

TOSHIBA LED DISPLAY

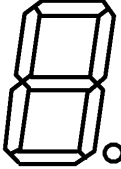
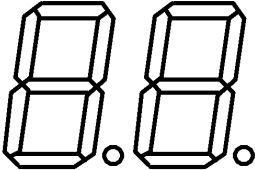
TLG362T, TLG363T, TLG366T, TLG367T
TLS362T, TLS363T, TLS366T, TLS367T
TLR362T, TLR363T, TLR366T, TLR367T

- 14.2mm (0.56”) 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□ xxxS : Gray Color Coated Only on Surface.
 TL□ xxxT : Black Color Coated Only on Surface.

PRODUCT LINE UP

| | |
|---------------------------------------|-----------|
| TLG362T / TLG363T / TLG366T / TLG367T | GaP GREEN |
| TLS362T / TLS363T / TLS366T / TLS367T | GaAsP RED |
| TLR362T / TLR363T / TLR366T / TLR367T | GaP RED |

TYPE No. vs FULLY DISPLAY

| COMMON CATHODE | COMMON ANODE | FULLY DISPLAY FONT |
|-------------------------------|-------------------------------|--|
| TLG362T TLS362T TLR362T | TLG363T TLS363T TLR363T |  |
| TLG366T TLS366T TLR366T | TLG367T TLS367T TLR367T |  |

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-------------------------------------|---------------------------|--------|------|
| DC Forward Current / seg. | I _F (DC) / seg | 20 | mA |
| Pulse Forward Current / seg. (Note) | I _{FP} / seg | 110 | mA |
| Reverse Voltage / seg. | V _R | 6 | V |
| Operating Temperature Range | T _{opr} | -40~85 | °C |
| Storage Temperature Range | T _{stg} | -40~85 | °C |

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

ELECTRICAL-OPTICAL CHARACTERISTICS (Ta = 25°C)

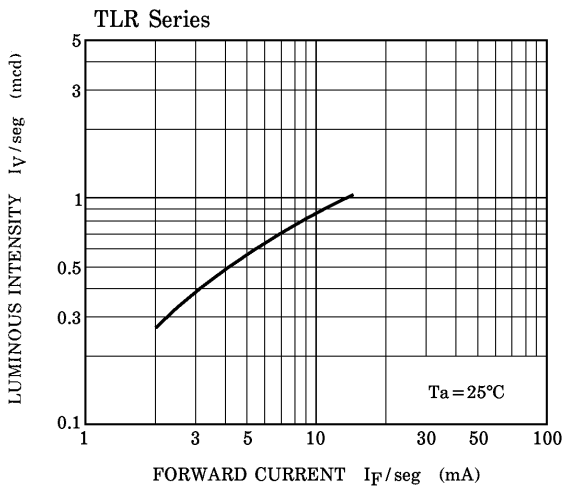
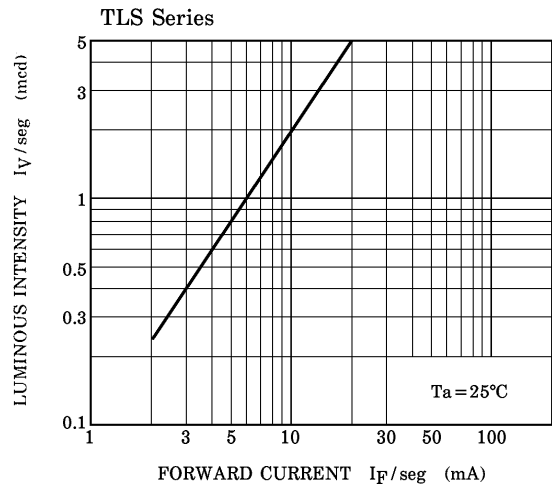
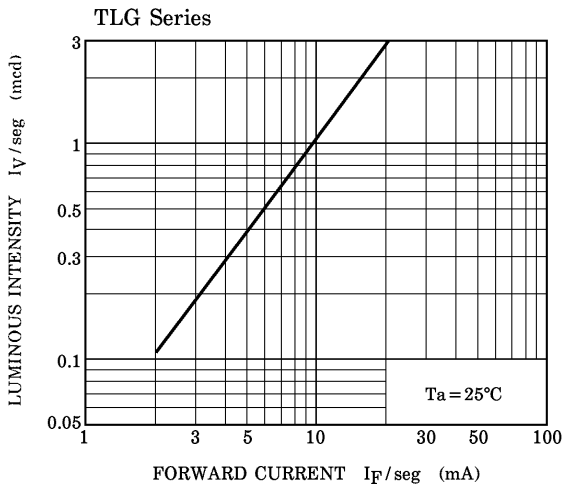
| TYPE No. | EMITTING WAVE LENGTH | | | LUMINOUS INTENSITY I _V /seg | | | FORWARD VOLTAGE V _F /seg | | | | REVERSE CURRENT I _R /seg | | LUMINOUS INTENSITY MATCHING RATIO I _{V-M} | |
|------------|----------------------|-----|---------------------|---|------|---------------------|-------------------------------------|------|------|---------------------|--|---------------------|--|---------------------|
| | λ _p | Δλ | I _F /seg | Min. | Typ. | I _F /seg | Min. | Typ. | Max. | I _F /seg | Max. | V _R /seg | Max. | I _F /seg |
| TLG Series | 565 | 30 | 10 | 0.44 | 1.00 | 10 | 1.7 | 2.0 | 2.5 | 10 | 5 | 6 | 2.3 | 10 |
| TLS Series | 635 | 40 | | 0.83 | 2.00 | | 1.7 | 1.9 | 2.5 | | | | | |
| TLR Series | 700 | 100 | | 0.21 | 0.56 | 5 | 1.4 | 2.0 | 2.5 | | | | | |
| UNIT | nm | | mA | mcd | | mA | V | | | mA | μA | V | — | mA |

