

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.

Z Power LED is ideal light sources for general illumination applications, custom designed solutions, automotive large LCD backlights

This application note provides binning and labeling information of Z-Power LED series.

It includes the Z-Power LED bins for luminous flux, wavelength (or x,y coordinates), correlated color temperature (CCT) for white and forward voltage.

P4

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
- Torch
- 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
- X_7 : Grade of characteristic code





2. Internal Number


- X_8
- X_9

3. Code Labeling

- X_{10} : Luminous flux (or Radiant flux for royal blue)
- $X_{11} X_{12} X_{13}$: Dominant wavelength (or x,y coordinates rank code)
- X_{14} : Forward voltage

4. Sticker Diagram on Reel & Aluminum Vinyl Bag

PART NO. : $X_1 X_2 X_3 X_4 X_5 X_6 X_7 - X_8 X_9$

 QUANTITY : ###

 LOT NUMBER : #####

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




For more information about binning and labeling, refer to the Application Note -1

Part Number

Part numbers specify color, Z-Power series, Lens type, P_d, size, PCB and Grade of characteristic code type of Z-Power LED.

• Example: X₁ X₂ X₃ X₄ X₅ X₆ X₇ - X₈ X₉ 1)

X ₁	Color
W	Pure White
N	Warm White
S	Natural White
D	Royal Blue
B	Blue
C	Cyan
G	Green
A	Amber
R	Red
F	Full Color (7-color)

X ₂	Z-Power Series
1	P1
3	P3
4	P4
7	P7
9	P9

X ₃	LENS Type
0	PI,P5 Flat Type
1	PI Inner Lens Type 2)
2	P3,P4,P9 Dome Type 3)
3	P3 Side Type 4)

Note:

- 1) X₈, X₉ is a internal code number
- 2) View angle : white 70°, other colors 60°
- 3) Hemispherical dome type
- 4) View angle : -80° ~ 80°

X₄	Chip Quantity (or Power Dissipation)
1	1 chip (1W)
2	2 chip (2.5W)
3	Full Color (7-color)
4	4 chip (5W)

X₅	Package Outline Size
9	9 X 9 mm
8	D 8 mm
5	D 5 mm

X₆	Metal PCB Type
0	Emitter Only
1	Rectangular
2	Star

X₇	Grade of Characteristic Code
J	P4-II Series
L	P4 Warm White CRI grade

Code Labeling

1. Luminous Flux Bins

- Luminous flux bin structure for pure white, warm white, blue, cyan, green, amber and red Z-Power.

Bin Code		Luminous Flux [lm]
J		6 ~ 8.5
K		8.5 ~ 11.0
L		11.0 ~ 14.5
M		14.5 ~ 19.0
O		19.0 ~ 24.5
P		24.5 ~ 32.0
Q		32.0 ~ 41.5
R		41.5 ~ 54.0
S	S1	54.0 ~ 60.0
	S2	60.0 ~ 70.0
T	T1	70.0 ~ 80.0
	T2	80.0 ~ 91.0
U	U1	91.0 ~ 100.0
	U2	100.0 ~ 118.5
V		118.5 ~ 154.0
W		154.0 ~ 200.0
X		200.0 ~ 260.0
Y		260.0 ~ 340.0

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.

Tolerance : ±10% of Luminous flux value

2. Color Bins

Z-Power are tested and binned for dominant wavelength (blue, green, red) or x,y coordinates (pure white, warm white)

2 -1 Blue, Green, Red

Bin Code	Color	Dominant Wavelength [nm]
BB1	Blue	455 ~ 460
BB2		460 ~ 465
BB3		465 ~ 470
BB4		470 ~ 475
GG1	Green	520 ~ 525
GG2		525 ~ 530
GG3		530 ~ 535
RR1	Red	618 ~ 625
RR2		625 ~ 632

