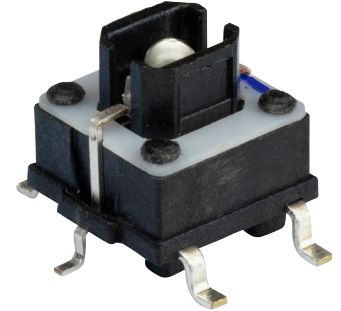


SERIES: TS26 | **DESCRIPTION:** TACTILE SWITCH

FEATURES

- illuminated
- 7 color options
- surface mount


SPECIFICATIONS

| parameter | conditions/description | min | typ | max | units |
|-----------------------|--|------|---------|------|--------|
| rated voltage | | 1 | | 12 | Vdc |
| rated current | | 0.01 | | 50 | mA |
| withstanding voltage | for 1 minute | | 250 | | Vac |
| contact resistance | applying load of 2 times operating force at 5 Vdc, 10 mA | | | 100 | mΩ |
| insulation resistance | for 1 minute at 100 Vdc | 100 | | | MΩ |
| operating force | | 210 | 260 | 310 | gf |
| return force | | 20 | | | gf |
| actuator travel | | 0.15 | 0.25 | 0.35 | mm |
| operating temperature | | -30 | | 80 | °C |
| storage temperature | | -40 | | 90 | °C |
| life | at 12 Vdc, 50 mA, 1~2 cycles/second, 1.5 times operating force | | 100,000 | | cycles |
| vibration | 10~55~10 Hz, 1.5 mm amplitude, 2 hours on each XYZ | | | | |
| flammability rating | see material table | | | | |
| RoHS | yes | | | | |

PART NUMBER KEY
TS26 - 68 - 25 - XX - 260 - SMT - TR

Base Number

 LED Color:
 WT = white
 BL = blue
 R = red
 G = green
 Y = yellow
 RB = red & blue
 RG = red and green

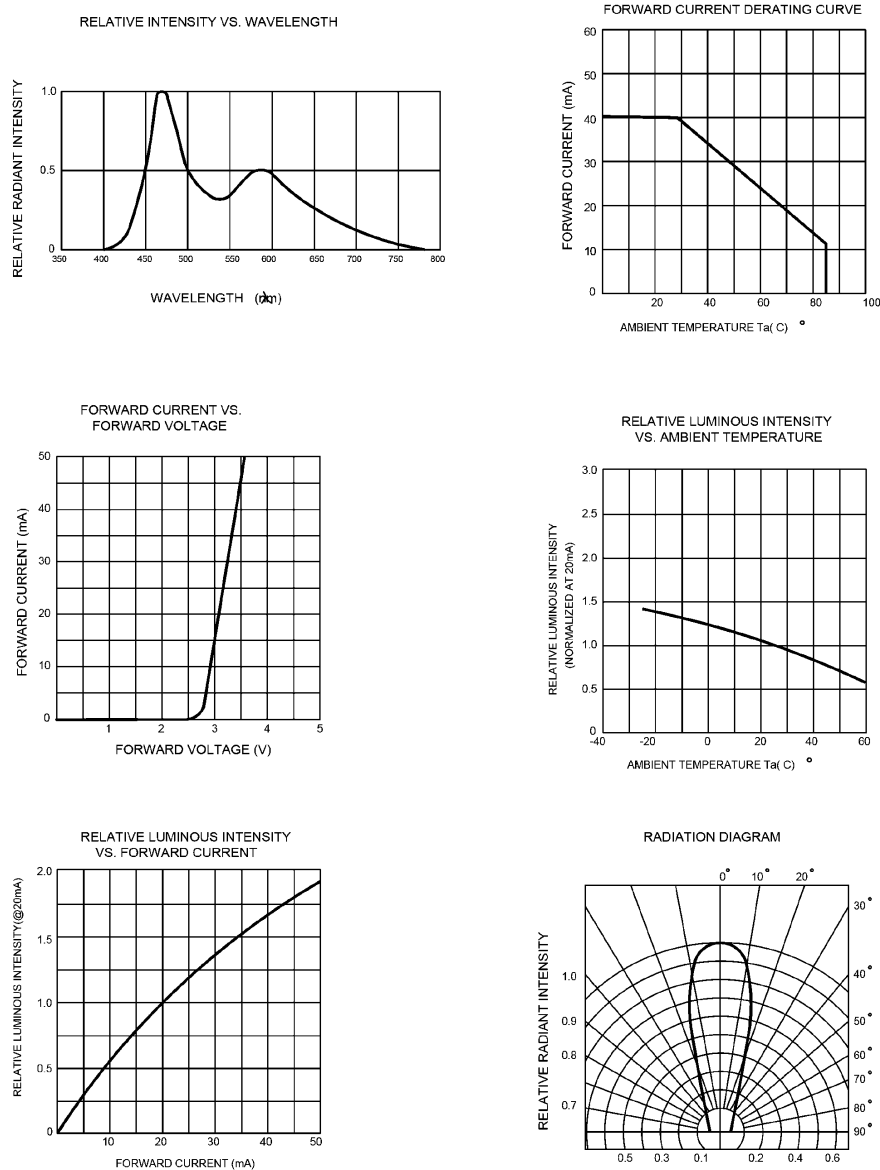
LED ABSOLUTE MAXIMUM RATINGS (WHITE) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|----------------------------|-------------------------------------|-----|-----|-----|-------|
| power dissipation [Pd] | | | | 18 | mW |
| DC forward current [If] | | | | 5 | mA |
| peak forward current [Ifp] | pulse of 1/10 duty and 0.1 ms width | | | 100 | mA |
| reverse voltage [Vr] | | | | 5 | V |

