

SERIES: TS29 | DESCRIPTION: TACTILE SWITCH

FEATURES

- illuminated
- 5 color options
- through hole



SPECIFICATIONS

| parameter | conditions/description | min | typ | max | units |
|-----------------------|---|------|---------|------|--------|
| rated voltage | | | | 12 | Vdc |
| rated current | | | | 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 | | 200 | 300 | 400 | gf |
| return force | | 20 | | | gf |
| actuator travel | | 0.25 | 0.35 | 0.45 | mm |
| operating temperature | | -30 | | 80 | °C |
| storage temperature | | -40 | | 90 | °C |
| life | at 5 Vdc, 5 mA, 20 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 | | | | |

SOLDERABILITY

| parameter | conditions/description | min | typ | max | units |
|----------------|------------------------|-----|-----|-----|-------|
| hand soldering | for maximum 3 seconds | | | 350 | °C |
| wave soldering | for maximum 5 seconds | | | 260 | °C |

PART NUMBER KEY

TS29 - 1212 - 1 - XX - 300 - D

Base Number

LED Color:
 WT = white
 BL = blue
 R = red
 G = green
 Y = yellow

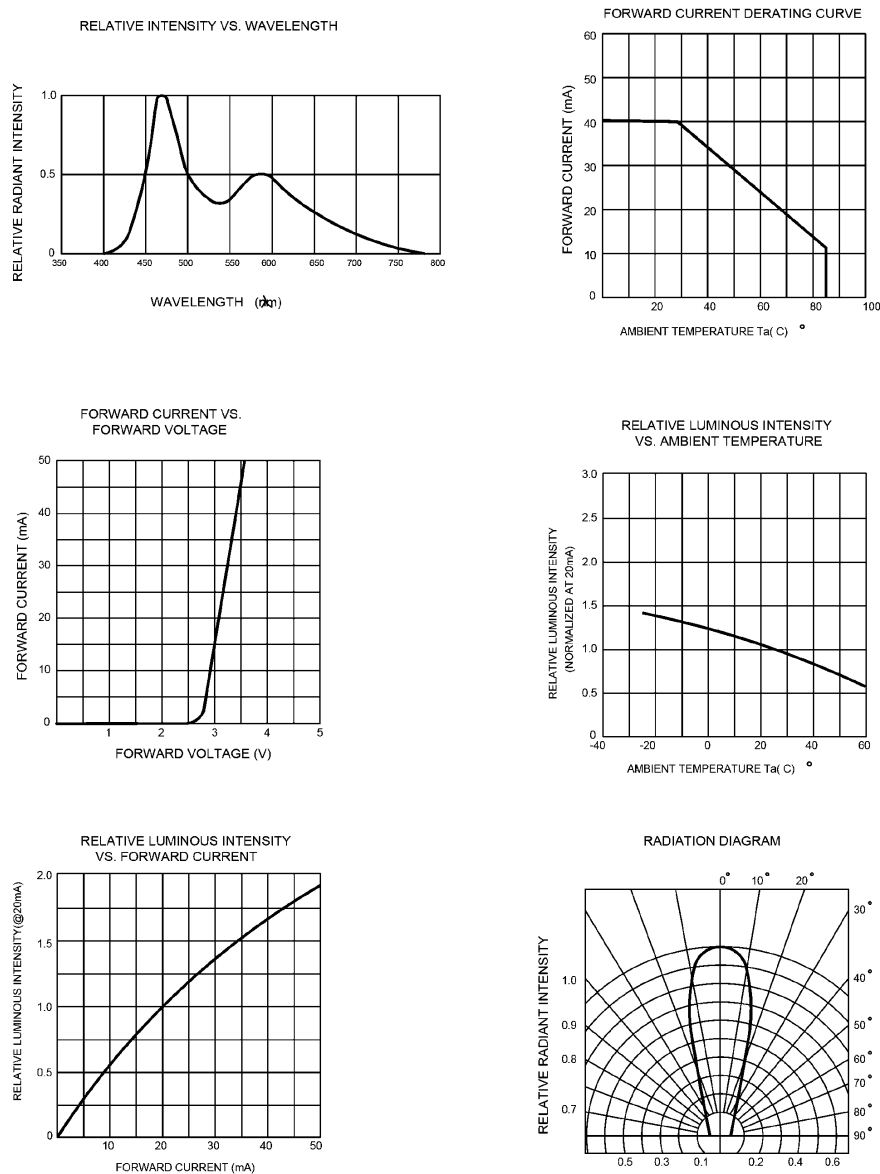
LED ABSOLUTE MAXIMUM RATINGS (WHITE) (TA=25°C)

| 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 0.285 Y 0.287 | 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)