PRECAUTION

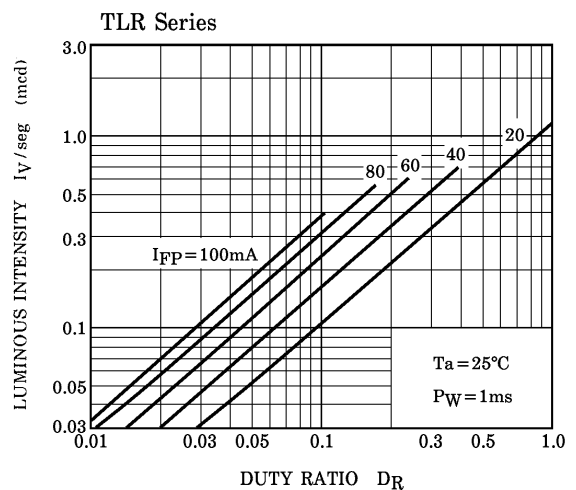
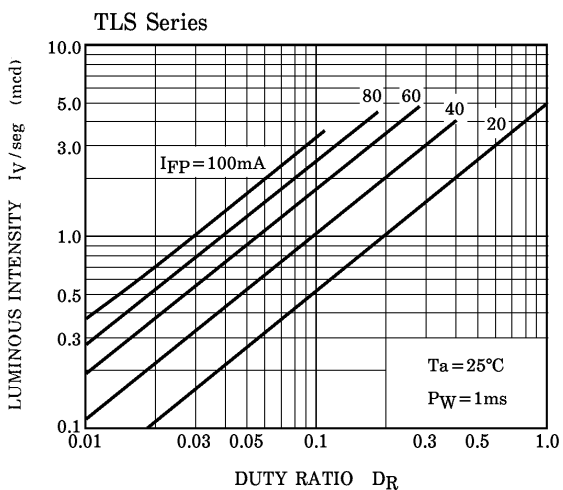
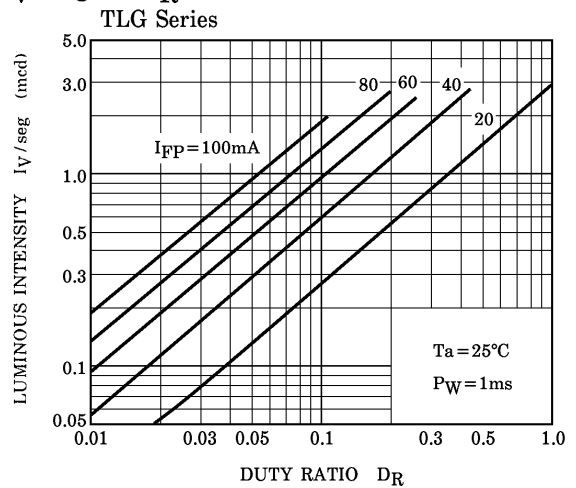
Please be careful of the following.

