

# APPROVAL SHEET

**DESCRIPTION:** PUSH BUTTON SWITCH LED

**PART NO:** PS004-L22NPR2KTUWXX

|                                |                                  |
|--------------------------------|----------------------------------|
| <b>CUSTOMER:</b> <u>Martsu</u> | <b>CUSTOMER'S PART NO:</b> _____ |
| <b>CUSTOMER SIGNATURE</b>      | <b>COMMENTS</b>                  |

|                 |                 |                |
|-----------------|-----------------|----------------|
| <b>APPROVAL</b> | <b>REVIEW</b>   | <b>PREPARE</b> |
| <i>Kaven</i>    | <i>Tereance</i> | <i>Gina</i>    |



## SPECIFICATIONS OF PS004 SERIES

### PUSH BUTTON SWITCH

1. POLE - POSITION : DPDT
2. OPERATING TEMPERATURE RANGE : -20°C ~ 70°C
3. RATING : 0.1A 30 VDC Max / 0.1mA 5 VDC Min .
4. ELECTRICAL PERFORMANCE

|     | ITEM                  | TEST CONDITIONS                             | CRITERIA                   |
|-----|-----------------------|---|----------------------------|
| 4-1 | CONTACT RESISTANCE    | DC 1.5V 100 mA , BY METHOD OF VOLTAGE DROP. | 50 mΩ MAX.                 |
| 4-2 | INSULATION RESISTANCE | DC 500V                                     | 100 MΩ MIN.                |
| 4-3 | DIELECTRIC STRENGTH   | AC 500V FOR 1 MINUTE                        | BREAKDOWN IS NOT ALLOWABLE |

#### 5. MECHANICAL PERFORMANCE

|     | ITEM            | TEST CONDITIONS  | CRITERIA                           |
|-----|-----------------|--|------------------------------------|
| 5-1 | OPERATING FORCE | ALONG THE DIRECTION TO APPLY A STATIC LOAD AT END OF ACTUATOR. | 250±100 gf                         |
| 5.2 | TRAVEL          | 1. FULL TRAVEL<br>2. CONTACT TRAVEL                            | 1. 1.5 ± 0.3 mm<br>2. 0.7 ± 0.3 mm |
| 5-3 | SOLDERABILITY   | 260±5°C IN 3 SECONDS   | SOLDER COVERAGE 75% MIN.           |

#### 6. SOLDERING HEAT RESISTANCE

- 6.1 MANUAL: 300±5°C IN 3 SECONDS.
- 6.2 WAVE SOLDERING: 260±5°C IN 3 SECONDS.

## 7. DURABILITY:

OPERATING LIFE WITH LOAD AFTER 50,000 CYCLES AT SPEED 15 ~ 20 CYCLES / MINUTE, 1.5 VDC 100 mA RESISTANCE LOAD , AFTER THAT THE SWITCH SHOULD MEET FOLLOWING SPECIFICATIONS.

7.1 CONTACT RESISTANCE : 100 mΩ MAX.

7.2 OPERATING FORCE : WITHIN THE RANGE ±30% OF SPECIFICATION.

7.3 INSULATION RESISTANCE : 500V DC 100 MΩ MIN.

7.4 DIELECTRIC STRENGTH : 500V AC FOR 1 MINUTE, BREAKDOWN IS NOT ALLOWABLE.

## 8. ENVIRONMENTAL PERFORMANCE

|     | ITEM      | TEST CONDITIONS                   | CRITERIA  |
|-----|-----------|-----------------------------------|---|
| 8-1 | COLD      | -20±2°C FOR 96 HOURS              | 1. SWITCH SHOULD MEET REQUIREMENTS OF ITEM 4.<br>2. MECHANICAL PERFORMANCE SHOULD REMAIN TO NORMAL. |
| 8-2 | DRY HEAT  | 70°C±2°C FOR 96 HOURS             | 1. SWITCH SHOULD MEET REQUIREMENTS OF ITEM 4.<br>2. MECHANICAL PERFORMANCE SHOULD REMAIN TO NORMAL. |
| 8-3 | DAMP HEAT | 40°C±2°C 90% ~ 95%RH FOR 96 HOURS | 1. SWITCH SHOULD MEET REQUIREMENTS OF ITEM 4.<br>2. MECHANICAL PERFORMANCE SHOULD REMAIN TO NORMAL. |

## 9. LED SPECIFICATIONS

LED SPECIFICATIONS WILL BE FURNISHED DEPENDING ON DIFFERENT LED COLOR DEMAND.

