



High Brightness LED Power Module



FEATURES

- Cu based PCB, 2 mm thickness
Shiny white surface
63 W multichip LED, minimum 4200 lm for cool white, 3950 lm for natural white, and 3000 lm for warm white at 3000 mA each
ESD withstand voltage: Up to 1 kV according to JESD22-A114-B
CRI: 80
Color temperature binning
Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT HALOGEN FREE GREEN (5-2008)

DESCRIPTION

VLPC0303C6, VLPN0303C6 and VLPW0303C6 are high brightness LED modules. Totally 9 pieces 63 W multichip power LEDs are soldered on a Cu plate. The Cu plate with a thickness of 2 mm guarantees best heat removal and distribution. VLPC0303C6 is the cool white version in a color temperature range of 5000 K to 7400 K. VLPN0303C6 is natural white with a typical color temperature of 4350 K and VLPW0303C6 is warm white in a color temperature range of 2670 K to 3120 K. Additional to the modules a suitable LED driver is available.

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
Package: LED module
Product series: power
Angle of half intensity: ± 65°
CRI: 80

Table with 7 columns: PART, COLOR, LUMINOUS FLUX (lm) (at If = 3000 mA typ.), COLOR TEMPERATURE K, TECHNOLOGY. Rows include VLPC0303C6 (Cool white), VLPN0303C6 (Natural white), and VLPW0303C6 (Warm white).

Table with 5 columns: PARAMETER, TEST CONDITION, SYMBOL, VALUE, UNIT. Title: ABSOLUTE MAXIMUM RATINGS (Tamb = 25 °C, unless otherwise specified) VLPC0303C6, VLPN0303C6, VLPW0303C6. Parameters include Forward current, Power dissipation, Junction temperature, Operating temperature range, Storage temperature range, Thermal resistance, and Pad soldering temperature.

**OPTICAL AND ELECTRICAL CHARACTERISTICS** ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)
VLPC0303C6, COOL WHITE

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous flux	$I_F = 2100\text{ mA}$	Φ_V	3250	3500	-	lm
	$I_F = 3000\text{ mA}$	Φ_V	4200	4550	-	lm
Color temperature	$I_F = 3000\text{ mA}$	CCT	5000	5700	6650	K
Chromaticity coordinates	$I_F = 3000\text{ mA}$	x	-	0.3287	-	
	$I_F = 3000\text{ mA}$	y	-	0.3417	-	
Full angle of half intensity	$I_F = 3000\text{ mA}$	$2\phi_{1/2}$	-	130	-	$^{\circ}$
Forward voltage	$I_F = 3000\text{ mA}$	V_F	18.0	21.0	24.0	V
Temperature coefficient of V_F	$I_F = 3000\text{ mA}$	TCV_F	-	3.0	-	mV/K
Temperature coefficient of Φ_V	$I_F = 3000\text{ mA}$	$TC\Phi_V$	-	0.22	-	%/K

Notes

- Forward voltages are tested at a current pulse duration of 1 ms and a tolerance of $\pm 0.1\text{ V}$. Luminous flux is measured at a current pulse duration of 25 ms and an accuracy of $\pm 11\%$.
- CRI: 80

OPTICAL AND ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)
VLPN0303C6, NATURAL WHITE

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous flux	$I_F = 2100\text{ mA}$	Φ_V	3000	3300	-	lm
	$I_F = 3000\text{ mA}$	Φ_V	3950	4350	-	lm
Color temperature	$I_F = 3000\text{ mA}$	CCT	3680	4000	4350	K
Chromaticity coordinates	$I_F = 3000\text{ mA}$	x	-	0.3818	-	
	$I_F = 3000\text{ mA}$	y	-	0.3797	-	
Full angle of half intensity	$I_F = 3000\text{ mA}$	$2\phi_{1/2}$	-	130	-	$^{\circ}$
Forward voltage	$I_F = 3000\text{ mA}$	V_F	18.0	21.0	24.0	V
Temperature coefficient of V_F	$I_F = 3000\text{ mA}$	TCV_F	-	3.0	-	mV/K
Temperature coefficient of Φ_V	$I_F = 3000\text{ mA}$	$TC\Phi_V$	-	0.22	-	%/K

Notes

- Forward voltages are tested at a current pulse duration of 1 ms and a tolerance of $\pm 0.1\text{ V}$. Luminous flux is measured at a current pulse duration of 25 ms and an accuracy of $\pm 11\%$.
- CRI: 80