LED ELECTRO-OPTICAL CHARACTERISTICS (WHITE) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|-------------------------|------------------------|--------|--------------|----------------|-------|
| forward voltage [Vf] | at If=20 mA | | 3.2 | 3.6 | V |
| luminous intensity [Iv] | at If=20 mA | 200 | 600 | | mcd |
| chromacity coordinates | at If=20 mA white | X Y | 0.28 0.29 | 0.287 0.295 | |
| reverse current [Ir] | at Vr=5 V | | | 1 | µA |
| viewing angle [2θ1/2] | at If=20 mA | | 30 | | deg |

LED ELECTRO-OPTICAL CHARACTERISTIC CURVES (WHITE)



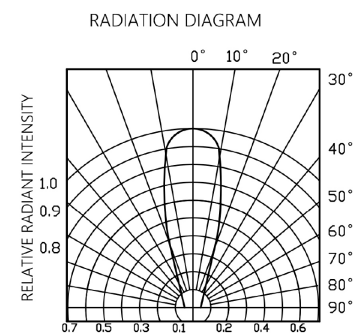
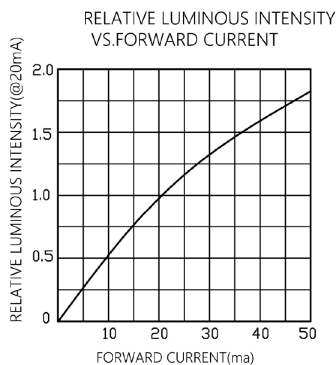
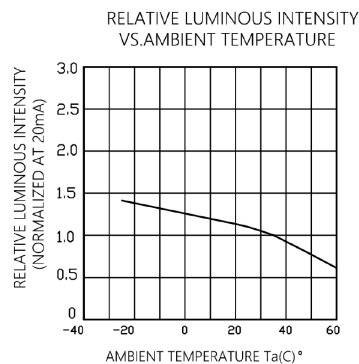
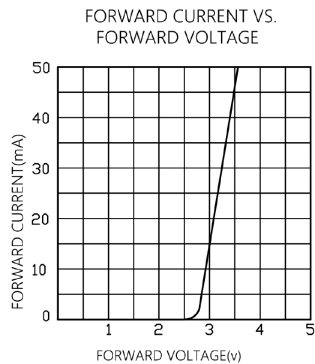
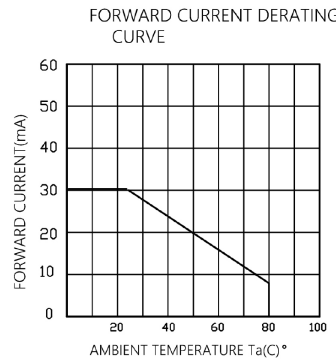
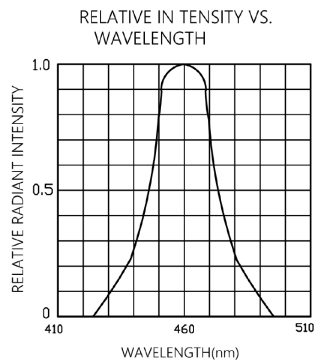
LED ABSOLUTE MAXIMUM RATINGS (BLUE) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|----------------------------|-------------------------------------|-----|-----|-----|-------|
| power dissipation [Pd] | | | | 120 | mW |
| DC forward current [IF] | | | | 30 | mA |
| peak forward current [IFP] | pulse of 1/10 duty and 0.1 ms width | | | 100 | mA |
| reverse voltage [VR] | | | | 5 | V |

LED ELECTRO-OPTICAL CHARACTERISTICS (BLUE) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|-------------------------------|------------------------|-------|-------|-----|-------|
| forward voltage [Vf] | at IF=20 mA | | 3.0 | 3.2 | V |
| luminous intensity [Iv] | at IF=20 mA | 1,000 | 1,400 | | mcd |
| peak wavelength [λp] | at IF=20 mA | | 460 | | nm |
| dominant wave length [λd] | at IF=20 mA | 465 | | 470 | nm |
| spectral line half-width [Δλ] | at IF=20 mA | | 30 | | nm |
| viewing angle [2θ1/2] | at IF=20 mA | | 30 | | deg |

LED ELECTRO-OPTICAL CHARACTERISTIC CURVES (BLUE)



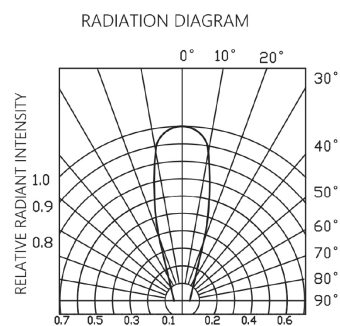
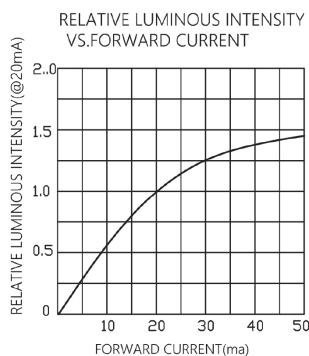
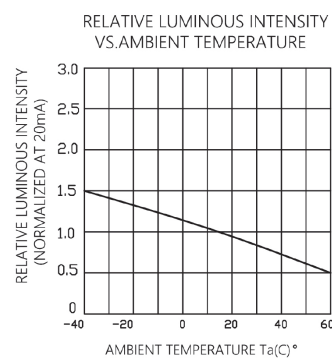
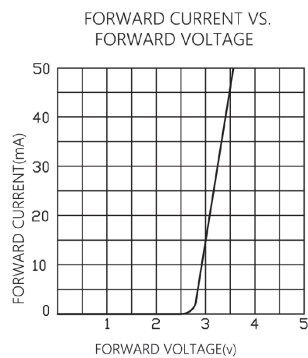
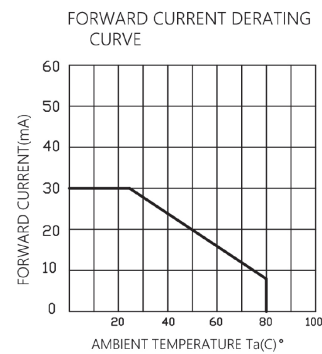
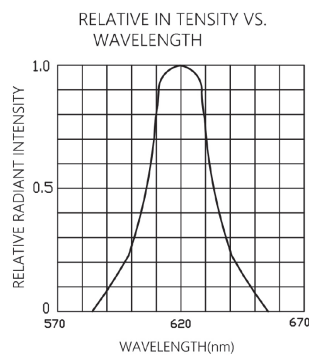
LED ABSOLUTE MAXIMUM RATINGS (RED) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|----------------------------|-------------------------------------|-----|-----|-----|-------|
| power dissipation [Pd] | | | | 52 | mW |
| DC forward current [IF] | | | | 20 | mA |
| peak forward current [IFP] | pulse of 1/10 duty and 0.1 ms width | | | 100 | mA |
| reverse voltage [VR] | | | | 5 | V |