Tolerance

Dominant wavelength : ± 0.5 nm

Peak wavelength : ± 2.0 nm

2-2. Pure White CIE

Pure white product tested and binned by x,y coordinates and CCT

- Pure white bin structure

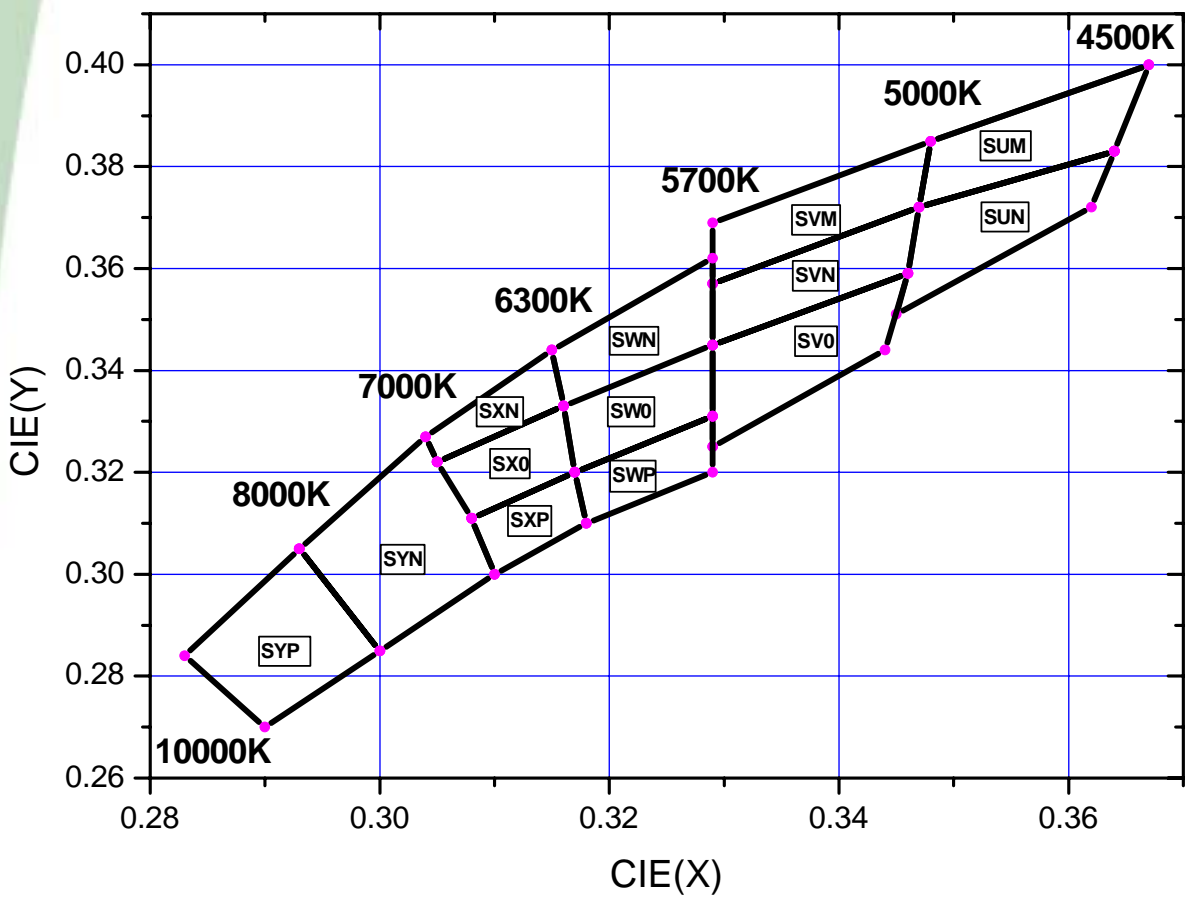
Bin	CHR_X	CHR_Y	CCT(K)	Bin	CHR_X	CHR_Y	CCT(K)
SYP	0.293	0.305	9000	SWP	0.329	0.331	6050
	0.283	0.284			0.317	0.320	
	0.290	0.270			0.318	0.310	
	0.300	0.285			0.329	0.320	
SYN	0.304	0.327	7500	SVM	0.329	0.325	5350
	0.293	0.305			0.348	0.385	
	0.300	0.285			0.329	0.369	
	0.310	0.300			0.329	0.362	
	0.308	0.311			0.329	0.357	
SXN	0.315	0.344	6700	SVN	0.347	0.372	5350
	0.304	0.327			0.329	0.357	
	0.305	0.322			0.329	0.345	
	0.316	0.333			0.346	0.359	
SX0	0.316	0.333	6700	SV0	0.346	0.359	5350
	0.305	0.322			0.329	0.345	
	0.308	0.311			0.329	0.331	
	0.317	0.32			0.329	0.325	
SXP	0.317	0.320	6700	SUM	0.344	0.344	4800
	0.308	0.311			0.345	0.351	
	0.310	0.300			0.367	0.400	
	0.318	0.310			0.348	0.385	
SWN	0.329	0.362	6050	SUN	0.347	0.372	4800
	0.315	0.344			0.364	0.383	
	0.316	0.333			0.364	0.383	
	0.329	0.345			0.347	0.372	
	0.329	0.357			0.346	0.359	
SW0	0.329	0.345	6050		0.345	0.351	
	0.316	0.333			0.362	0.372	
	0.317	0.320					
	0.329	0.331					

