg.           | I <sub>F</sub> (DC) / seg | 20     | mA   |
| Pulse Forward Current / seg. (Note) | I <sub>FP</sub> / seg     | 110    | mA   |
| Reverse Voltage / seg.              | V <sub>R</sub>            | 6      | V    |
| Operating Temperature Range         | T <sub>opr</sub>          | -35~85 | °C   |
| Storage Temperature Range           | T <sub>stg</sub>          | -40~85 | °C   |

Note : Pulse Width = 1ms, Duty Ratio = 1 / 10

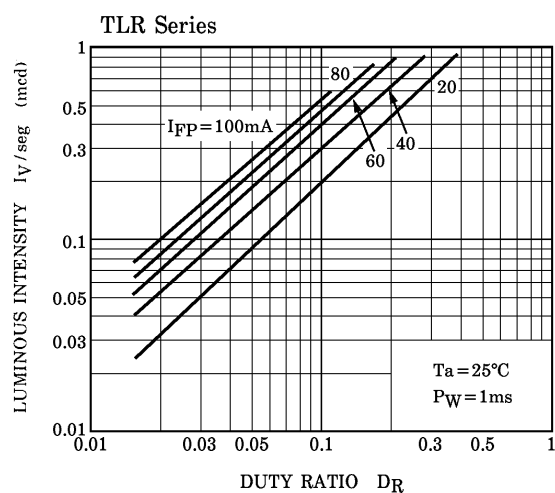
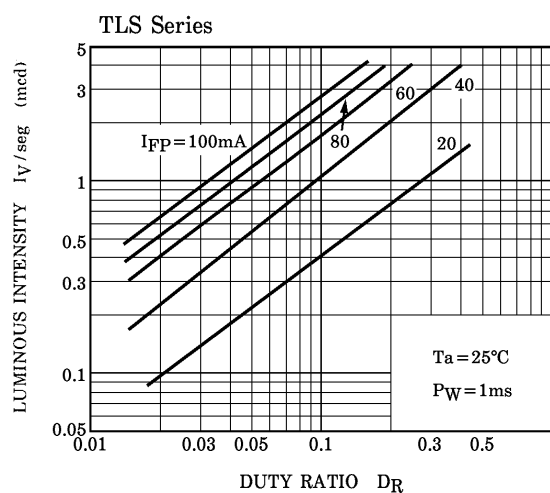
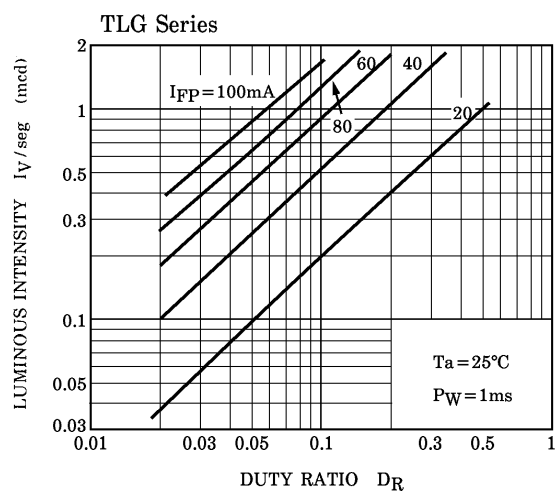
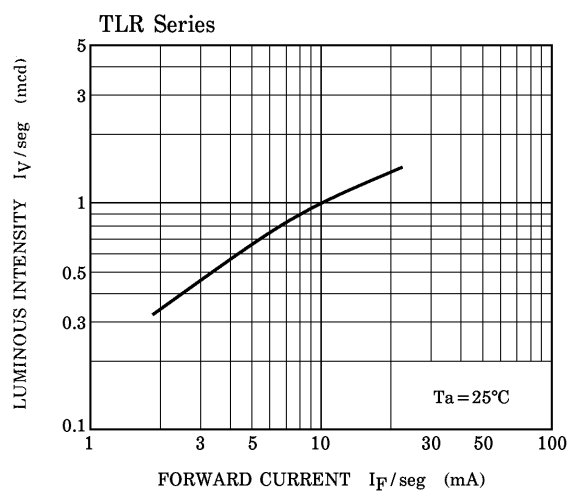
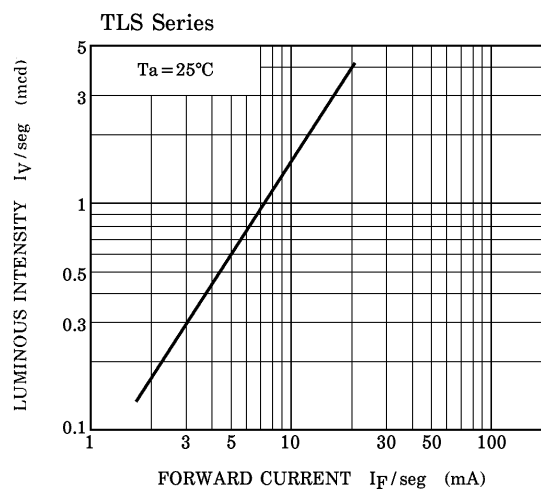
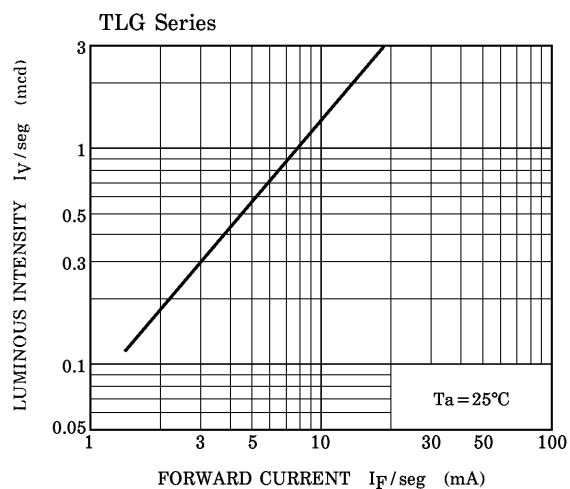
## ELECTRICAL-OPTICAL CHARACTERISTICS (Ta = 25°C)