LED ELECTRO-OPTICAL CHARACTERISTICS (RED) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|-------------------------------|------------------------|-------|-------|-----|-------|
| forward voltage [Vf] | at IF=20 mA | | 2.0 | 2.6 | V |
| luminous intensity [Iv] | at IF=20 mA | 2,600 | 3,000 | | mcd |
| reverse current [IR] | at VR=5 V | | | 100 | μA |
| peak wavelength [λp] | at IF=20 mA | | 622 | | nm |
| dominant wave length [λd] | at IF=20 mA | 620 | | 625 | nm |
| spectral line half-width [Δλ] | at IF=20 mA | | 20 | | nm |
| viewing angle [2θ1/2] | at IF=20 mA | | 30 | | deg |

LED ELECTRO-OPTICAL CHARACTERISTIC CURVES (RED)



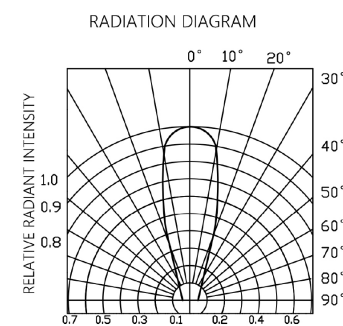
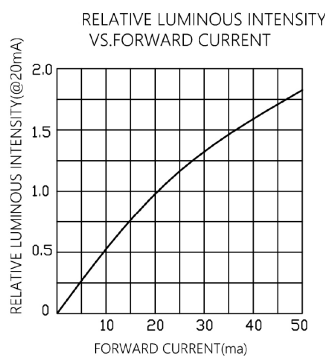
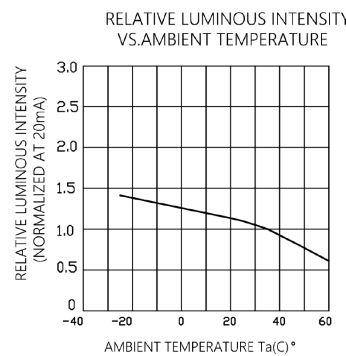
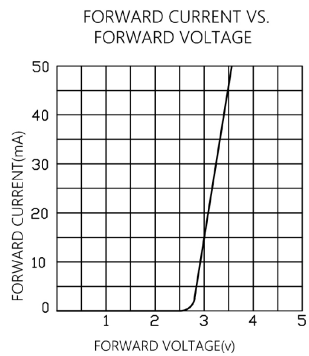
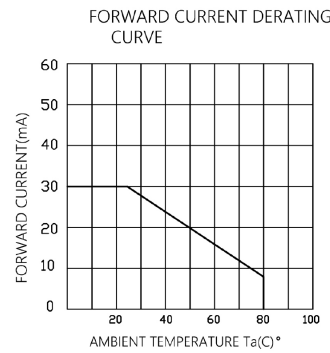
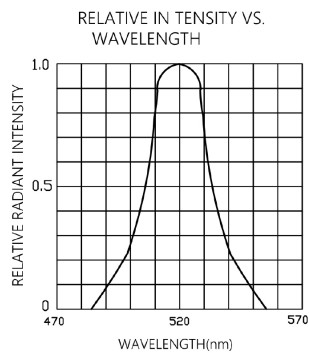
LED ABSOLUTE MAXIMUM RATINGS (GREEN) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|----------------------------|-------------------------------------|-----|-----|-----|-------|
| power dissipation [Pd] | | | | 72 | mW |
| DC forward current [IF] | | | | 20 | mA |
| peak forward current [IFP] | pulse of 1/10 duty and 0.1 ms width | | | 100 | mA |
| reverse voltage [VR] | | | | 5 | V |

LED ELECTRO-OPTICAL CHARACTERISTICS (GREEN) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|-------------------------------|------------------------|--------|--------|-----|-------|
| forward voltage [Vf] | at IF=20 mA | | 3.2 | 3.6 | V |
| luminous intensity [Iv] | at IF=20 mA | 14,500 | 15,000 | | mcd |
| reverse current [IR] | at VR=5 V | | | 1 | µA |
| peak wavelength [λp] | at IF=20 mA | | 515 | | nm |
| dominant wave length [λd] | at IF=20 mA | 510 | | 525 | nm |
| spectral line half-width [Δλ] | at IF=20 mA | | 30 | | nm |
| viewing angle [2θ1/2] | at IF=20 mA | | 30 | | deg |

LED ELECTRO-OPTICAL CHARACTERISTIC CURVES (GREEN)



