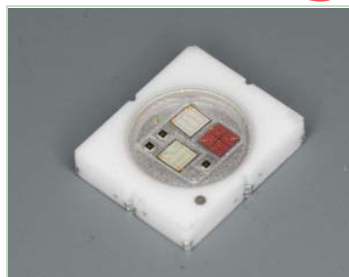


Application Note 1-1

Z-POWER LED series Binning and Labeling



Z-Power series is designed for high current operation and high flux output applications.

Z-Power LED's thermal management perform exceeds other power LED solutions.

It incorporates state of the art SMD design and Thermal emission material.

Full color Z-Power LED is using 3 RGB power chips and rendering 7colors.

In case of the full color product used in architectural lighting or decoration, it emits 7colors in one package so that it can render a clear mixed color when it is mixed with other colors.

P5-II

Features

- Super high Flux output and high Luminance
- Designed for high current operation
- Low thermal resistance
- SMT solderability
- Lead Free product
- RoHS compliant

Applications

- Mobile phone flash
- Automotive interior / exterior lighting
- Automotive signal lighting
- Automotive forward lighting
- Architectural lighting
- LCD TV / Monitor Backlight
- Projector light source
- Traffic signals
- Task lighting
- Decorative / Pathway lighting
- Remote / Solar powered lighting
- Household appliances

Full Code of Z-Power LED Series

Full code form : $X_1 X_2 X_3 X_4 X_5 X_6 - X_7 X_8 - X_9 X_{10} X_{11} X_{12} X_{13} X_{14}$

1. Part Number

- X_1 : Color
- X_2 : Z-Power LED series number
- X_3 : LENS type
- X_4 : Chip quantity (or Power Dissipation)
- X_5 : Package outline size
- X_6 : Type of PCB

2. Internal Number

- X_7
- X_8

3. Code Labeling

- X_9 : Luminous flux (Red)
- X_{10} : Luminous flux (Blue)
- X_{11} : Luminous flux (Green)
- X_{12} : Dominant Wavelength (Red)
- X_{13} : Dominant Wavelength (Blue)
- X_{14} : Dominant Wavelength (Green)

4. Sticker Diagram on Reel & Aluminum Vinyl Bag

PART NO. : $X_1 X_2 X_3 X_4 X_5 X_6 - X_7 X_8$

 QUANTITY : ###

 LOT NUMBER : #####

 BIN CODE : $X_9 X_{10} X_{11} X_{12} X_{13} X_{14}$



Code Labeling

**P5-II has a separate labeling system independent of the other Z-Power series.
Test condition is IF = 350mA at room temperature ($T_A = 25^\circ\text{C}$).**

1. Luminous Flux

1) Red

Bin Code	Luminous Flux [lm]
P	24.5 ~ 32.0
Q	32.0 ~ 39.0
R	39.0~54.0

2) Blue

Bin Code	Luminous Flux [lm]
K	8.5 ~ 11
L	11.0 ~ 18.0

3) Green

Bin Code	Luminous Flux [lm]
R	41.5 ~ 54.0
S	54.0 ~ 70.0

Tolerance : $\pm 10\%$ of Luminous flux value

The list explains the photometric luminous flux bins for Z-Power LED. Z-Power LED are tested and binned by photometric luminous flux. Not all bins are available in all colors.

2. Dominant Wavelength

P5-II series are tested and binned for dominant wavelength (blue, green, red)

1) Red

Bin Code	Dominant Wavelength [nm]
R	618 ~ 629

2) Blue

Bin Code	Dominant Wavelength [nm]
B	455 ~ 462

3) Green

Bin Code	Dominant Wavelength [nm]
F	519 ~ 525
G	525 ~ 530
H	530 ~ 535

Tolerance

Dominant wavelength : ± 0.5 nm

3. Forward Voltage

Color	Forward Voltage [V]
Red	2.00 ~ 3.00
Green	3.00 ~ 4.20
Blue	3.00 ~ 4.10

Tolerance : ± 0.06 V

No further forward voltage binning available

Binning

P5-II has bins, use it as follows to purchase.

Luminous Flux			Dominant Wavelength	Allowed Bin Codes
Red	Blue	Green	Green	
P	K	R	F	PKRRBF
			G	PKRRBG
			H	PKRRBH
		S	F	PKSRBF
			G	PKSRBG
			H	PKSRBH
	L	R	F	PLRRBF
			G	PLRRBG
			H	PLRRBH
		S	F	PLSRBF
			G	PLSRBG
			H	PLSRBH
Q	K	R	F	QKRRBF
			G	QKRRBG
			H	QKRRBH
		S	F	QKSRBF
			G	QKSRBG
			H	QKSRBH
	L	R	F	QLRRBF
			G	QLRRBG
			H	QLRRBH
		S	F	QLSRBF
			G	QLSRBG
			H	QLSRBH
R	K	R	F	RKRRBF
			G	RKRRBG
			H	RKRRBH
		S	F	RKSRBF
			G	RKSRBG
			H	RKSRBH
	L	R	F	RLRRBF
			G	RLRRBG
			H	RLRRBH
		S	F	RLSRBF
			G	RLSRBG
			H	RLSRBH