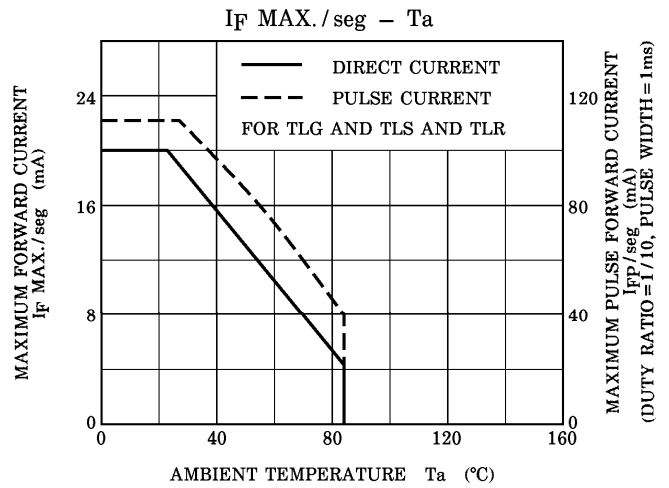
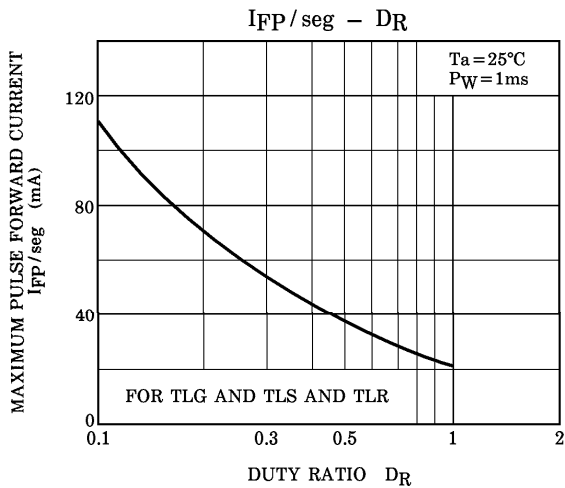
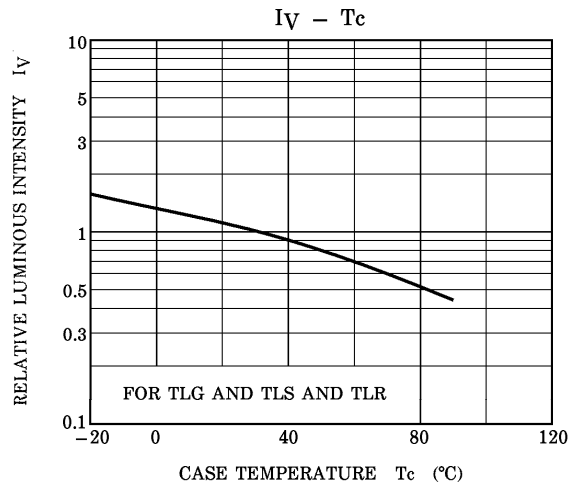
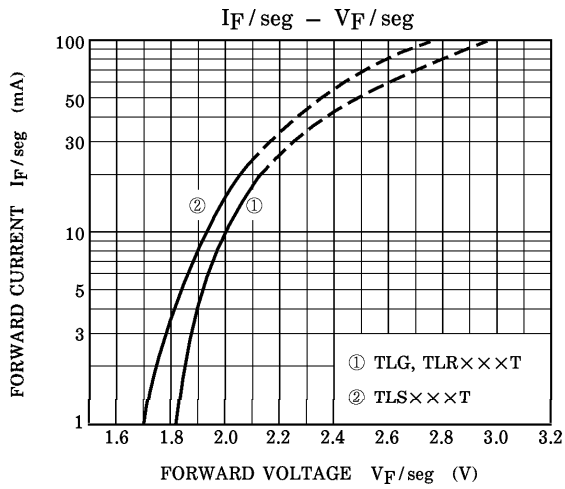
- Soldering temperature should be less than 260°C for 3 seconds at 2.0mm from the seating plane.

