

Product change notification

PCN10-6-K6 & K12

Document revision

Revision	Date	Description	Author
A	22/10/10	Creation	Rodolphe GIE
B	22/04/11	Update	Rodolphe GIE

Summary

1. Purpose.....	4
2. Change definition.....	4
2.1 Overview.....	4
2.2 Affected Part numbers.....	4
3. Change impact and qualification method.....	5
3.1 Impact of changes.....	5
3.2 Qualification method.....	5
4. Application.....	5
4.1 Overview.....	5
4.2 Date of application.....	5
4.3 Ordering, pricing and stock handling policy.....	6
4.4 Customer qualification.....	6
5. Acknowledgement.....	6
6. Support.....	6
Annex 1: Affected K6 & K12 part numbers.....	7
Annex 2: Replacement Part Numbers.....	10
Annex 3: Impact of changes.....	12

1. Purpose

C&K Components has been notified by its LED supplier, OSRAM, the end of production of several LEDs used in K6 and K12 switches.

This discontinuation from OSRAM, without direct replacement proposal, is leading C&K Components to modify its K6 and K12 lighted series by using some other LEDs from the market with the closest characteristics. The impact for our customers will be some slight differences in the backlight characteristics (colour, luminous intensity, power supply...).

2. Change definition

2.1 Overview

Most of the LEDs used by C&K in the K6 and K12 key switches are impacted by this discontinuation from OSRAM. Please find hereafter the list of impacted LEDs:

- (C&K LED code → corresponding OSRAM PN)
- L302 → OSRAM LW 3333-S1T2-6K7L
- L303 → OSRAM LW 3333-S1T2-8K8L
- L306 → OSRAM LG 3360-K
- L315 → OSRAM LO 3340-N
- L316 → OSRAM LP 3340-L
- L327 → OSRAM LY 3360-K
- L328 → OSRAM LB 3356-FH
- L347 → OSRAM LY 3336-S
- L352 → OSRAM LS 3360-K
- L354 → OSRAM LS K376-S
- L416 → OSRAM LP-K376

For each of these LEDs, C&K is proposing some replacement LED reference by selecting some other standard LED from the market with the closest characteristics: dimensions, colour, luminous intensity, power supply...

The LED is the only part that will be change in the switches. All the other parts will remain unchanged.

2.2 Affected Part numbers

The table in annex 1 is showing the impacted K6 and K12 part numbers as well as the current LED reference and the replacement LED proposed by C&K.

3. Change impact and qualification method

3.1 *Impact of changes*

The LED is the only spare part to be changed and apart from this the internal construction is not modified. Therefore, all environmental and switching (electrical and mechanical) characteristics remain unchanged.

The manufacturing & quality processes, location and procedures remain also unchanged.

C&K Components has identified some LED, from other suppliers, similar to the OSRAM ones however they are not 100% identical. The consequence is some differences regarding the backlight parameters (color, luminous intensity, power supply) and the outer dimensions.

The tables in annex 2 show a direct comparison between the OSRAM LED and the replacement proposed by C&K.

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...)

(Detailed qualification plan is available upon demand)

Samples for qualification will be available upon request starting from mid of May 2011.

4. Application

4.1 *Overview*

As announced end of 2010 in the former revision of this PCN, and following OSRAM LED discontinuation, C&K components have had to place a last buy order at OSRAM end of 2010 for last delivery of LED in July 2011. On December 31st 2010, C&K has consequently ordered LED to OSRAM in order to cover 2011 needs given by its customers.

4.2 *Date of application*

- Qualification samples deliveries : start on May 16th 2011
- Date of last delivery: December 31st 2011
- This modification will be implemented in production on January 1st 2012

4.3 *Ordering, pricing and stock handling policy*

- Ordering: Some new P/N have been issued for the products with the new LEDs in order to avoid any mix (see table in Annex 3)
- Pricing: any pricing and other sales conditions will have to be updated according to the new LED choice
- Stock handling: no obsolescence and no specification modification are applied on any P/N.
- No return or scrap for obsolescence will be accepted.