# SUBMINIATURE SOLID STATE LAMP

## PRELIMINARY SPEC

Part Number: KM-26APWF-A-01-WBY-DOTB White



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

### Features

- Subminiature package.
- Wide viewing angle.
- Long life-solid state reliability.
- Low package profile.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

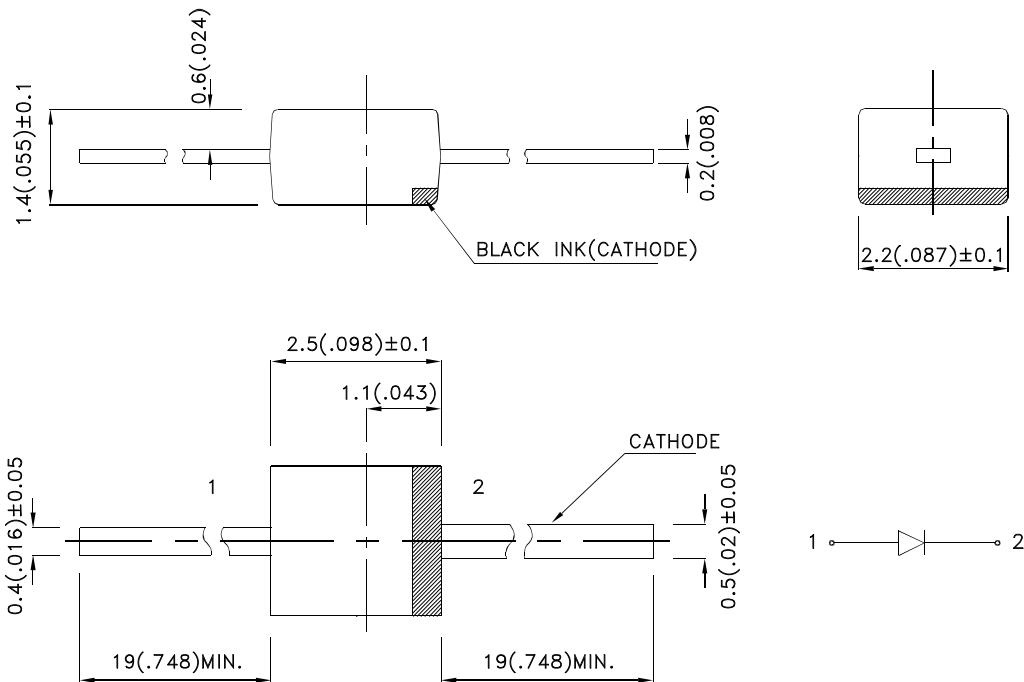
The source color devices are made with InGaN on SiC Light Emitting Diode.

Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$ " unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.



## Selection Guide

| Part No. | Dice          | Lens Type          | Iv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|----------|---------------|--------------------|------------------------|------|----------------------|
|          |               |                    | Min.                   | Typ. | 2 $\theta$ 1/2       |
|          | White (InGaN) | YELLOW FLUORESCENT | 110                    | 250  | 140°                 |

Notes:

1.  $\theta$ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity/ luminous Flux: +/-15%.

## Electrical / Optical Characteristics at TA=25°C

| Symbol             | Parameter                | Device | Typ. | Max. | Units | Test Conditions           |
|--------------------|--------------------------|--------|------|------|-------|---------------------------|
| V <sub>F</sub> [1] | Forward Voltage          | White  | 3.2  | 4.0  | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>     | Reverse Current          | White  |      | 10   | uA    | V <sub>R</sub> = 5V       |
| x [2]              | Chromaticity Coordinates | White  | 0.31 |      |       |                           |
| y [2]              |                          |        | 0.31 |      |       |                           |
| C                  | Capacitance              | White  | 100  |      | pF    | V <sub>F</sub> =0V;f=1MHz |

Notes:

1. Forward Voltage: +/-0.1V.
2. Measurement tolerance of the chromaticity coordinates is  $\pm$ 0.01.

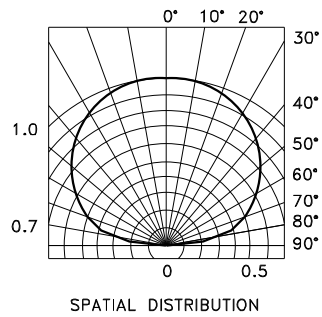
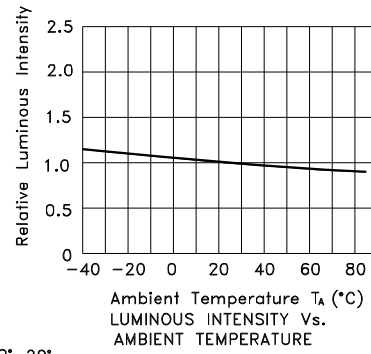
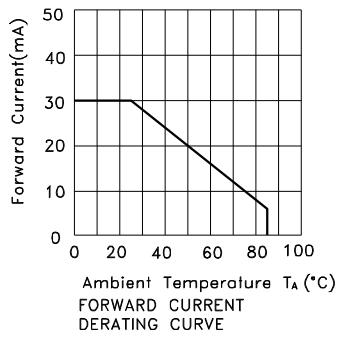
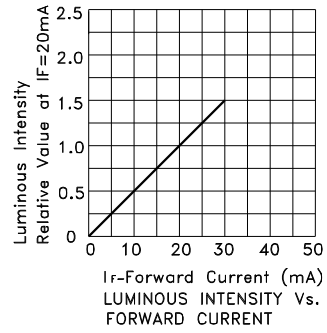
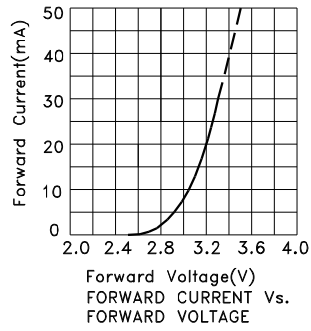
## Absolute Maximum Ratings at TA=25°C

| Parameter                     | White               | Units |
|-------------------------------|---------------------|-------|
| Power dissipation             | 120                 | mW    |
| DC Forward Current            | 30                  | mA    |
| Peak Forward Current [1]      | 100                 | mA    |
| Reverse Voltage               | 5                   | V     |
| Operating/Storage Temperature | -40°C To +85°C      |       |
| Lead Solder Temperature [2]   | 260°C For 3 Seconds |       |
| Lead Solder Temperature [3]   | 260°C For 5 Seconds |       |

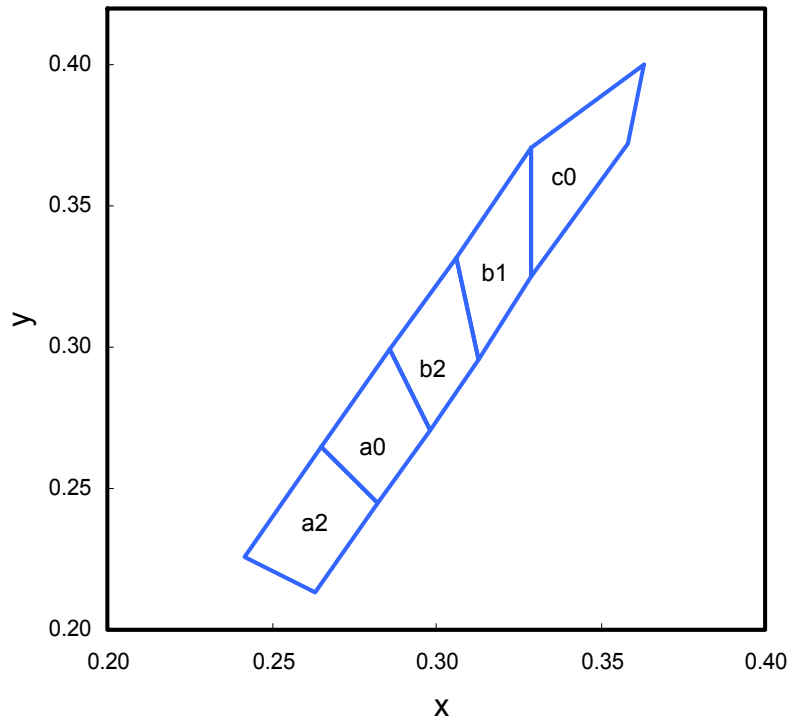
Notes:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
3. 5mm below package base.

**White**



### White CIE



| Rank a2 |       |       |       |       |
|---------|-------|-------|-------|-------|
| x       | 0.263 | 0.282 | 0.265 | 0.242 |
| y       | 0.213 | 0.245 | 0.265 | 0.226 |

| Rank a0 |       |       |       |       |
|---------|-------|-------|-------|-------|
| x       | 0.282 | 0.298 | 0.286 | 0.265 |
| y       | 0.245 | 0.271 | 0.299 | 0.265 |

| Rank b2 |       |       |       |       |
|---------|-------|-------|-------|-------|
| x       | 0.298 | 0.313 | 0.306 | 0.286 |
| y       | 0.271 | 0.296 | 0.332 | 0.299 |

| Rank b1 |       |       |       |       |
|---------|-------|-------|-------|-------|
| x       | 0.313 | 0.329 | 0.329 | 0.306 |
| y       | 0.296 | 0.325 | 0.371 | 0.332 |

| Rank c0 |       |       |       |       |
|---------|-------|-------|-------|-------|
| x       | 0.329 | 0.358 | 0.363 | 0.329 |
| y       | 0.325 | 0.372 | 0.400 | 0.371 |