Tolerance

Color coordinate : ±0.005

CCT : ±5% of value

- Pure white binning structure graphical representation



2-3. Natural white

Natural white product tested and binned by x,y coordinates and CCT

- Natural white bin structure

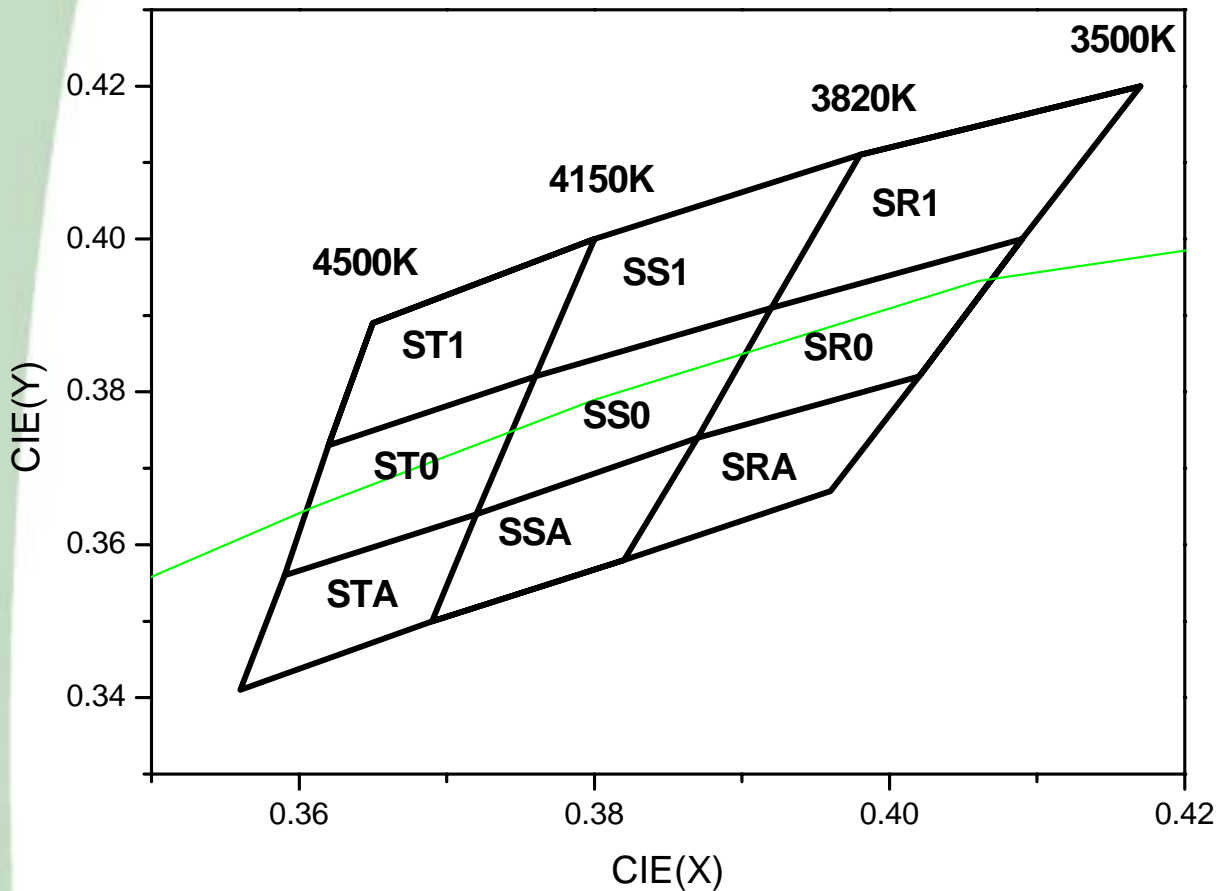
Bin	CHR_X	CHR_Y	CCT(K)	Bin	CHR_X	CHR_Y	CCT(K)
ST1	0.380	0.400	4325	SSA	0.387	0.374	3985
	0.365	0.389			0.372	0.364	
	0.362	0.373			0.369	0.350	
	0.376	0.382			0.382	0.358	
ST0	0.376	0.382	4325	SR1	0.417	0.420	3660
	0.362	0.373			0.398	0.411	
	0.359	0.356			0.392	0.391	
	0.372	0.364			0.409	0.400	
STA	0.372	0.364	4325	SR0	0.409	0.400	3660
	0.359	0.356			0.392	0.391	
	0.356	0.341			0.387	0.374	
	0.369	0.350			0.402	0.382	
SS1	0.398	0.411	3985	SRA	0.402	0.382	3660
	0.380	0.400			0.387	0.374	
	0.376	0.382			0.382	0.358	
	0.392	0.391			0.396	0.367	
SS0	0.392	0.391	3985				
	0.376	0.382					
	0.372	0.364					
	0.387	0.374					