4.4 *Customer qualification*

We recommend to 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 acceptance.

5. Acknowledgement

We recommend acknowledging this PCN as well as qualification samples need to your sales representative no later than May 13th 2011.

Please forward your requirements in terms of samples & qualification files at the following email address: rodolphe.gje@coactive-tech.com.

6. Support

For any question, please contact your sales representative

Annex 1: Affected K6 & K12 part numbers
--



List of affected K6 & K12 Part numbers

C&K LED code	Affected part number	Color	Current LED reference	Replacement LED
L302	844063-1301_K6FLD WH 1.5 4N L302 833033-1300_K6BL WH 1.5 4N L302 833093-1215_K6SL WH 1.5 5N L302 TR SD 833093-1205_K6SL WH 1.5 5N L302 SD 833063-1204_K6FL WH 1.5 5N L302 7G5005C0008_K6SL WH 1.5 5N L302 TRS SD 7G5005C0003_K6BL WH 1.5 3N L302 7G5006C0002_K12PL WH 1.5N L302 7G5006C0008_K12GOL WH 1.5 6/12N L302 7G5006C0010_K12AL WH 1.5 5N L302 844032-1200_K12PL WH 1.5 5N L302 844032-1201_K12PL WH 1.5 5N L302	White	OSRAM LW 3333-S1T2 6K7L (rank S1T2 - 6K7L)	VISHAY VLHW4100
L303	833063-1300_K6FL WH 1.5 4N L303 833033-1300_K6BL WH 1.5 4N L303 833033-1255_K6BL WH 1.5 5N BU L303 833033-1207_K6BL WH 1.5 5N L303 844032-0400_K12PL WH 1.1 3.5N L303 844032-1400_K12PL WH 1.5 3.5N L303 844032-4200_K12PL WH 1.3 5N.5 L303 844432-1500_K12GOL WH 1.5 4/8.5N L303	White	OSRAM LW 3333-S1T2 8K8L (rank S1T2 - 8K8L)	VISHAY VLHW4100
L306	833093-1405_K6SL GN 1.5 3N L306 SD 833093-1401_K6SL GN 1.5 3N L306 PAL SD 833093-1206_K6SL GN 1.5 5N L306 SD 833033-1401_K6BL GN 1.5 3N L306 833033-1209_K6BL GN 1.5 5N L306 833033-1102_K6BL GN 1.5 2N L306 OD 7G5006C0009_K12GOL GN 1.5 6/12N L306 844-0360-201_K12PL GN 1 5N L306 844-0360-202_K12PCL GN 1 5N L306 844-2360-201_K12AL GN 1 5N L306 844-6360-201_K12DL GN 1 5N L306 LMA 844-6360-301_K12DL GN 1.1 6N .3 L306 844036-0201_K12PL GN 1 5N L306 844036-1100_K12PL GN 1.5 2.5N L306 844036-1201_K12PL GN 1.5 5N L306 844136-1201_K12AL GN 1.5 5N L306 844236-0201_K12AL GN 1 5N L306 844636-0001_K12DL GN 1 1.5N L306 844636-0201_K12DL GN 1 5N L306 LMA	Green	OSRAM LG 3360-K (rank K1L2)	VISHAY TLHG44K1L2
L315	833093-1400_K6SL OG 1.5 3N L315 PAL SD 833093-1202_K6SL OG 1.5 5N L315 PAL-BD SD 833093-1201_K6SL OG 1.5 5N L315 KARTON 833093-1200_K6SL OG 1.5 5N L315 833093-1101_K6SL OG 1.5 2N L315 OD PAL SD 833093-1100_K6SL OG 1.5 2N L315 OD PAL 833093-0202_K6SL OG 1 5N L315 KARTON SD 833063-1400_K6FL OG 1.5 3N L315 833033-1407_K6BL OG 1.5 3N L315 833033-1400_K6BL OG 1.5 3N L315 PAL 833033-1210_K6BL OG 1.5 5N L315 PAL 833033-1202_K6BL OG 1.5 5N L315 833033-1106_K6BL OG 1.5 2N L315 OD 7G5006C0012_K12PL OG 1.5 5N L315 PAL 844034-0001_K12PL OG 1 1.5N OD L315 844034-0200_K12PL OG 1 5N L315 844034-1200_K12PL OG 1.5 5N L315	Orange	OSRAM LO 3340-N (rank M1N2)	VISHAY TLHO42M1N2
L316	833153-1204_K6FN PG 1.5 5N L316 833033-1404_K6BL PG 1.5 3N L316 833033-1208_K6BL PG 1.5 5N L316 PAL 833033-1108_K6BL PG 1.5 2N L316 OD 844026-0400_K12PL PG 1.1 3.5N L316 7G5006C0011_K12PL GN 1 5N L316	Green	OSRAM LP 3340-L (rank K1L2)	VISHAY TLHP42J2L1