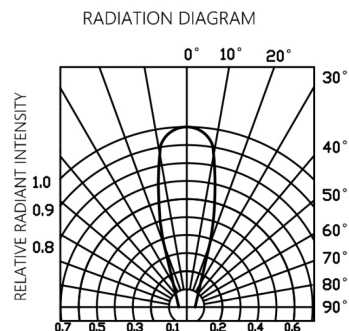
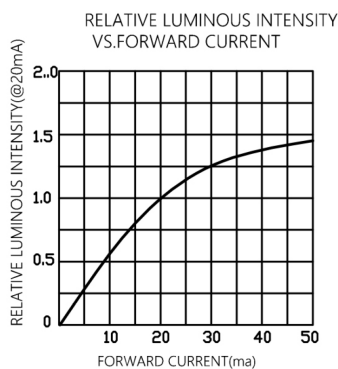
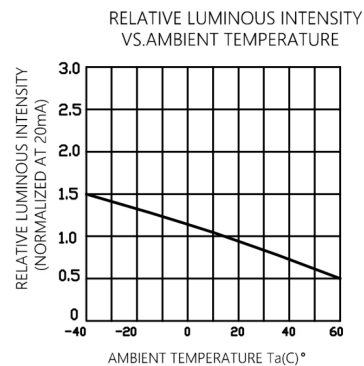
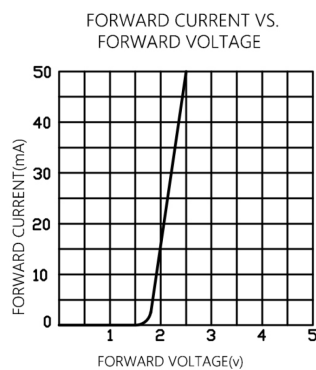
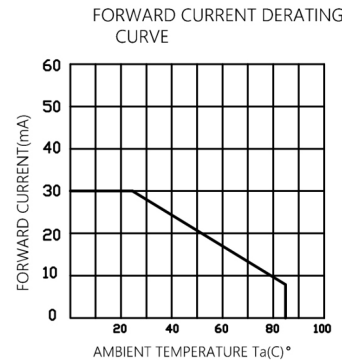
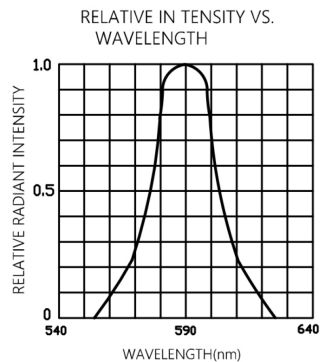
LED ABSOLUTE MAXIMUM RATINGS (YELLOW) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|----------------------------|-------------------------------------|-----|-----|-----|-------|
| power dissipation (Pd) | | | | 60 | mW |
| DC forward current (If) | | | | 20 | mA |
| peak forward current (Ifp) | pulse of 1/10 duty and 0.1 ms width | | | 100 | mA |
| reverse voltage (Vr) | | | | 5 | V |

LED ELECTRO-OPTICAL CHARACTERISTICS (YELLOW) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|-------------------------------|------------------------|-----|-----|-----|-------|
| forward voltage (Vf) | at If=20 mA | | 2.0 | 2.3 | V |
| luminous intensity (Iv) | at If=20 mA | 500 | 800 | | mcd |
| peak wavelength (λp) | at If=20 mA | | 589 | | nm |
| dominant wave length (λd) | at If=20 mA | 587 | 590 | 593 | nm |
| spectral line half-width (Δλ) | at If=20 mA | | 30 | | nm |
| viewing angle (2θ1/2) | at If=20 mA | | 30 | | deg |

LED ELECTRO-OPTICAL CHARACTERISTIC CURVES (YELLOW)

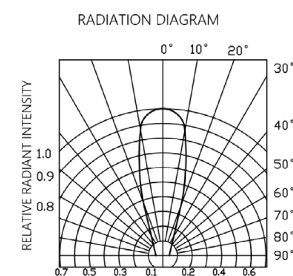
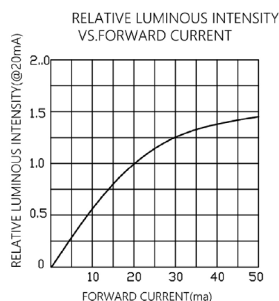
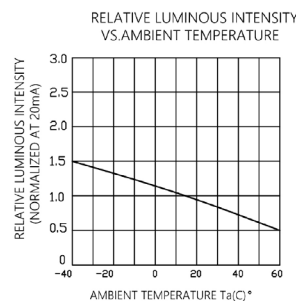
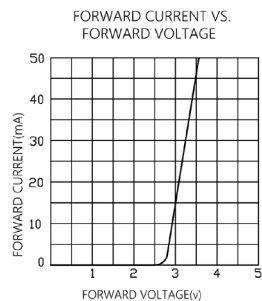
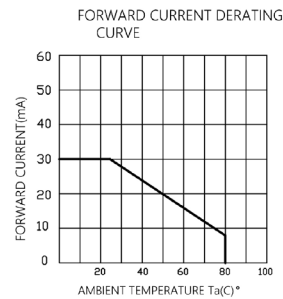
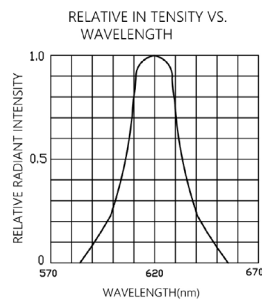


LED ABSOLUTE MAXIMUM RATINGS (RED & BLUE) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|----------------------------|-------------------------------------|-----|-----|----------|----------|
| power dissipation (Pd) | red blue | | | 52 72 | mW mW |
| DC forward current (If) | | | | 20 | mA |
| peak forward current (Ifp) | pulse of 1/10 duty and 0.1 ms width | | | 100 | mA |
| reverse voltage (VR) | | | | 5 | V |

