

Product Change Notification

PCN26-11-Rev A_AP & APB series – White LED change

C&K

2 rue Berthollet - B.P. 359 F-39105 Dole Cedex - France
Tel : +33 (0)3 84 72 81 12 www.ckswitches.com

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PCN26-13-Rev A_AP & APB series – White LED change

Document revision

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|----------|------------------|-------------|-----------|
| A | March 25th, 2026 | Creation | Lina Guan |

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1. Purpose

C&K has been notified by its supplier, the end of production of several LEDs. This discontinuation from KINGBRIGHT (supplier A), without direct replacement proposal, is leading C&K to modify its AP & APB lighted series by using the closest replacement from the market. C&K switches selected ORMSEN (supplier B) to replace the White LED in its products. The impact for our customers will be some differences in the lighting characteristics.

2. Overview

2.1 Change definition

Supplier A: KINGBRIGHT manufacturer of the White LED, reference **WP964-CKC18**.

Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) [2] @ 20mA | | Viewing Angle [1] |
|-------------|---------------|-------------|------------------------|------|-------------------|
| | | | Min. | Typ. | 2θ1/2 |
| WP964-CKC18 | White (InGaN) | Water Clear | 1900 | 3000 | 50° |

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous Flux: +/-15%.
3. Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|--------------------|--------------------------|--------|------|------|-------|---------------------------|
| V _F [1] | Forward Voltage | White | 3.3 | 4.0 | V | I _F =20mA |
| I _R | Reverse Current | White | | 50 | uA | V _R = 5V |
| X [2] | Chromaticity Coordinates | White | 0.31 | | | |
| Y [2] | | | 0.31 | | | |
| C | Capacitance | White | 100 | | pF | V _F =0V;f=1MHz |

Absolute Maximum Ratings at TA=25°C

| Parameter | White | Units |
|-------------------------------|---------------------|-------|
| Power dissipation | 120 | mW |
| DC Forward Current | 30 | mA |
| Peak Forward Current [1] | 150 | 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 | |

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Supplier B: ORMSEN manufacturer of the White LED, reference **OS-RUT2304C-TR1(CK)**.
 The color, luminous intensity and ratings of new White LED are very close to the existing one.
 The viewing angle is somewhat a little bit different to the existing one.

Device Selection Guide

| Chip Materials | Emitted Color | Resin Color |
|----------------|---------------|-------------|
| InGaN | White | Water Clear |

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|-----------------------------------------|--------|-------------------|------|
| Continuous Forward Current | IF | 30 | mA |
| Peak Forward Current (Duty 1/10 @ 1KHZ) | IFP | 100 | mA |
| Reverse Voltage | VR | 5 | V |
| Power Dissipation | Pd | 100 | mW |
| Operating Temperature | Topr | -40 ~ +85 | °C |
| Storage Temperature | Tstg | -40 ~ +85 | °C |
| Soldering Temperature | Tsol | 260 °C for 5 sec. | |

Electro-Optical Characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|------------------------------|--------|------|------|------|------|-----------|
| Luminous Intensity | Iv | 2000 | 4000 | 7000 | mcd | IF=20mA |
| Viewing Angle | 2θ1/2 | ---- | 40 | ---- | deg | IF=20mA |
| Chromaticity Coordinates | X | ---- | 0.31 | ---- | X | IF=20mA |
| | Y | ---- | 0.31 | ---- | Y | IF=20mA |
| Spectrum Radiation Bandwidth | Δλ | ---- | 20 | ---- | nm | IF=20mA |
| Forward Voltage | VF | ---- | 3.3 | 4.0 | V | IF=20mA |
| Reverse Current | IR | ---- | ---- | 10 | μA | VR=5V |

3. Impact of Change and Qualification

3.1 Impact of Change:

There is no change to the form, fit and function of the switch.

3.2 Qualification method:

As the modification only affects the LED and its integration in the switch, the qualification focuses solely on the LED performance:

- Luminosity, Chromaticity Coordinates
- Endurance test
- Climatic tests
- Salt spray test
- Soldering test

The qualification has been completed in C&K, test report is available upon request.

Samples for qualification are already available upon request.