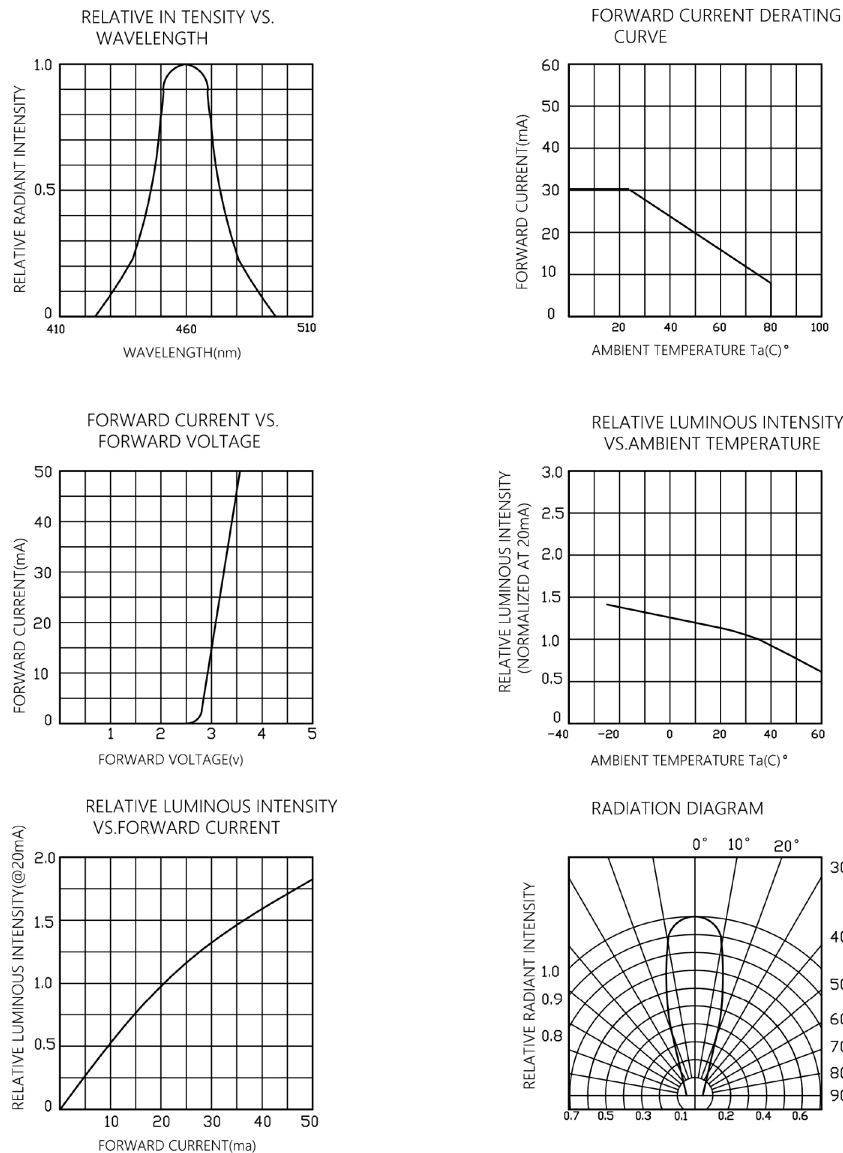
LED ABSOLUTE MAXIMUM RATINGS (BLUE) (TA=25°C)

| 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)