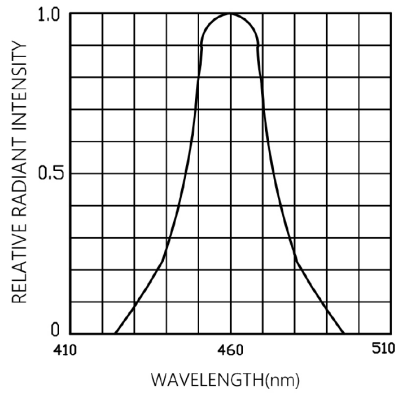
LED ELECTRO-OPTICAL CHARACTERISTICS (RED & BLUE) (TA=25°C)

| parameter | conditions/description | min | typ | max | units |
|-------------------------------|------------------------|----------------|----------------|------------|------------|
| forward voltage (Vf) | at If=20 mA | | 2.0 3.2 | 2.6 3.6 | V V |
| luminous intensity (Iv) | at If=20 mA | 2,600 1,000 | 3,000 1,400 | | mcd mcd |
| reverse current (Ir) | at VR=5 V | | | 10 10 | μA μA |
| peak wave length (λp) | at If=20 mA | | 622 460 | | nm nm |
| dominant wave length (λd) | at If=20 mA | 620 455 | | 630 465 | nm nm |
| spectral line half-width (Δλ) | at If=20 mA | | 15 30 | | nm nm |
| viewing angle (2θ1/2) | at If=20 mA | | 30 | | deg |

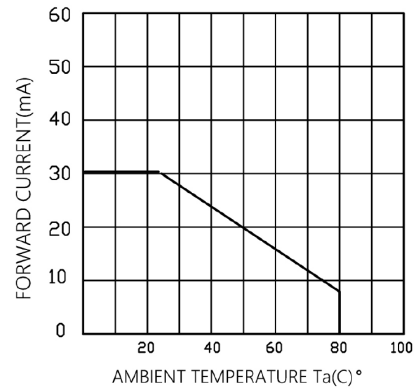
LED ELECTRO-OPTICAL CHARACTERISTIC CURVES (RED)

LED ELECTRO-OPTICAL CHARACTERISTIC (BLUE) (CONTINUED)

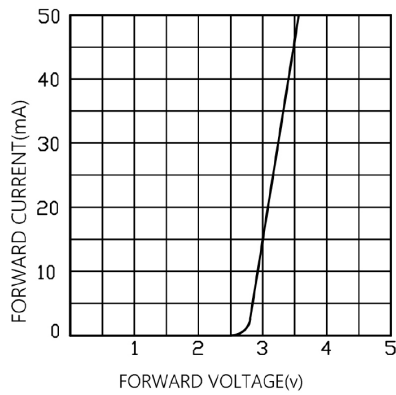
RELATIVE INTENSITY VS. WAVELENGTH



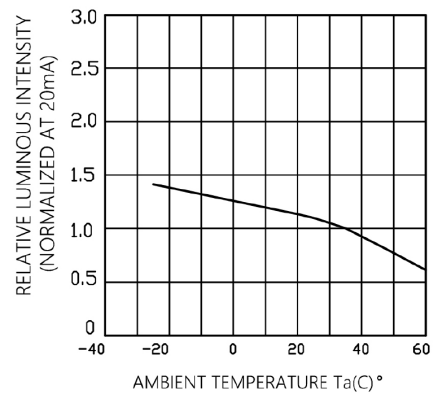
FORWARD CURRENT DERATING CURVE



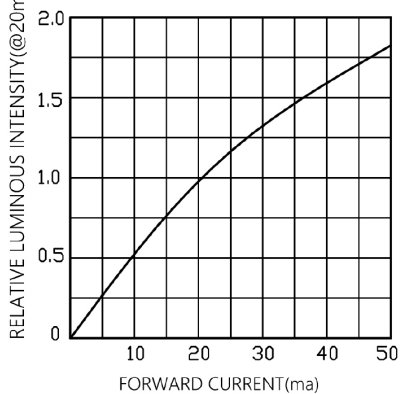
FORWARD CURRENT VS. FORWARD VOLTAGE



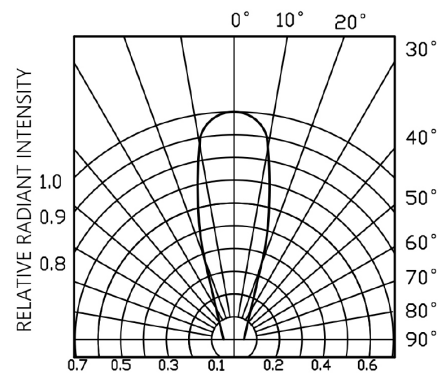
RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



RADIATION DIAGRAM



LED ABSOLUTE MAXIMUM RATINGS (RED & GREEN) (TA=25°C)

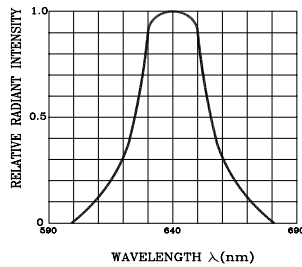
| parameter | conditions/description | min | typ | max | units |
|----------------------------|-------------------------------------|-----|-----|-----|-------|
| power dissipation (Pd) | red | | | 52 | mW |
| | green | | | 72 | mW |
| DC forward current (If) | | | | 20 | mA |
| peak forward current (Ifp) | pulse of 1/10 duty and 0.1 ms width | | | 100 | mA |
| reverse voltage (VR) | | | | 1 | V |

LED ELECTRO-OPTICAL CHARACTERISTICS (RED & GREEN) (TA=25°C)