OPTICAL AND ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)
VLPW0303C6, WARM WHITE

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous flux	$I_F = 2100\text{ mA}$	Φ_V	2340	2580	-	lm
	$I_F = 3000\text{ mA}$	Φ_V	3000	3430	-	lm
Color temperature	$I_F = 3000\text{ mA}$	CCT	2670	3000	3120	K
Chromaticity coordinates	$I_F = 3000\text{ mA}$	x	-	0.4450	-	
	$I_F = 3000\text{ mA}$	y	-	0.4060	-	
Full angle of half intensity	$I_F = 3000\text{ mA}$	$2\phi_{1/2}$	-	130	-	$^{\circ}$
Forward voltage	$I_F = 3000\text{ mA}$	V_F	18.0	21.0	24.0	V
Temperature coefficient of V_F	$I_F = 3000\text{ mA}$	TCV_F	-	3.0	-	mV/K
Temperature coefficient of Φ_V	$I_F = 3000\text{ mA}$	$TC\Phi_V$	-	0.22	-	%/K

Notes

- Forward voltages are tested at a current pulse duration of 1 ms and a tolerance of $\pm 0.1\text{ V}$. Luminous flux is measured at a current pulse duration of 25 ms and an accuracy of $\pm 11\%$.
- CRI: 80

COLOR BINNING (I_F at 2100 mA)		
PART	BIN CODE	CCT (K)
VLPC0303C6	A	5000 to 5450
	B	5450 to 6000
	C	6000 to 6650
	D	6650 to 7400
VLPN0303C6	N	3860 to 4000
	M	4000 to 4350
VLPW0303C6	J	2670 to 2870
	K	2870 to 3120

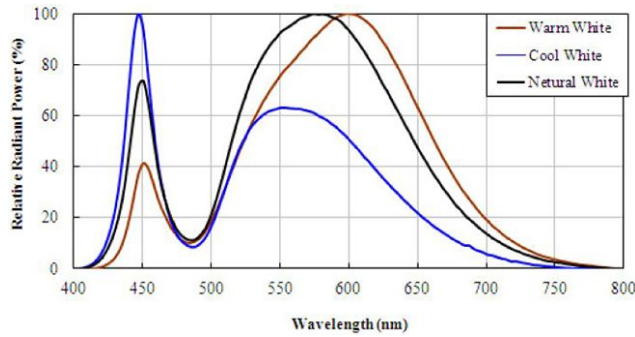


Fig. 1 - Relative Spectrale Emission

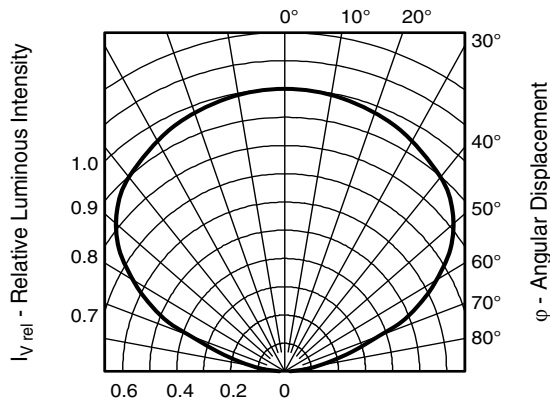


Fig. 2 - Relative Intensity vs. Angular Displacement

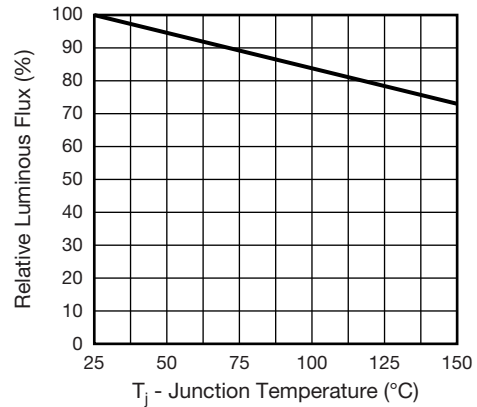


Fig. 3 - Relative Luminous Flux vs. Junction Temperature ($I_F = 3200$ mA)

