Product Change Notification

PCN26-9-Rev A_AP series – Red/Green LED change

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Document revision

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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 lighted series by using the closest replacement from the market.
C&K switches selected ORMSEN (supplier B) to replace the bicolor Red/Green 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 bicolor Red-Green LED, reference **WP967-CKC3.**

Selection Guide

Part No.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
WP967-CKC3	High Efficiency Red (GaAsP/GaP)	White Diffused	10	20	70°
			*4	*8	
	Green (GaP)		8	20	
			*8	*20	

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%.
* Luminous intensity value is traceable to CIE127-2007 standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Green	627 565		nm	IF=20mA
λD [1]	Dominant Wavelength	High Efficiency Red Green	617 568		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red Green	45 30		nm	IF=20mA
C	Capacitance	High Efficiency Red Green	15 15		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	High Efficiency Red Green	2.0 2.2	2.5 2.5	V	IF=20mA

Absolute Maximum Ratings at TA=25°C

Parameter	High Efficiency Red	Green	Units
Power dissipation	75	62.5	mW
DC Forward Current	30	25	mA
Peak Forward Current [1]	160	140	mA
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		

Supplier B: ORMSEN manufacturer of the bicolor Red-Green LED, reference **OS-RGR234-2W-TR1(CK)**.
The color, luminous intensity, the viewing angle and ratings of new bicolor Red-Green LED are somewhat different to the existing one.

Device Selection Guide

Chip Materials	Emitted Color	Resin Color
GaP	Green	White Diffused
GaP	Red	

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol		Rating	Unit
Continuous Forward Current	I_F	G/R	30	mA
Peak Forward Current (Duty 1/10 @ 1KHZ)	I_{FP}	G/R	75	mA
Reverse Voltage	V_R	G/R	1.1	V
Power Dissipation	P_d	G/R	75	mW
Operating Temperature	T_{opr}	G/R	-40 ~ +85	℃
Storage Temperature	Tstg	G/R	-40 ~ +85	℃
Soldering Temperature	T_{sol}	G/R	260 ℃ for 5 sec.	

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol		Min	Typ	Max	Unit	Condition
Luminous Intensity	I_v	G	8	20	-----	mcd	IF=20mA
		R	8	20	-----		
Viewing Angle	$2\theta_{1/2}$	G/R	-----	90	-----	deg	IF=20mA
Peak Wavelength	λ_p	G	-----	575	-----	nm	IF=20mA
		R		630			
Dominant Wavelength	λ_d	G	-----	570	-----	nm	IF=20mA
		R		620			
Spectrum Radiation Bandwidth	$\Delta\lambda$	G	-----	20	-----	nm	IF=20mA
		R		20			
Forward Voltage	V_F	G/R	1.7	2.0	2.4	V	IF=20mA
Reverse Current	I_R	G/R	-----	-----	10	μA	VR=1.1V

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 **Red/Green LED** are affected by this notification.

Material N°	Material Description
AP0025	SWITCH AP4D402TWBE SS-FORM
AP0048	SWITCH AP2E202TWBE SS-FORM
AP2D202TWBE	SWITCH AP2D202TWBE
AP2D202TZBE	SWITCH AP2D202TZBE
AP2E202TWBE	SWITCH AP2E202TWBE
AP2E202TZBE	SWITCH AP2E202TZBE
AP2N002TZBE	SWITCH AP2N002TZBE
AP4C202TZBE	SWITCH AP4C202TZBE
AP4D202TWBE	SWITCH AP4D202TWBE
AP4D202TZBE	SWITCH AP4D202TZBE
AP4D302TWBE	SWITCH AP4D302TWBE
AP4D502TZBE	SWITCH AP4D502TZBE
AP4D602TZBE	SWITCH AP4D602TZBE
AP4E202TZBE	SWITCH AP4E202TZBE
AP4E302TWBE	SWITCH AP4E302TWBE
AP4N002TWBE	SWITCH AP4N002TWBE
AP4N002TZBE	SWITCH AP4N002TZBE
AP2D202SWBE	SWITCH AP2D202SWBE
AP2D202SZBE	SWITCH AP2D202SZBE
AP2E202SZBE	SWITCH AP2E202SZBE
AP2E402SZBE	SWITCH AP2E402SZBE
AP2N002SZBE	SWITCH AP2N002SZBE
AP4D202SZBE	SWITCH AP4D202SZBE
AP4E202SWBE	SWITCH AP4E202SWBE
AP4E202SZBE	SWITCH AP4E202SZBE
AP4E502SWBE	SWITCH AP4E502SWBE
AP4N002SZBE	SWITCH AP4N002SZBE

5. Date of application

- Orders delivered in 2026 can be produced with LED WP967-CKC3 (Supplier A) or with LED OS-RGR234-2W-TR1(CK) (Supplier B) due to end of stocks management.
- As from 2027, all orders will be produced with LED OS-RGR234-2W-TR1(CK) (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 acceptation.

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: lguan@Littelfuse.com

9. Support

For any question, please contact your sales representative