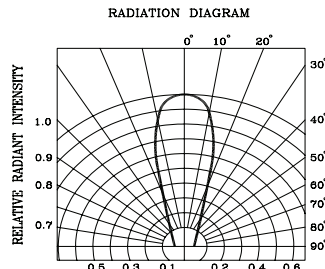
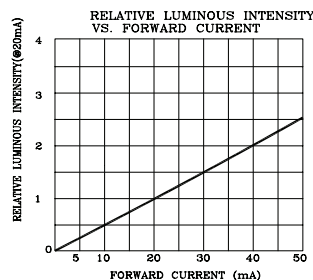
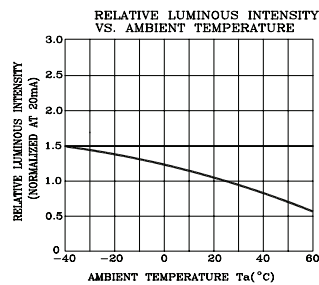
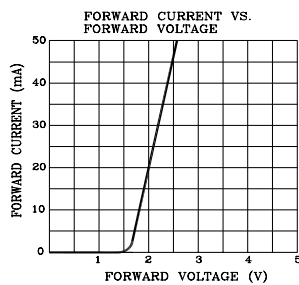
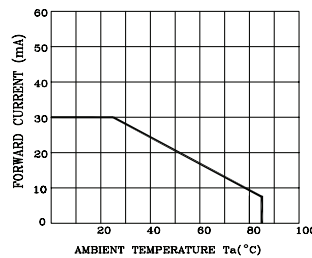
| parameter | conditions/description | min | typ | max | units |
|-------------------------------|------------------------|-------|-------|-----|-------|
| forward voltage (Vf) | at If=20 mA | | 2.0 | 2.6 | V |
| | red | | 3.2 | 3.6 | V |
| luminous intensity (Iv) | at If=20 mA | 800 | 1,200 | | mcd |
| | red | 1,000 | 3,000 | | mcd |
| reverse current (Ir) | at VR=5 V | | | 10 | µA |
| | green | | | 10 | µA |
| peak wave length (λp) | at If=20 mA | | 622 | | nm |
| | red | | 521 | | nm |
| dominant wave length (λd) | at If=20 mA | 620 | | 630 | nm |
| | red | 517 | | 525 | nm |
| spectral line half-width (Δλ) | at If=20 mA | | 15 | | nm |
| | red | | 30 | | nm |
| viewing angle (2θ1/2) | at If=20 mA | | 30 | | deg |

LED ELECTRO-OPTICAL CHARACTERISTIC CURVES (RED)

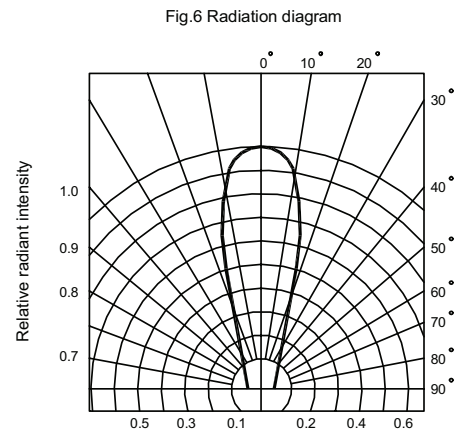
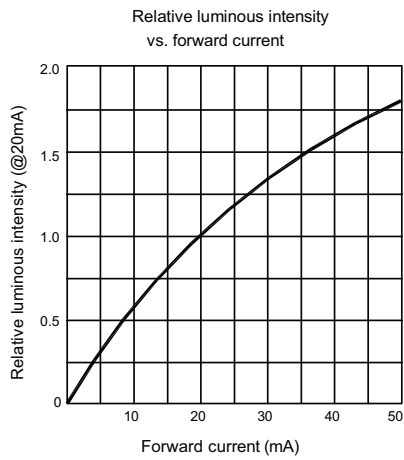
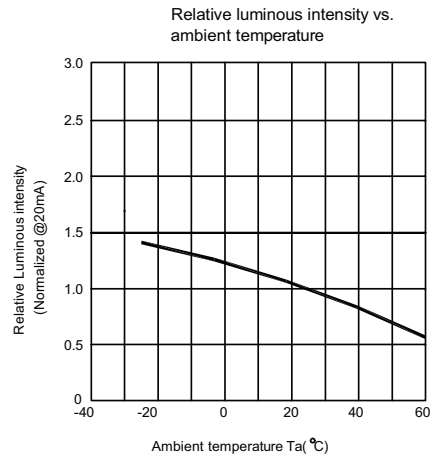
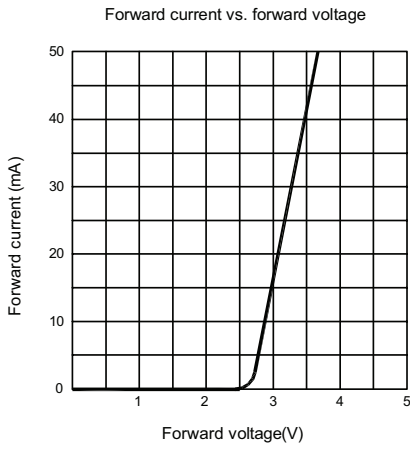
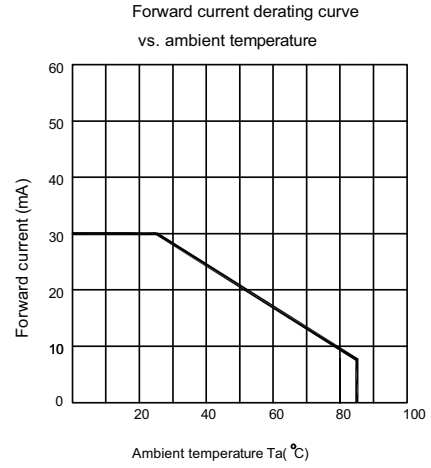
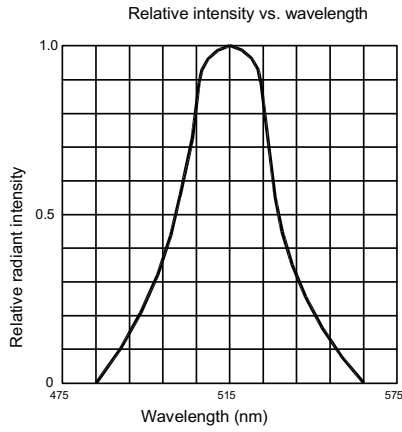
RELATIVE INTENSITY VS. WAVELENGTH