List of affected K6 & K12 Part numbers

C&K LED code	Affected part number	Color	Current LED reference	Replacement LED
L327	833153-1202_K6FN YE 1.5 5N L327 833153-1201_K6FN YE 1.5 5N L327 PAL 833113-1302_K6BN YE 1.5 4N L327 PAL SD 833113-1301_K6BN YE 1.5 4N L327 PAL 833093-1404_K6SL YE 1.5 3N L327 PAL SD 833093-1300_K6SL YE 1.5 4N L327 SD 833093-1204_K6SL YE 1.5 5N L327 SD 833093-1203_K6SL YE 1.5 5N L327 TR SD 833093-0201_K6SL YE 1 5N L327 PAL SD 833063-1202_K6FL YE 1.5 5N L327 833033-1406_K6BL YE 1.5 3N L327 833033-1207_K6BL YE 1.5 5N L327 PAL 833033-1205_K6BL YE 1.5 5N L327 PAL BD SD 833033-1203_K6BL YE 1.5 5N L327 833033-1107_K6BL YE 1.5 2N L327 OD PAL SD 833033-1105_K6BL YE 1.5 2N L327 OD 833033-1104_K6BL YE 1.5 2N L327 OD PAL 833033-0203_K6BL YE 1 5N L327 PAL 833033-0202_K6BL YE 1 5N L327 PAL SD 833033-0201_K6BL YE 1 5N L327 7G5005C0005_K6SL YE 1 5N L327 TR SD 844-0370-301_K12PL YE 1.1 6N.3 L327 844-6370-302_K12DL YE 1.1 6N.3 L327 844037-0201_K12PL YE 1 5N L327 844037-1201_K12PL YE 1.5 5N L327 844237-0202_K12AL YE 1 5N L327 844437-1341_K12GOL YE 1.5 6/12N L327 PAL 844437-1344_K12GOL YE 1.5 6/12N L327 844437-1601_K12GOL YE 1.5 3.5/7N L327 PAL 844637-0102_K12DL YE 1 2.5N L327 844637-0202_K12DL YE 1 5N L327	Yellow	OSRAM LY 3360-K (rank K1L2)	VISHAY TLHY44K1L2
L328	833113-1405_K6BN BU 1.5 3N L328 833113-1404_V10_K6BN BU 1.5 3N L328 PAL 833113-1400_K6BN BU 1.5 3N L328 PAL 7G5005C0002_K6BL BU 1.5 3N L328 7G5005C0001_K6BL BU 1.5 5N L328 844038-0100_K12PL BU 1 2.5N L328 844138-0200_K12AL BU 1 5N L328	Blue	OSRAM LB 3356-FH (rank K2M1)	VISHAY TLHB44K2M1
L347	7G5005C0009_K6SL YE 1.5 5N L347 TRS SD 833093-1208_K6SL YE 1.5 5N L347 SD 833033-1211_K6BL YE 1.5 5N L347 833093-1402_K6SL YE 1.5 3N L347 PAL SD	Yellow	OSRAM LY 3336-S (rank S1T2)	VISHAY TLHE4200
L352	833103-1403_K6BM RD 1.5 3N L352 833103-1402_V10_K6BM RD 1.5 3N L352 PAL 833103-1402_K6BM RD 1.5 3N L352 PAL 833103-1301_K6BM RD 1.5 4N L352 833103-1201_K6BM RD 1.5 5N L352 833093-1403_K6SL RD 1.5 3N L352 PAL SD 833033-1409_K6BL RD 1.5 3N L352 PAL 833033-1405_K6BL RD 1.5 3N L352 833033-1206_K6BL RD 1.5 5N L352 833033-1101_K6BL RD 1.5 2N L352 OD 844-0350-200_K12PL RD 1 5N L352 844-1354-700_K12AL RD 1.3 9N.5 L352 844-2350-201_K12AL RD 1 5N L352 844-6350-301_K12DL RD 1.1 6N.3 L352 844035-0200_K12PL RD 1 5N L352 844035-1200_K12PL RD 1 5N L352 844235-0201_K12AL RD 1 5N L352	Red	OSRAM LS 3360-K (rank K1L2)	VISHAY TLHR44K1L2
L354	833095-1203_K6SL SR 1.5 5N L354 SD 833065-1200_K6FL SR 1.5 5N L354 833036-1255_K6BL SR 1.5 5N BU L354 833036-1202_K6BL RD 1.5 4N L354 S1/S2/R1 844055-0200_K12PL RD 1 5N L354 844455-1340_K12GOL RD 1.5 6/12N L354	Red	OSRAM LS K376-S (rank S1U2)	VISHAY TLVD42Q1S2
L416	7G5005C0007_K6SL PG 1.5 5N L416 SD PAL 844-6560-202_K12DL PG 1 5N L416 KAPPE W 844656-0202_K12DL PG 1 5N L416 KAP WH	Green	OSRAM LP K376 (rank P1Q2)	VISHAY TLVP4200