I_V /seg – I_F /seg



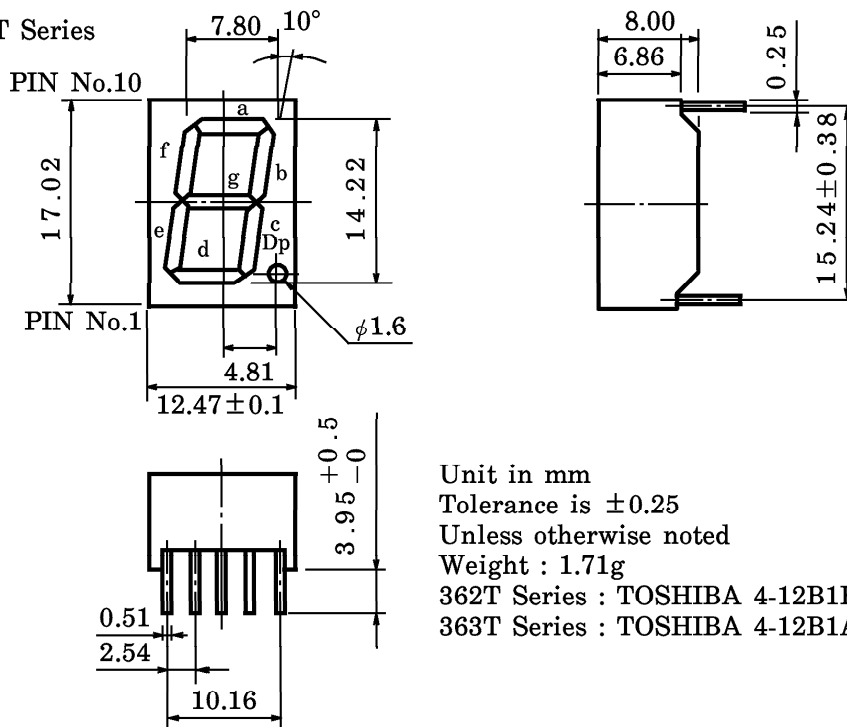
I_V /seg – D_R





OUTLINE DIMENSIONS

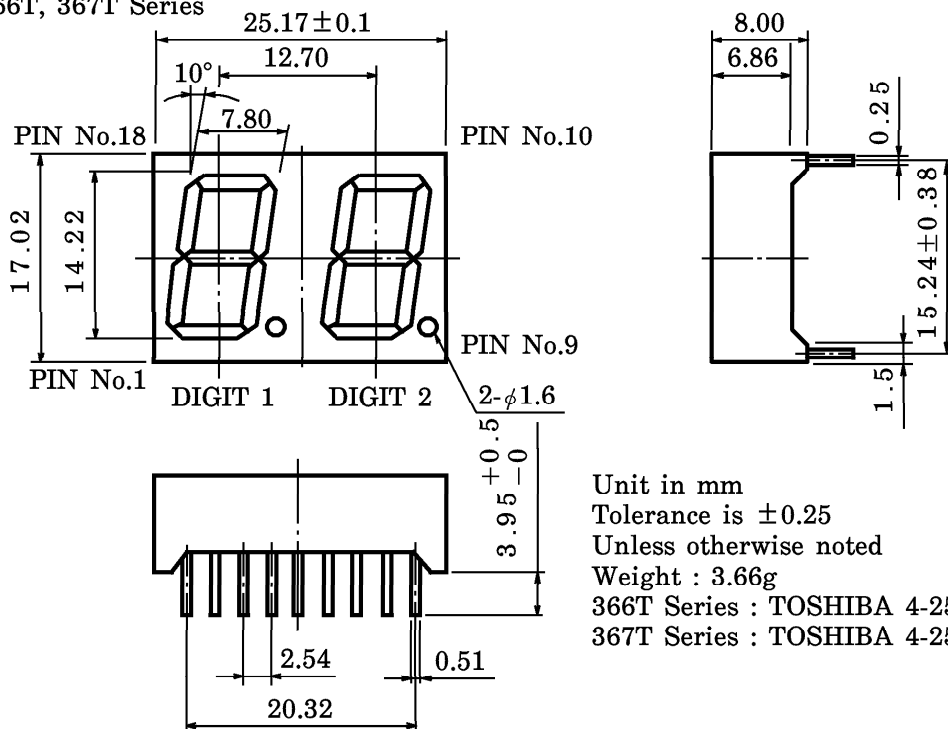
362T, 363T Series



Unit in mm
 Tolerance is ±0.25
 Unless otherwise noted
 Weight : 1.71g
 362T Series : TOSHIBA 4-12B1B
 363T Series : TOSHIBA 4-12B1A