FORWARD CURRENT DERATING CURVE



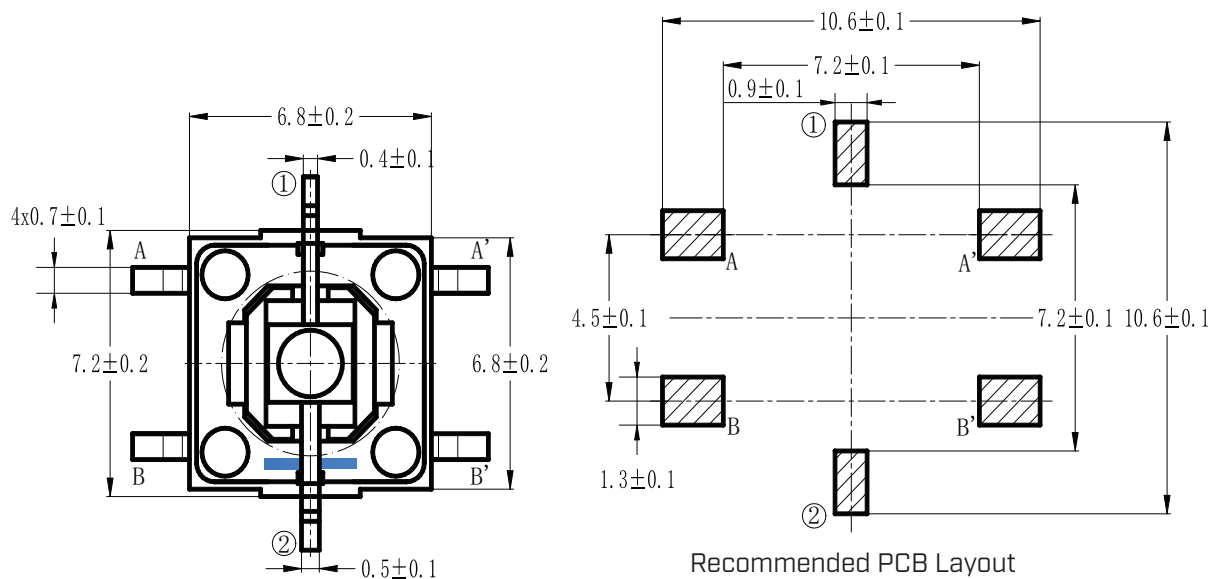
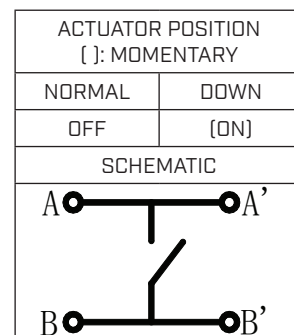
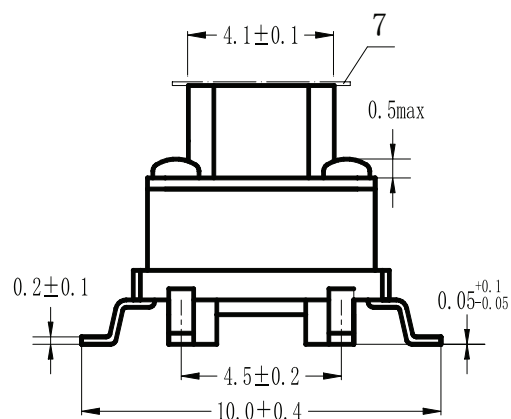
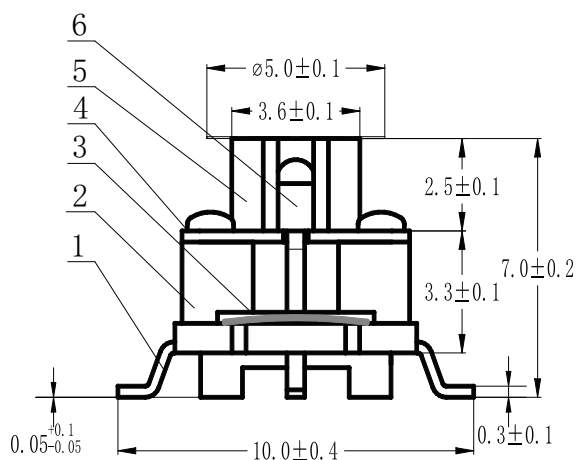
LED ELECTRO-OPTICAL CHARACTERISTIC CURVES (GREEN) (CONTINUED)



MECHANICAL DRAWING

units: mm
tolerance: ± 0.4 mm
unless otherwise noted

| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|----------------|----------------|---------------------|
| 1 | terminals | brass | silver |
| 2 | base | FR52 [UL94V-0] | black |
| 3 | contacts | SUS | silver |
| 4 | cover | PET | white |
| 5 | stem | PPA | black |
| 6 | LED | | see part number key |
| 7 | absorbent film | PI | yellow |