<h2>Annex 2: Replacement Part Numbers</h2>
--



List of replacement K6 & K12 Part numbers

Current LED code	New LED code	Current part number	New part number
L302	LV302	833093-1215 K6SL WH 1.5 5N L302 TR SD	Y23K12619FP K6SL WH 1.5 5N LV302 TR SD
		833093-1205 K6SL WH 1.5 5N L302 SD	Y23K12650FP K6SL WH 1.5 5N LV302 SD
		7G5005C0008 K6SL WH 1.5 5N L302 TRS SD	Y23K12618FP K6SL WH 1.5 5N LV302 TRS SD
		7G5005C0003 K6BL WH 1.5 3N L302	Y23B12400FP K6BL WH 1.5 3N LV302
		7G5006C0002 K12PL WH 1 5N L302	Y16WA1500FP K12PL WH 1 5N LV302
		7G5006C0008 K12GOL WH 1.5 6/12N L302	Y16SA4D00FP K12GOL WH 1.5 6/12N LV302
		7G5006C0010 K12AL WH 1.5 5N L302	Y16EA4500FP K12AL WH 1.5 5N LV302
		844032-1200 K12PL WH 1.5 5N L302	Y16WA4500FP K12PL WH 1.5 5N LV302
		833063-1300 K6FL WH 1.5 4N L303	Y23F12500FP K6FL WH 1.5 4N LV302
		833033-1207 K6BL WH 1.5 5N L303	Y23B12600FP K6BL WH 1.5 5N LV302
844032-1400 K12PL WH 1.5 3.5N L303	Y16WA4300FP K12PL WH 1.5 3.5N LV302		
844032-4200 K12PL WH 1.3 5N L303	Y16WA7500FP K12PL WH 1.3 5N LV302		
L306	LV306	833093-1405 K6SL GN 1.5 3N L306 SD	Y23K22450FP K6SL GN 1.5 3N LV306 SD
		833093-1401 K6SL GN 1.5 3N L306 PAL SD	Y23K22428FP K6SL GN 1.5 3N LV306 PAL SD
		833093-1206 K6SL GN 1.5 5N L306 SD	Y23K22650FP K6SL GN 1.5 5N LV306 SD
		833033-1401 K6BL GN 1.5 3N L306	Y23B22400FP K6BL GN 1.5 3N L306
		833033-1209 K6BL GN 1.5 5N L306	Y23B22600FP K6BL GN 1.5 5N LV306
		833033-1102 K6BL GN 1.5 2N L306 OD	Y23B22311FP K6BL GN 1.5 2N LV306 OD
		7G5006C0009 K12GOL GN 1.5 6/12N L306	Y16SB4D00FP K12GOL GN 1.5 6/12N LV306
		844-0360-202 K12PCL GN 1 5N L306	Y16UB1500FP K12PCL GN 1 5N LV306
		844036-0201 K12PL GN 1 5N L306	Y16WB1500FP K12PL GN 1 5N LV306
		844036-1100 K12PL GN 1.5 2.5N L306	Y16WB4200FP K12PL GN 1.5 2.5N LV306
		844036-1201 K12PL GN 1.5 5N L306	Y16WB4500FP K12PL GN 1.5 5N LV306
		844136-1201 K12AL GN 1.5 5N L306	Y16EB4500FP K12AL GN 1.5 5N LV306
		844236-0201 K12AL GN 1 5N L306	Y16EB1500FP K12AL GN 1 5N LV306
		833093-1400 K6SL OG 1.5 3N L315 PAL SD	Y23K32428FP K6SL OG 1.5 3N LV315 PAL SD