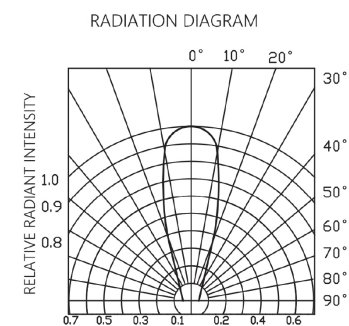
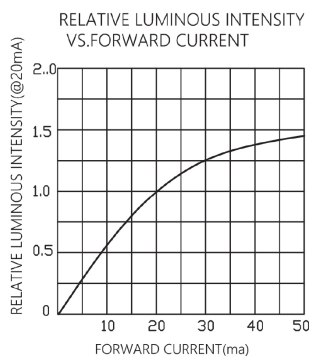
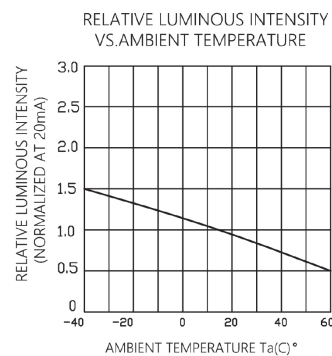
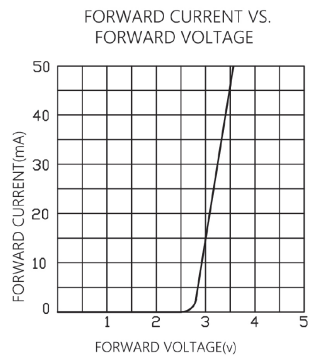
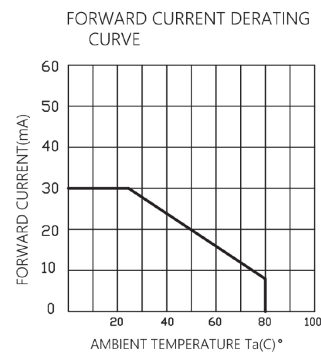
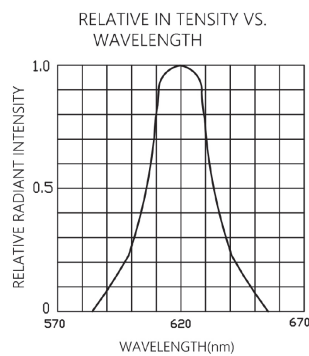
LED ABSOLUTE MAXIMUM RATINGS (RED) (TA=25°C)

| 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)



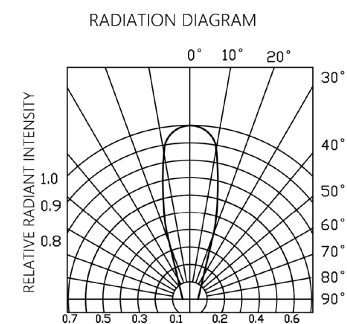
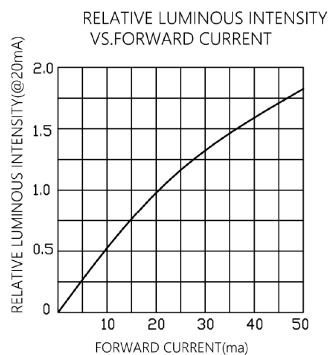
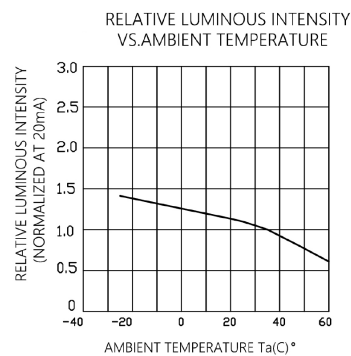
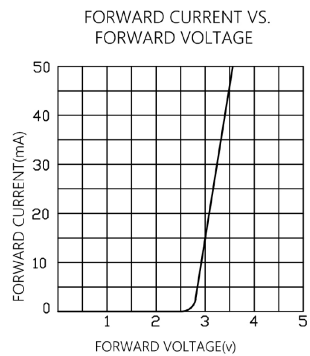
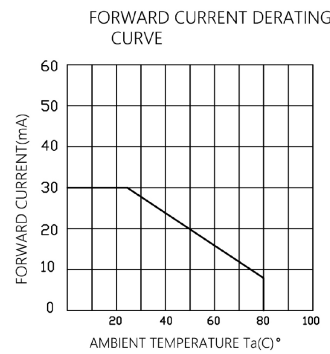
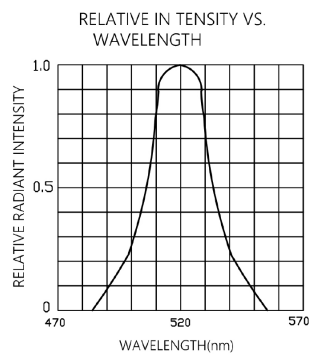
LED ABSOLUTE MAXIMUM RATINGS (GREEN) (TA=25°C)

| 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)