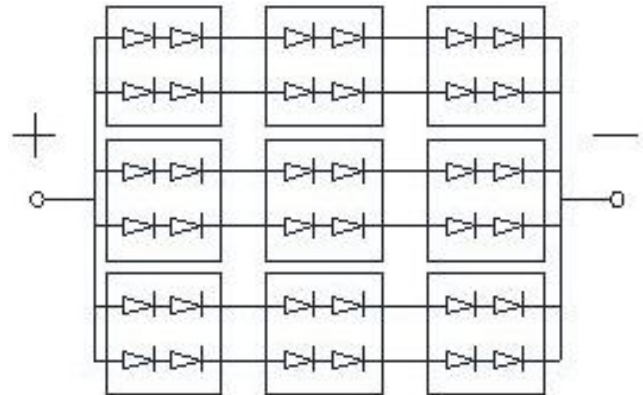


Fig. 4 - Array Circuit Type



PACKAGE DIMENSIONS in millimeters

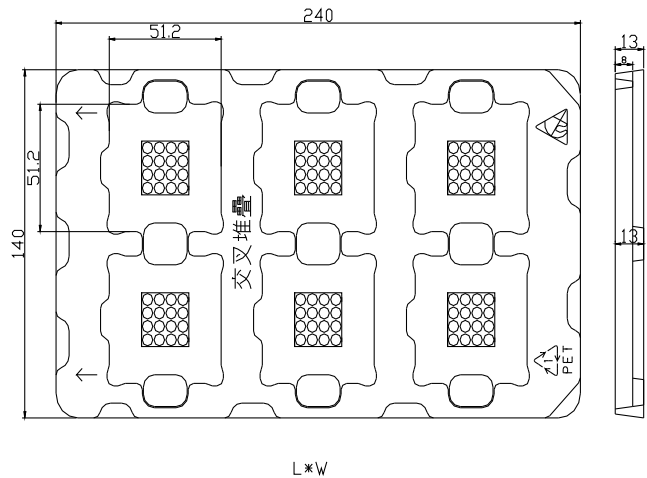
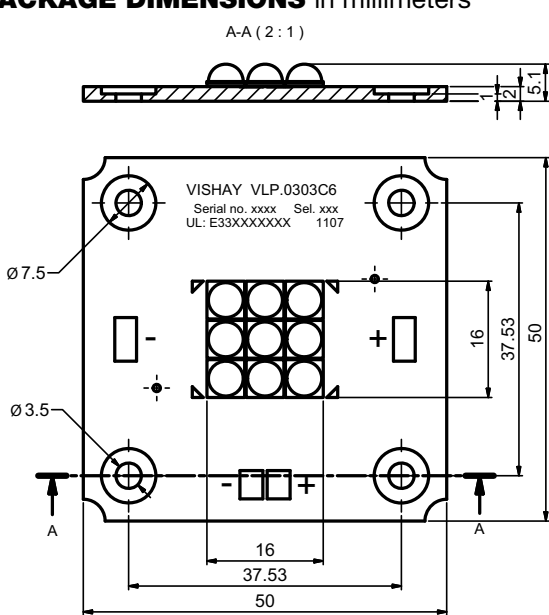
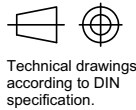


Fig. 5 - 6 Pieces LED Array in One Tray

Not indicated tolerances ± 0.2
 All dimensions in mm
 Drawing refers to following types: VLP.0303C6
 Drawing-No.: 9.920-6809.02-4
 Issue: prel; 18.07.2012



BAR CODE PRODUCT LABEL

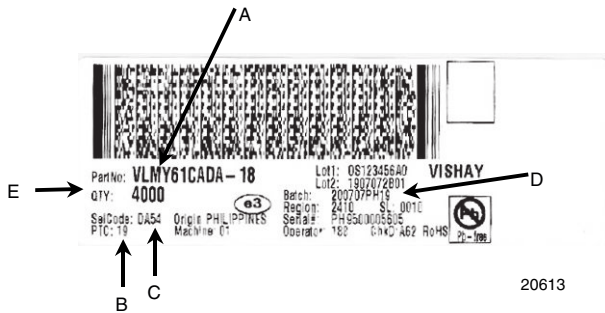


Fig. 6 - Tray and Box
5 Trays in One Anti-Static Bag, 2 Bags in One Carton,
Contains 60 Pieces LED

- A. Type of component
- B. Manufacturing plant
- C. SEL - selection code (bin):
X = color group
- D. Batch:
200707 = year 2007, week 07
PH19 = plant code
- E. Total quantity

Note

- 3 trays in one box contains 18 pieces LED array. Minimum order quantity: 18



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