		833093-1200 K6SL OG 1.5 5N L315	Y23K32600FP K6SL OG 1.5 5N LV315
		833093-1101 K6SL OG 1.5 2N L315 OD PAL SD	Y23K32366FP K6SL OG 1.5 2N LV315 OD PAL SD
		833093-0202 K6SL OG 1.5 5N L315 KARTON SD	Y23K31623FP K6SL OG 1.5 5N LV315 KARTON SD
		833033-1407 K6BL OG 1.5 3N L315	Y23B32450FP K6BL OG 1.5 3N LV315
833033-1400 K6BL OG 1.5 3N L315 PAL	Y23B32425FP K6BL OG 1.5 3N LV315 PAL		
833033-1210 K6BL OG 1.5 5N L315 PAL	Y23B32625FP K6BL OG 1.5 5N LV315 PAL		
833033-1202 K6BL OG 1.5 5N L315	Y23B32600FP K6BL OG 1.5 5N LV315		
833033-1106 K6BL OG 1.5 2N L315 OD	Y23B32311FP K6BL OG 1.5 2N LV315 OD		
7G5006C0012 K12PL OG 1.5 5N L315 PAL	Y16WC4500FP K12PL OG 1.5 5N LV315 PAL		
844034-0001 K12PL OG 1.5 5N OD L315	Y16WC1120FP K12PL OG 1.5 5N OD LV315		
844034-0200 K12PL OG 1 5N L315	Y16WC1500FP K12PL OG 1 5N LV315		
844034-1200 K12PL OG 1.5 5N L315	Y16WC4500FP K12PL OG 1.5 5N LV315		
L316	LV316	833033-1404 K6BL PG 1.5 3N L316	Y23B42400FP K6BL PG 1.5 3N L316
		833033-1208 K6BL PG 1.5 5N L316 PAL	Y23B42625FP K6BL PG 1.5 5N LV316 PAL
L327	LV327	833153-1202 K6FN YE 1.5 5N L327	Y23H52600FP K6FN YE 1.5 5N LV327
		833113-1301 K6BN YE 1.5 4N L327 PAL	Y23D52525FP K6BN YE 1.5 4N LV327 PAL
		833093-1404 K6SL YE 1.5 3N L327 PAL SD	Y23K52428FP K6SL YE 1.5 3N LV327 PAL SD
		833093-1204 K6SL YE 1.5 5N L327 SD	Y23K52650FP K6SL YE 1.5 5N LV327 SD
		833093-1203 K6SL YE 1.5 5N L327 TR SD	Y23K52619FP K6SL YE 1.5 5N LV327 TR SD
		833093-0201 K6SL YE 1 5N L327 PAL SD	Y23K51623FP K6SL YE 1 5N LV327 PAL SD
		833063-1202 K6FL YE 1.5 5N L327	Y23F52600FP K6FL YE 1.5 5N LV327
		833033-1406 K6BL YE 1.5 3N L327	Y23B52400FP K6BL YE 1.5 3N LV327
		833033-1203 K6BL YE 1.5 5N L327	Y23B52600FP K6BL YE 1.5 5N LV327
		833033-1105 K6BL YE 1.5 2N L327 OD	Y23B52311FP K6BL YE 1.5 2N LV327 OD
		833033-1104 K6BL YE 1.5 2N L327 OD PAL	Y23B52326FP K6BL YE 1.5 2N LV327 OD PAL
		7G5005C0005 K6SL YE 1 5N L327 TR SD	Y23K51619FP K6SL YE 1 5N LV327 TR SD
		844037-0201 K12PL YE 1 5N L327	Y16WE1500FP K12PL YE 1 5N LV327
		844037-1201 K12PL YE 1.5 5N L327	Y16WE4500FP K12PL YE 1.5 5N LV327