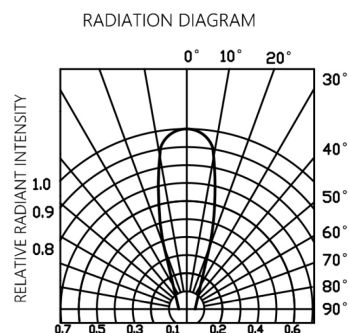
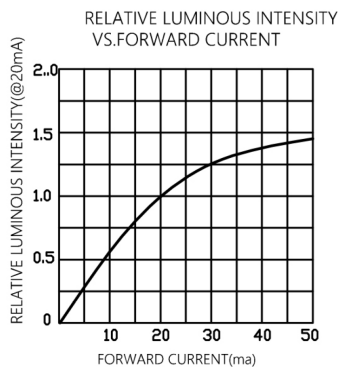
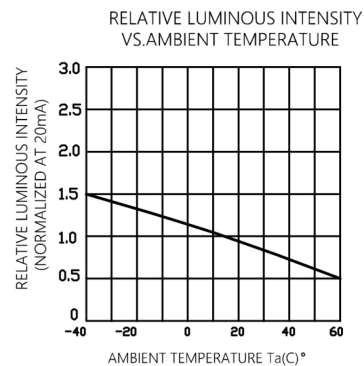
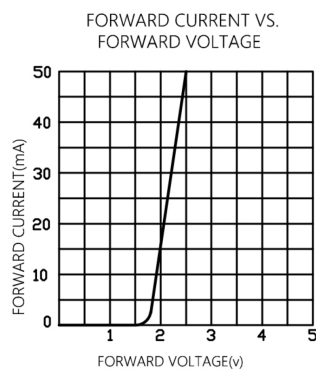
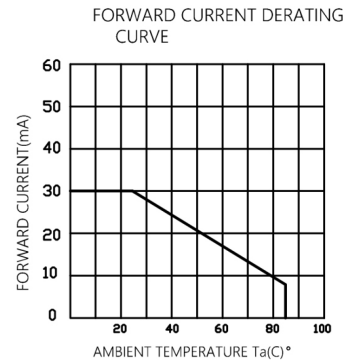
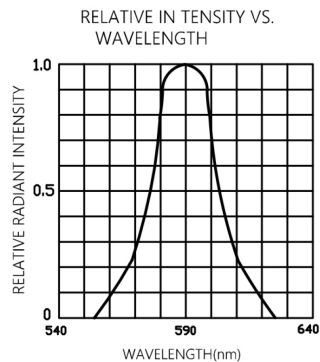
LED ABSOLUTE MAXIMUM RATINGS (YELLOW) (TA=25°C)

| 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 |

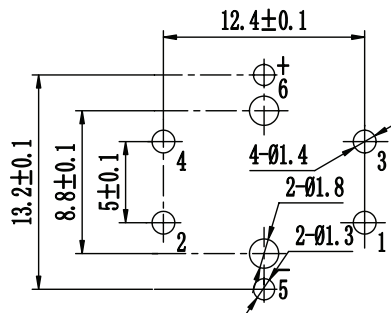
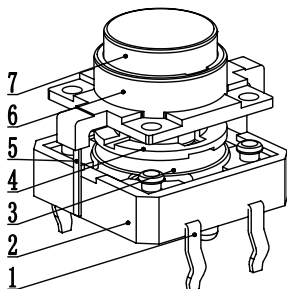
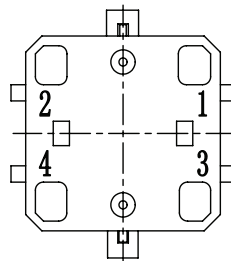
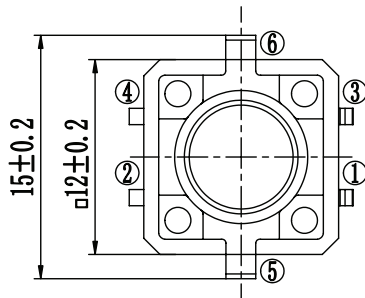
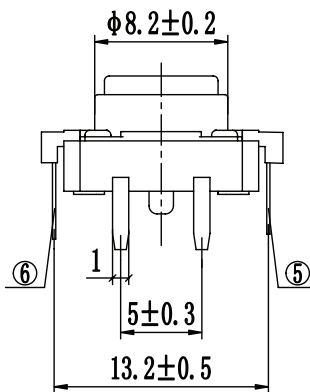
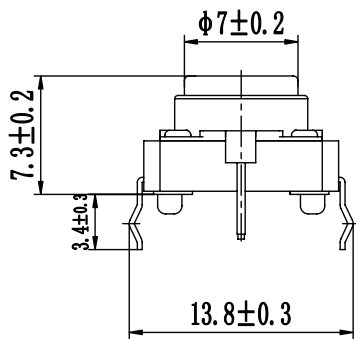
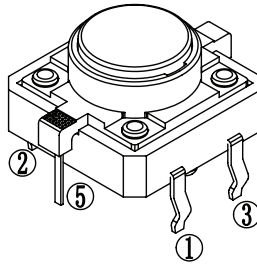
LED ELECTRO-OPTICAL CHARACTERISTIC CURVES (YELLOW)