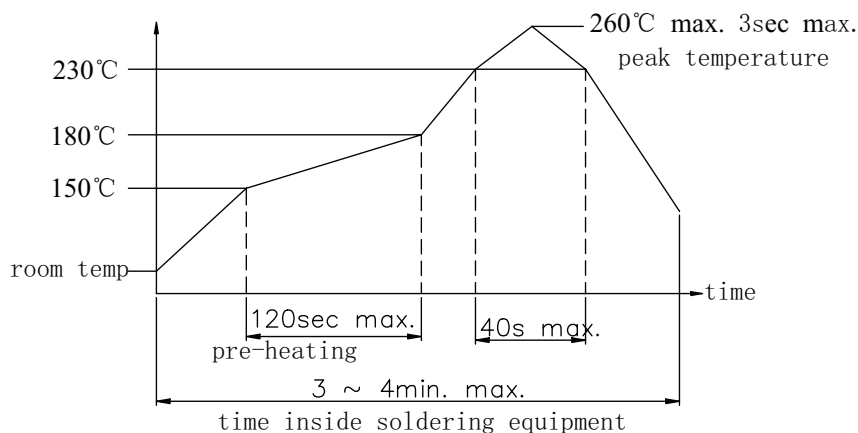


| LED Polarity Table | | | |
|--------------------|--|----------------|-----------------|
| Model | White, Blue, Red, Green, & Yellow Models | Red-Blue Model | Red-Green Model |
| Polarity | | | |

SOLDERABILITY

| parameter | conditions/description | min | typ | max | units |
|------------------|---|-----|-----|-----|-------|
| hand soldering | for maximum 3 seconds | | | 350 | °C |
| reel storage | -5~35°C, 25~80% humidity reel opened: use within 1 month reel unopened: use within 6 months | | | | |
| reflow soldering | see reflow profile | | | 260 | °C |

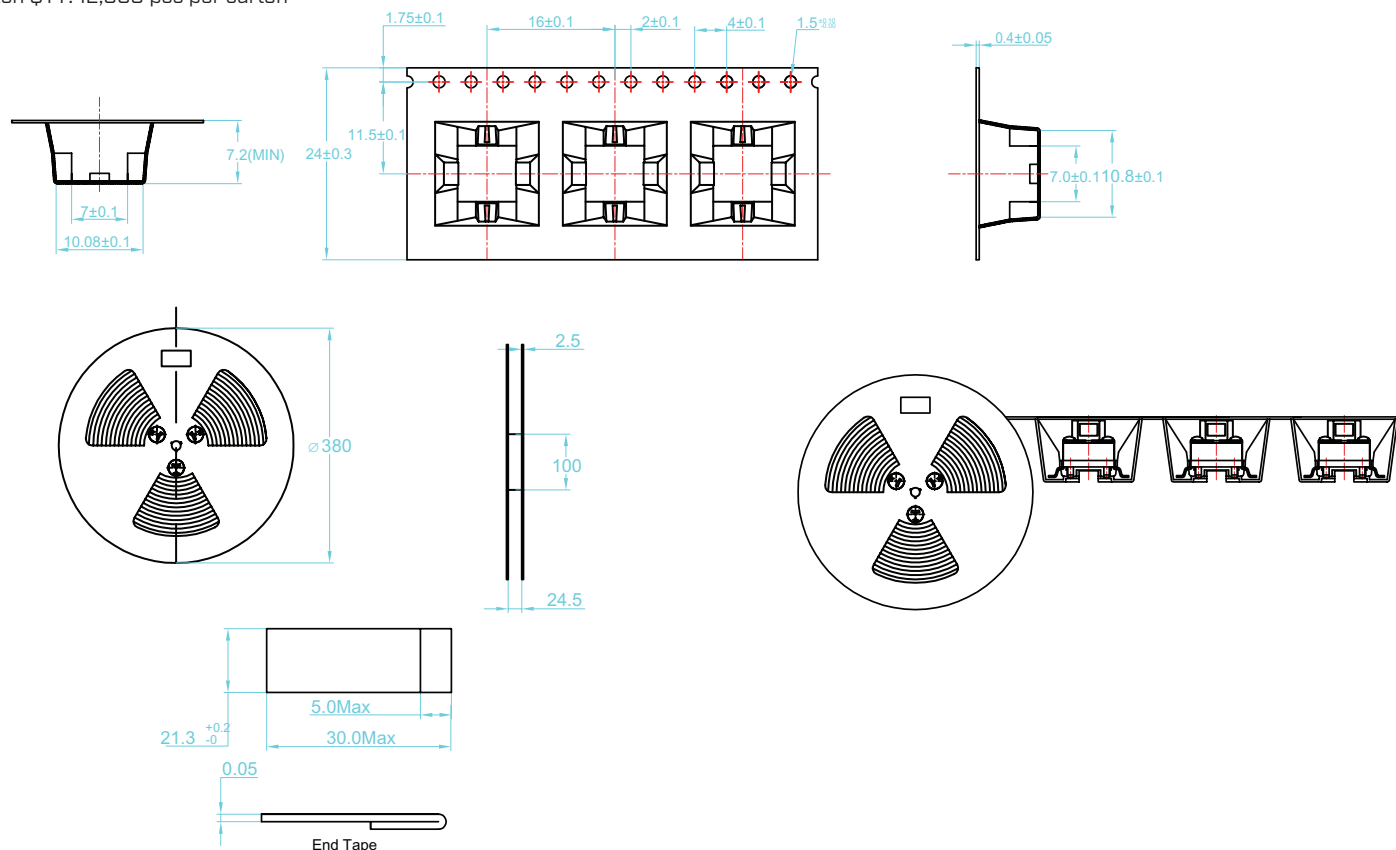
Note: 1. CUI Devices recommends usage of the product within 2 hours after T&R is opened. After 6 hours, CUI Devices recommends drying the parts prior to use.



PACKAGING

units: mm

Reel Size: $\varnothing 380$ mm
 Reel QTY: 800 pcs per reel
 Carton Size: 390 x 500 x 420 mm
 Carton QTY: 12,000 pcs per carton



REVISION HISTORY

| rev. | description | date |
|------|-----------------|------------|
| 1.0 | initial release | 06/14/2023 |

The revision history provided is for informational purposes only and is believed to be accurate.



CUI Devices offers a one (1) year limited warranty. Complete warranty information is listed on our website.

CUI Devices reserves the right to make changes to the product at any time without notice. Information provided by CUI Devices is believed to be accurate and reliable. However, no responsibility is assumed by CUI Devices for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI Devices products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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