		844237-0202 K12AL YE 1 5N L327	Y16EE1500FP K12AL YE 1 5N LV327
		844437-1341 K12GOL YE 1.5 6/12N L327 PAL	Y16SE4D01FP K12GOL YE 1.5 6/12N LV327 PAL
		844437-1344 K12GOL YE 1.5 6/12N L327	Y16SE4D00FP K12GOL YE 1.5 6/12N LV327
		844437-1601 K12GOL YE 1.5 3.5/7N L327 PAL	Y16SE4B01FP K12GOL YE 1.5 3.5/7N LV327 PAL
		844637-0202 K12DL YE 1 5N L327	Y16PE1500FP K12DL YE 1 5N LV327
		L328	LV328
833113-1404 K6BN BU 1.5 3N L328 PAL	Y23D62425FP K6BN BU 1.5 3N LV328 PAL		
7G5005C0002 K6BL BU 1.5 3N L328	Y23B62400FP K6BL BU 1.5 3N LV328		
7G5005C0001 K6BL BU 1.5 5N L328	Y23B62600FP K6BL BU 1.5 5N LV328		
844038-0100 K12PL BU 1 2.5N L328	Y16WF1200FP K12PL BU 1 2.5N LV328		
844138-0200 K12AL BU 1 5N L328	Y16EF1500FP K12AL BU 1 5N LV328		
L347	LV347	7G5005C0009 K6SL YE 1.5 5N L347 TRS SD	Y23K72618FP K6SL YE 1.5 5N LV347 TRS SD
		833093-1208 K6SL YE 1.5 5N L347 SD	Y23K72650FP K6SL YE 1.5 5N LV347 SD
		833093-1402 K6SL YE 1.5 3N L347 PAL SD	Y23K72428FP K6SL YE 1.5 3N LV347 PAL SD
L352	LV352	833103-1402 V10 K6BM RD 1.5 3N L352 PAL	Y23C82425FP K6BM RD 1.5 3N LV352 PAL
		833103-1201 K6BM RD 1.5 5N L352	Y23C82600FP K6BM RD 1.5 5N LV352
		833093-1403 K6SL RD 1.5 3N L352 PAL SD	Y23K82428FP K6SL RD 1.5 3N LV352 PAL SD
		833033-1409 K6BL RD 1.5 3N L352 PAL	Y23B82425FP K6BL RD 1.5 3N LV352 PAL
		833033-1405 K6BL RD 1.5 3N L352	Y23B82400FP K6BL RD 1.5 3N L352
		833033-1206 K6BL RD 1.5 5N L352	Y23B82600FP K6BL RD 1.5 5N LV352
		833033-1101 K6BL RD 1.5 2N L352 OD	Y23B82311FP K6BL RD 1.5 2N LV352 OD
		844-1354-700 K12AL RD 1.3 9N L352	Y16EH7900FP K12AL RD 1.3 9N L352
		844035-0200 K12PL RD 1 5N L352	Y16WH1500FP K12PL RD 1 5N LV352
		844035-1200 K12PL RD 1.5 5N L352	Y16WH4500FP K12PL RD 1.5 5N LV352
844235-0201 K12AL RD 1 5N L352	Y16EH1500FP K12AL RD 1 5N LV352		
L354	LV354	833065-1200 K6FL SR 1.5 5N L354	Y23F92600FP K6FL SR 1.5 5N LV354
		7G5005C0007 K6SL PG 1.5 5N L416 SD PAL	Y23KA2628FP K6SL PG 1.5 5N LV416 SD PAL
L416	LV416	844-6560-202 K12DL PG 1 5N L416 KAPPE W	Y16PK1500FP K12DL PG 1 5N LV416