OUTLINE DIMENSIONS

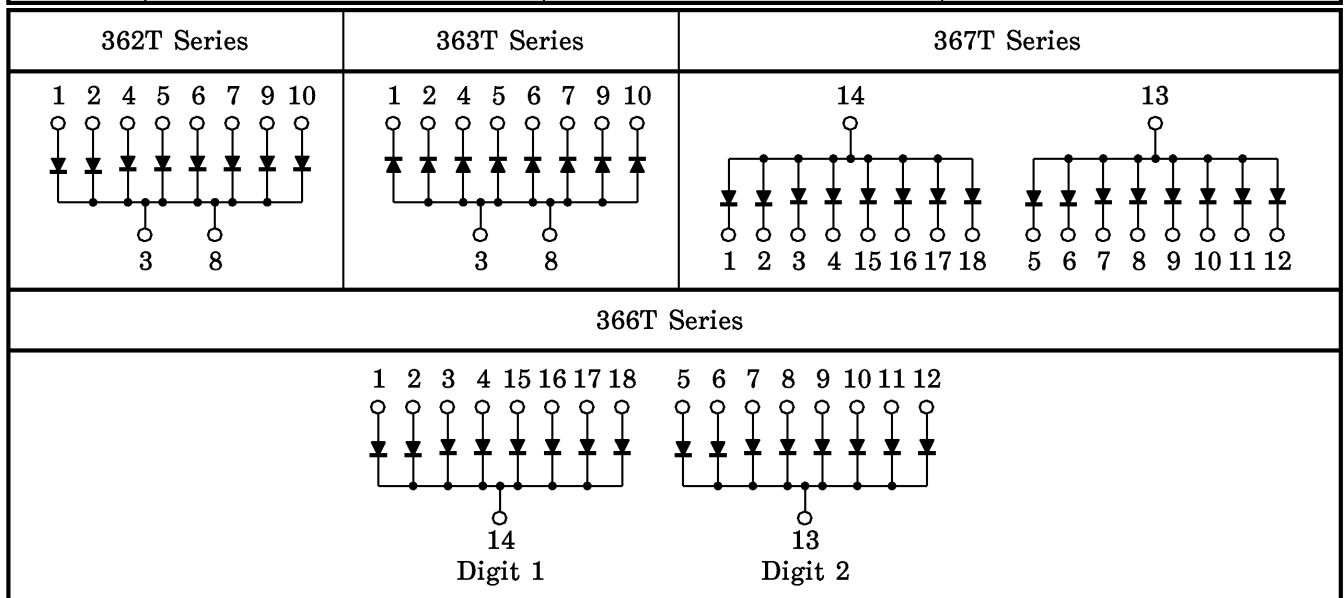
366T, 367T Series



Unit in mm
 Tolerance is ±0.25
 Unless otherwise noted
 Weight : 3.66g
 366T Series : TOSHIBA 4-25C1A
 367T Series : TOSHIBA 4-25C1B

PIN CONNECTION

| PIN No. | CONNECTION | | |
|---------|----------------|--------------|-------------------|
| | 362T Series | 363T Series | 366T, 367T Series |
| 1 | e | e | E Digit 1 |
| 2 | d | d | D Digit 1 |
| 3 | Common Cathode | Common Anode | C Digit 1 |
| 4 | c | c | Dp Digit 1 |
| 5 | Dp | Dp | E Digit 2 |
| 6 | b | b | D Digit 2 |
| 7 | a | a | G Digit 2 |
| 8 | Common Cathode | Common Anode | C Digit 2 |
| 9 | f | f | Dp Digit 2 |
| 10 | g | g | B Digit 2 |
| 11 | — | — | A Digit 2 |
| 12 | — | — | F Digit 2 |
| 13 | — | — | Digit 2 Common |
| 14 | — | — | Digit 1 Common |
| 15 | — | — | B Digit 1 |
| 16 | — | — | A Digit 1 |
| 17 | — | — | G Digit 1 |
| 18 | — | — | F Digit 1 |



RESTRICTIONS ON PRODUCT USE

000707EAC

- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..
- The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.
- 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.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.