Product Change Notification

PCN23-01_K12 series Green LED change

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Document revision

Revision	Date	Description	Author
A	January 20th, 2023	Creation	C.Garropin/ M.Lahuec

Summary

1. Purpose

C&K, as designers, manufacturers and suppliers of Switches, Connectors and Sensors, constantly look to improve our manufacturing methods and processes to provide customers with the highest levels of quality and innovation.

As part of this continuous improvement policy, we decided to change the supplier of green LED on the K12 series from supplier A to supplier B. These changes are being brought for a better stability of the product and better services.
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2. Overview

2.1 Change definition

Supplier A: Vishay manufacturer of the green LED, reference TLHG44K1M2,

PARTS TABLE

PART	COLOR	LUMINOUS INTENSITY (mcd)			at I_F (mA)	WAVELENGTH (nm)			at I_F (mA)	FORWARD VOLTAGE (V)			at I_F (mA)	TECHNOLOGY
		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		
TLHG44K1M2	Green	7.1	-	28	10	562	-	575	10	-	2.1	2.6	10	GaP on GaP

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)
TLHG44K1M2

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	6	V
DC forward current		I_F	30	mA
Surge forward current	$t_p \leq 10$ µs	I_{FSM}	1	A
Power dissipation	$T_{amb} \leq 60$ °C	P_V	100	mW
Junction temperature		T_j	100	°C
Operating temperature range		T_{amb}	-40 to +100	°C
Storage temperature range		T_{stg}	-55 to +100	°C
Soldering temperature	t ≤ 5 s, 2 mm from body	T_{sd}	260	°C
Thermal resistance junction to ambient		R_{thJA}	400	K/W

Supplier B: Lite-on manufacturer green Led, reference LTL-4232N-CK
The color, luminous intensity and ratings of new green LED will be similar to existing one.

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	IV	19	40	90	mcd	IF = 10mA Note 1,5
Viewing Angle	2θ1/2		45		deg	Note 2 (Fig.6)
Peak Emission Wavelength	λP		565		nm	Measurement @Peak (Fig.1)
Dominant Wavelength	λd	565	569	574	nm	IF = 10mA Note 4
Spectral Line Half-Width	Δλ		30		nm	
Forward Voltage	VF		2.1	2.6	V	IF = 10mA
Reverse Current	IR			100	μA	VR = 5V

3. Impact of Change and Qualification

3.1 Impact of Change:

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

3.2 Qualification method:

As the modification is only impacting the LED and its integration to the switch, the qualification proceeds as follows:

- Soldering test
- Climate tests (cold and hot storage, cyclic humidity, thermal shocks…)
- Mechanical resistance (vibrations, shocks…)
- Luminosity

(Detailed qualification plan is available upon demand)

Samples for qualification will be available upon request starting from February 1st, 2023.

The qualification completed in C&K
Test report will be available upon request.

4. Part numbers affected

All part numbers with “GN” Green LED are affected.

Item Numbers	*Item description*	*New Item Numbers*	*New Item description*
Y16EB1500FP	K12AL GN 1 5N LV306	Y16EW1500FP	K12AL GN 1 5N LL4232
Y16EB4500FP	K12AL GN 1.5 5N LV306	Y16EW4500FP	K12AL GN 1.5 5N LL4232
Y16WB1500FP	K12PL GN 1 5N LV306	Y16WW1500FP	K12PL GN 1 5N LL4232
Y16WB4200FP	K12PL GN 1.5 2.5N LV306	Y16WW4200FP	K12PL GN 1.5 2.5N LL4232
Y16WB4500FP	K12PL GN 1.5 5N LV306	Y16WW4500FP	K12PL GN 1.5 5N LL4232
Y16WB4501FP	K12PL GN 1.5 5N LV306 PAL	Y16WW4501FP	K12PL GN 1.5 5N LL4232 PAL

5. Date of application

- Qualification samples deliveries: start on February 1st, 2023
- Date of last delivery: August 30th, 2023
- Delivery with new LED will start in September 2023

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

We recommend our customers to carry on the necessary backlight compatibility check and qualifications they feel necessary to make sure that they will be ready at the date of application. We haven’t modified the switching characteristics in order to minimize the customer impact and make easier the modification acceptation.

8. Acknowledgement

We recommend acknowledging this PCN as well as qualification samples need to your sales representative no later than June 30th, 2023.

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

9. Support

For any question, please contact your sales representative

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