Annex 3: Impact of changes



Replacement reference proposal for obsolete OSRAM LED

C&K LED code	Color	LED supplier	Reference	Wave length	Luminous intensity (mcd)	Luminous Flux Min (lm)	LED diameters	LED height	Forward Voltage (V)
L328	Blue	OSRAM	LB 3356-FH (rank K2M1)	465 (DOM) 428 (PEAK) 10 mA	9-22.4 mcd 10 mA	32-80 typ 10 mA	2.8+/-0.1 3.24+/-0.15	5.9+/-0.2	3.5 (TYP) 4.1 (MAX) 10mA
		VISHAY	TLHB44K2M1	466 (DOM) 428 (PEAK) 10 mA	9-22.4 mcd 10 mA		2,8 +/- 0.15 3.2 +/- 0.15	5.8 +/- 0.3	3.9 (TYP) 4.5 (MAX) 20mA
L306	Green	OSRAM	LG 3360-K (rank K1L2)	572 (PEAK) 570 (DOM TYP) 10 mA	7.1 - 18mcd 10 mA	22-45 (TYP) 10 mA	2.8+/-0.1 3.25+/-0.15	5.9+/-0.2	2 (TYP) 2.5 (MAX) 10mA
		VISHAY	TLHG44K1L2	565 (PEAK) 562-575 (DOM) 10 mA	7.1 - 18mcd 10 mA		2,8 +/- 0.15 3.2 +/- 0.15	5.8 +/- 0.3	2.4 (TYP) 3 (MAX) 20mA
L315	Orange	OSRAM	LO 3340-N (rank M1N2)	610 (PEAK) 606 (DOM TYP) 10 mA	18 - 45mcd 10 mA	27-55 (TYP) 10 mA	2.8+/-0.1 3.25+/-0.15	5.9+/-0.2	2 (TYP) 2.5 (MAX) 10mA
		VISHAY	TLHO42M1N2	605 (Peak) 598-611(DOM) 10 mA	18 - 45mcd 10 mA		2,8 +/- 0.15 3.2 +/- 0.15	5.8 +/- 0.3	2.4 (TYP) 3 (MAX) 20mA
L327	Yellow	OSRAM	LY 3360-K.E9423 (rank K1L2)	586 (PEAK) 587 (DOM TYP) 10 mA	7.1 - 18mcd 10 mA	22-45 (TYP) 10 mA	3.25+/-0.15	5.9+/-0.2	2 (TYP) 2.5 (MAX) 10mA
		VISHAY	TLHY44K1L2	585 (PEAK) 581-594 (DOM) 10 mA	7.1 - 18mcd 10 mA		2,8 +/- 0.15 3.2 +/- 0.15	5.8 +/- 0.3	2.4 (TYP) 3 (MAX) 20mA
L352	Red	OSRAM	LS 3360-K (rank K1L2)	635 (Peak) 622 (Min) 634 (Max) 10 mA	7.1 - 18mcd 10 mA	22-45 (TYP) 10 mA	3.25+/-0.15	5.9+/-0.2	2 (TYP) 2.5 (MAX) 10mA