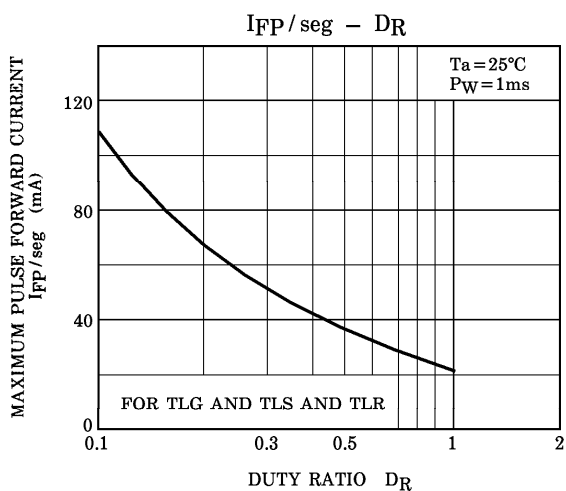
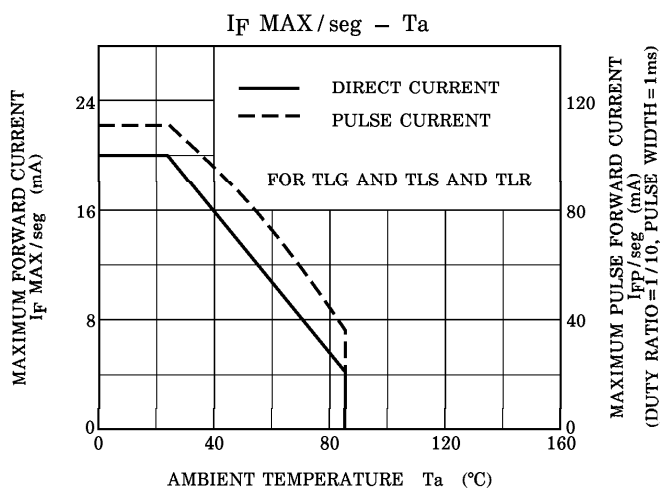
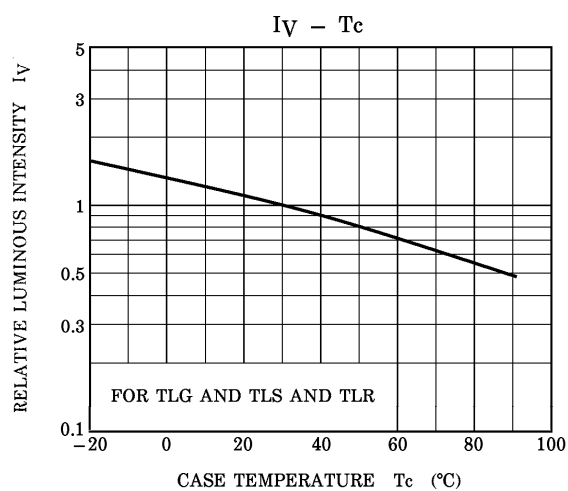
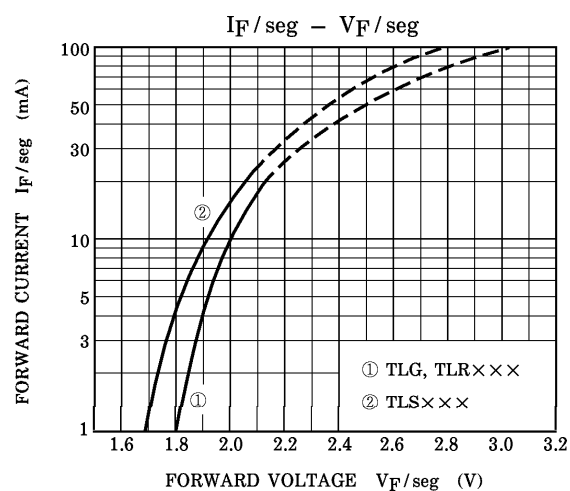
| TYPE No.   | EMITTING<br>WAVE LENGTH |     |                     | LUMINOUS<br>INTENSITY<br>I <sub>V</sub> / seg |      |                     | FORWARD<br>VOLTAGE V <sub>F</sub> / seg |      |      |                     | REVERSE<br>CURRENT<br>I <sub>R</sub> / seg |                     | LUMINOUS<br>INTENSITY<br>MATCHING<br>RATIO I <sub>V-M</sub> |                     |
|------------|-------------------------|-----|---------------------|-----------------------------------------------|------|---------------------|-----------------------------------------|------|------|---------------------|--------------------------------------------|---------------------|-------------------------------------------------------------|---------------------|
|            | λ <sub>p</sub>          | Δλ  | I <sub>F</sub> /seg | Min.                                          | Typ. | I <sub>F</sub> /seg | Min.                                    | Typ. | Max. | I <sub>F</sub> /seg | Max.                                       | V <sub>R</sub> /seg | Max.                                                        | I <sub>F</sub> /seg |
| TLG Series | 565                     | 30  | 10                  | 0.56                                          | 1.42 | 10                  | 1.7                                     | 2.0  | 2.5  | 10                  | 5                                          | 6                   | 2.3                                                         | 10                  |
| TL3 Series | 635                     | 40  |                     | 0.73                                          | 1.56 |                     | 1.7                                     | 1.9  | 2.5  |                     |                                            |                     |                                                             |                     |
| TLR Series | 700                     | 100 |                     | 0.26                                          | 0.70 | 5                   | 1.4                                     | 2.0  | 2.5  |                     |                                            |                     |                                                             | 5                   |
| UNIT       | nm                      |     | mA                  | mcd                                           |      | mA                  | V                                       |      |      | mA                  | μA                                         | V                   | —                                                           | mA                  |