Tolerance

Color coordinate : ± 0.005

CCT : $\pm 5\%$ of value

- Natural white binning structure graphical representation



2-4. Warm White

Warm white product tested and binned by x,y coordinates and CCT

- Warm white bin structure

Bin	CHR_X	CHR_Y	CCT(K)	Bin	CHR_X	CHR_Y	CCT(K)
SL1	0.435	0.429	3375	SJ1	0.466	0.440	2950
	0.417	0.420			0.450	0.436	
	0.411	0.405			0.441	0.419	
	0.427	0.413			0.457	0.423	
SL0	0.427	0.413	3375	SJ0	0.457	0.423	2950
	0.411	0.405			0.441	0.419	
	0.405	0.390			0.433	0.403	
	0.420	0.398			0.449	0.408	
SLA	0.420	0.398	3375	SJA	0.449	0.408	2950
	0.405	0.390			0.433	0.403	
	0.399	0.375			0.426	0.388	
	0.412	0.381			0.440	0.392	
SLB	0.412	0.381	3375	SJB	0.440	0.392	2950
	0.399	0.375			0.426	0.388	
	0.395	0.365			0.42	0.375	
	0.407	0.37			0.432	0.378	
SK1	0.450	0.436	3150	SH1	0.482	0.444	2750
	0.435	0.429			0.466	0.440	
	0.427	0.413			0.457	0.423	
	0.441	0.419			0.472	0.426	
SK0	0.441	0.419	3150	SH0	0.472	0.426	2750
	0.427	0.413			0.457	0.423	
	0.420	0.398			0.449	0.408	
	0.433	0.403			0.464	0.412	
SKA	0.433	0.403	3150	SHA	0.464	0.412	2750
	0.420	0.398			0.449	0.408	
	0.412	0.381			0.440	0.392	
	0.426	0.388			0.454	0.395	
SKB	0.426	0.388	3150	SHB	0.454	0.395	2750
	0.412	0.381			0.440	0.392	
	0.407	0.370			0.432	0.378	
	0.420	0.375			0.446	0.381	