		VISHAY	TLHR44K1L2	635 (Peak) 612 (Min) 625 (Max) 10 mA	7.1 - 18mcd 10 mA		2,8 +/- 0.15 3.2 +/- 0.15	5.8 +/- 0.3	2 (Typ) 3 (Max) 20 mA
L302 L303	White	OSRAM	LW 3333 S1T2 (L302 = rank 6K7L) (L303 = rank 8K8L)	x=y=0.33 10mA	180 - 450mcd 10 mA	240-475 (TYP) 10 mA	2.8+/-01 3.25+/-0.15	5.9+/-0.2	3.1 (TYP) 3.7 (MAX) 10mA
		VISHAY	VLHW4100	x=y=0.33 20mA	4500 - 7150mcd 20 mA		2,93 +/- 0.25 3.18 +/- 0.25	5.1 +/- 0.4	3.2 (Typ) 3.8 (Max) 20 mA
L316	Green	OSRAM	LP 3340-L (rank K1L2)	557 (Peak) 560 (DOM TYP) 10 mA	7.1 (Min) 18 (Max) 10 mA	11-21 (TYP) 10 mA	2.8+/-0.1 3.25+/-0.15	5.9+/-0.2	2 (TYP) 2.5 (MAX) 10mA
		VISHAY	TLHP42J2L1	555 (PEAK) 555-565 (DOM) 10 mA	5.6 (Min) 14 (TYP) 10 mA		2,8 +/- 0.15 3.2 +/- 0.15	5.8 +/- 0.3	2.4 (TYP) 3 (Max) 20 mA
L347	Yellow	OSRAM	LY 3336 (rank S1T2)	591 (TYP) 587 (DOM TYP) 20 mA	180 (Min) 450 (Max) 20 mA	310-600 (TYP) 20 mA	2.8 +/- 0.1 3.25 +/-0.15	5.9+/-0.2	1.9 (MIN) 2 (TYP) 2.4 (MAX) 20mA
		VISHAY	TLHE 4200	590 (TYP) 588 (DOM) 20 mA	40(min) 120(typ) 10mA		2,8 +/- 0.15 3.2 +/- 0.15	5.8 +/- 0.3	1.9 (TYP) 2.6 (Max) 20 mA
L354	Red	OSRAM	LS K376 (rank S1T2)	645 (TYP) 633 (DOM) 20 mA		180 - 450 20 mA	2.95 +/-0.15 3.4+/-0.2	4.6+/-0.2	1.8 (MIN) 2 (TYP) 2.3 (MAX) 20mA
		VISHAY	TLVD 42Q1S2	650 (PEAK) 640 (DOM) 10 mA	80 (Min) 400 (Max) 20 mA	200 (Min) 800 (Max)	2,95 +/- 0.10 3,3+/- 0.15	4,6 +/- 0.3	1.6 (MIN) 1.95 (TYP) 2.5 (MAX) 20mA
L416	Green	OSRAM	LP K376 (rank P1Q2)	562 (TYP) 560 (DOM) 20 mA		45-112 20 mA	2.95 +/-0.15 3.4+/-0.2	4.6+/-0.2	2 (TYP) 2.4 (MAX) 20mA
		VISHAY	TLVP4200	555 (min) 565 (max) 555(PEAK) 10 mA		4(min) 10(typ) 15mA	2,95 +/- 0.10 3,3+/- 0.15	4,6 +/- 0.3	2.4 (TYP) 3 (Max) 20 mA

Chromatic Coordinates White LED