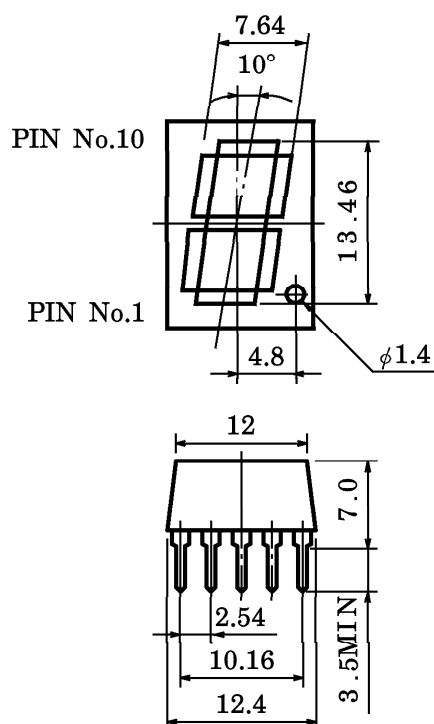
## PRECAUTION

Please be careful of the following.

- Soldering temperature should be less than 260°C for 3 seconds at 2.0mm from the seating plane.

$I_V/\text{seg} - I_F/\text{seg}$ 



**OUTLINE DIMENSIONS**

Unit in mm

Weight : 1.67g  
 Tolerance is  $\pm 0.25$   
 Unless otherwise noted.  
 358 Series : TOSHIBA 4-12A1A  
 359 Series : TOSHIBA 4-12A1B

**PIN CONNECTION**

| 358 Series |                |   |   |   | 359 Series |              |   |   |    |
|------------|----------------|---|---|---|------------|--------------|---|---|----|
| 1          | 2              | 3 | 4 | 5 | 6          | 7            | 8 | 9 | 10 |
|            |                |   |   |   |            |              |   |   |    |
| PIN No.    | CONNECTION     |   |   |   | PIN No.    | CONNECTION   |   |   |    |
| 1          | Anode e        |   |   |   | 1          | Cathode e    |   |   |    |
| 2          | Anode d        |   |   |   | 2          | Cathode d    |   |   |    |
| 3          | Anode c        |   |   |   | 3          | Cathode c    |   |   |    |
| 4          | Anode Dp       |   |   |   | 4          | Cathode Dp   |   |   |    |
| 5          | Common Cathode |   |   |   | 5          | Common Anode |   |   |    |
| 6          | Common Cathode |   |   |   | 6          | Common Anode |   |   |    |
| 7          | Anode b        |   |   |   | 7          | Cathode b    |   |   |    |
| 8          | Anode a        |   |   |   | 8          | Cathode a    |   |   |    |
| 9          | Anode g        |   |   |   | 9          | Cathode g    |   |   |    |
| 10         | Anode f        |   |   |   | 10         | Cathode f    |   |   |    |

**RESTRICTIONS ON PRODUCT USE**

000707EAC

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