4. Part numbers affected

All item featuring **White LED** are affected by this notification.

| Material N° | Material Description |
|-------------|--------------------------------|
| AP0030 | SWITCH AP4N001TZBE SS-FORM |
| AP0041-000 | SWITCH AP0041 BLANK SS-FORM |
| AP0041-001 | SWITCH AP0041 PLUS SS-FORM |
| AP0041-002 | SWITCH AP0041 LOCKED SS-FORM |
| AP0041-003 | SWITCH AP0041 STOP SS-FORM |
| AP0041-004 | SWITCH AP0041 BRAKE SS-FORM |
| AP0041-005 | SWITCH AP0041 START SS-FORM |
| AP0041-006 | SWITCH AP0041 FAST SS-FORM |
| AP0041-007 | SWITCH AP0041 SLOW SS-FORM |
| AP0041-008 | SWITCH AP0041 UNLOCKED SS-FORM |
| AP0041-009 | SWITCH AP0041 ROCK SS-FORM |
| AP0041-010 | SWITCH AP0041 MINUS SS-FORM |
| AP2E201TWBE | SWITCH AP2E201TWBE |
| AP2E701TZBE | SWITCH AP2E701TZBE |
| AP2E901TWBE | SWITCH AP2E901TWBE |
| AP4D201TWBE | SWITCH AP4D201TWBE |
| AP4D201TZBE | SWITCH AP4D201TZBE |
| AP4D701TZBE | SWITCH AP4D701TZBE |
| AP4N001TZBE | SWITCH AP4N001TZBE |

| Material N° | Material Description |
|----------------|-----------------------|
| APB2E01TWBE000 | SWITCH APB2E01TWBE000 |
| APB2E01TWBE001 | SWITCH APB2E01TWBE001 |
| APB2E01TWBE002 | SWITCH APB2E01TWBE002 |
| APB2E01TWBE003 | SWITCH APB2E01TWBE003 |
| APB2E01TWBE004 | SWITCH APB2E01TWBE004 |
| APB2E01TWBE005 | SWITCH APB2E01TWBE005 |
| APB2E01TWBE006 | SWITCH APB2E01TWBE006 |
| APB2E01TWBE007 | SWITCH APB2E01TWBE007 |
| APB2E01TWBE008 | SWITCH APB2E01TWBE008 |
| APB2E01TWBE009 | SWITCH APB2E01TWBE009 |
| APB2E01TWBE010 | SWITCH APB2E01TWBE010 |
| APB2E01TZBE000 | SWITCH APB2E01TZBE000 |
| APB2E01TZBE001 | SWITCH APB2E01TZBE001 |
| APB2E01TZBE002 | SWITCH APB2E01TZBE002 |
| APB2E01TZBE003 | SWITCH APB2E01TZBE003 |
| APB2E01TZBE004 | SWITCH APB2E01TZBE004 |
| APB2E01TZBE005 | SWITCH APB2E01TZBE005 |
| APB2E01TZBE006 | SWITCH APB2E01TZBE006 |
| APB2E01TZBE007 | SWITCH APB2E01TZBE007 |
| APB2E01TZBE008 | SWITCH APB2E01TZBE008 |
| APB2E01TZBE009 | SWITCH APB2E01TZBE009 |
| APB2E01TZBE010 | SWITCH APB2E01TZBE010 |
| APB4E01SWBE000 | SWITCH APB4E01SWBE000 |
| APB4E01TWBE000 | SWITCH APB4E01TWBE000 |
| APB4E01TWBE002 | SWITCH APB4E01TWBE002 |
| APB4E01TWBE004 | SWITCH APB4E01TWBE004 |
| APB4E01TZBE000 | SWITCH APB4E01TZBE000 |
| APB4E01TZBE001 | SWITCH APB4E01TZBE001 |
| APB4E01TZBE002 | SWITCH APB4E01TZBE002 |
| APB4E01TZBE003 | SWITCH APB4E01TZBE003 |
| APB4E01TZBE004 | SWITCH APB4E01TZBE004 |
| APB4E01TZBE005 | SWITCH APB4E01TZBE005 |
| APB4E01TZBE006 | SWITCH APB4E01TZBE006 |
| APB4E01TZBE007 | SWITCH APB4E01TZBE007 |
| APB4E01TZBE008 | SWITCH APB4E01TZBE008 |
| APB4E01TZBE009 | SWITCH APB4E01TZBE009 |
| APB4E01TZBE010 | SWITCH APB4E01TZBE010 |

5. Date of application

Effective immediately. There is no remaining stock of LEDs WP964-CKC18 from Supplier A. All finished products are now manufactured using LEDs OS-RUT2304C-TR1(CK) from Supplier B.

6. Conditions of application

Pricing and stock handling policy:

- Pricing: Any pricing and other sales conditions remain valid.
- Stock handling: no obsolescence and no specification modification are applied on any P/N. No return or scrap for obsolescence will be accepted

7. Customer qualification

C&K recommends its customers to carry on the lighting compatibility check and qualifications they feel necessary to make sure that they will be ready at the date of application. Switching characteristics are not modified in order to minimize the customer impact and make easier the modification acceptance.

8. Acknowledgement

We kindly ask you to acknowledge receipt of this information to your sales representative so C&K can start planning the phase in – out process accordingly.

Please forward your requirements in terms of samples & qualification files at the following email address: lquan@Littelfuse.com

9. Support

For any question, please contact your sales representative