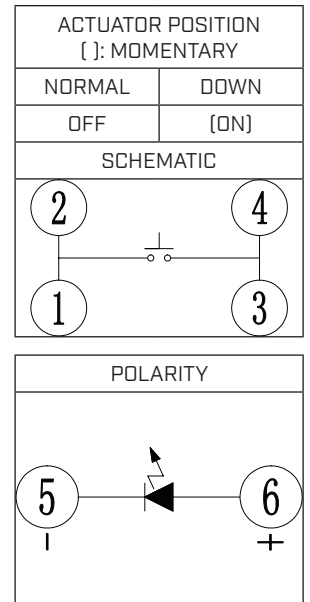
MECHANICAL DRAWING

units: mm
 tolerance: ± 0.4 mm
 unless otherwise noted

| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|-------------|---------------|---------------------|
| 1 | terminals | H62 | silver |
| 2 | base | PA66 (UL94HB) | black |
| 3 | contacts | SUS | silver |
| 4 | burrn pad | PA66 (UL94HB) | black |
| 5 | LED | | see part number key |
| 6 | cover | PA66 (UL94HB) | white |
| 7 | stem | PC (UL94HB) | red |



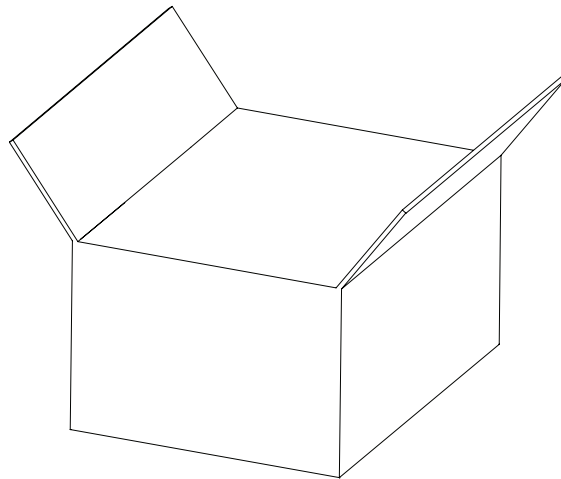
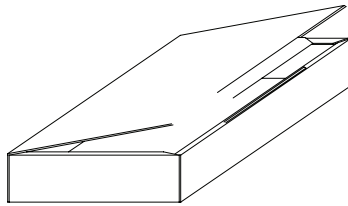
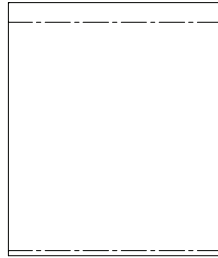
Recommended PCB Layout
 Top View



PACKAGING

units: mm

Inner Bag Size: 190 x 195 mm
Inner Bag QTY: 100 pcs per box
Carton Size: 430 x 340 x 350 mm
Carton QTY: 7,500 pcs per carton



REVISION HISTORY

| rev. | description | date |
|------|-----------------------------------|------------|
| 1.0 | initial release | 06/14/2023 |
| 1.01 | CUI Devices rebranded to Same Sky | 09/12/2024 |

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



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

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

Same Sky 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.

[sameskydevices.com](https://www.sameskydevices.com)