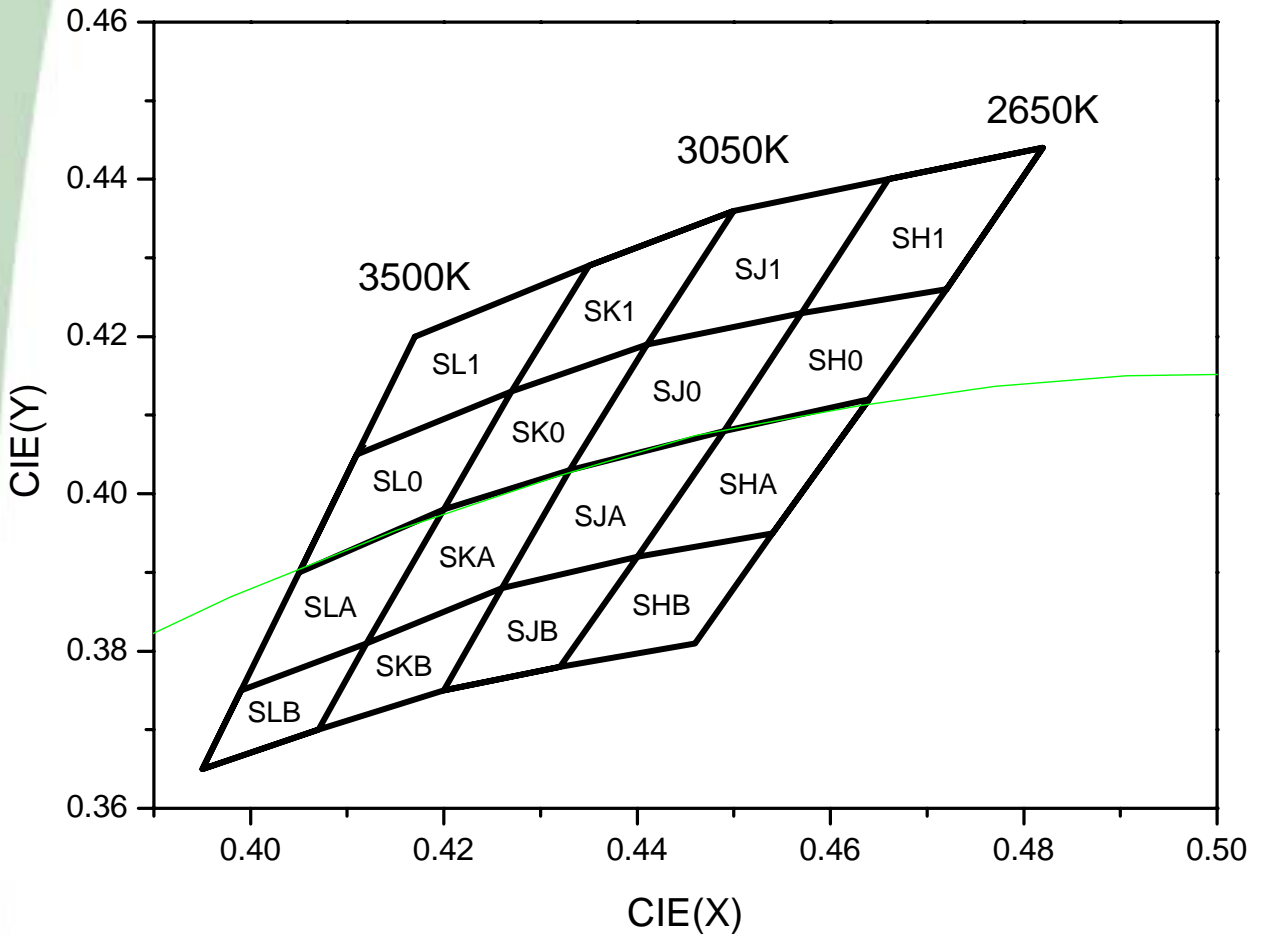
Tolerance

Color coordinate : ±0.005

CCT : ±5% of value



- Warm white binning structure graphical representation





3. Forward Voltage Bins

Bin Code	Forward Voltage [V]
D	2.00 ~ 2.25
E	2.25 ~ 2.50
F	2.50 ~ 2.75
G	2.75 ~ 3.00
H	3.00 ~ 3.25
I	3.25 ~ 3.50
J	3.50 ~ 3.75
K	3.75 ~ 4.00
L	4.00 ~ 4.25
M	4.25 ~ 4.50

Tolerance : $\pm 0.06V$

1W Order Code (P4)

Z Power LED has an order code, use it as follows to purchase.

- Example: W42180 – 1A
 - W42180 : Part Number
 - 1A : Order code

You can select PCB type, Lens type and Z-Power LED series number as part number.

1. Pure White (1A,1B)

Standard Order Codes for pure white				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1A	T	SXN	G H I J K	TSXNG~TSXNK
		SWN		TSWNG~TSWNK
		SX0		TSX0G~TSX0K
		SW0		TSW0G~TSW0K
Part No. – 1B	U	SXN	G H I J K	USXNG~USXNK
		SWN		USWNG~USWNK
		SX0		USX0G~USX0K
		SW0		USW0G~USW0K
	V*	SXN		VSXNG~VSXNK
		SWN		VSWNG~VSWNK
		SX0		VSX0G~VSX0K
		SW0		VSW0G~VSW0K

* : Not yet available

1W Order Code (P4)

1. Pure White (1C,1D,1E,1F)

Standard Order Codes for pure white				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1C	T	SX0	G	TSX0G~TSX0K
		SW0	H	TSW0G~TSW0K
		SXP	I	TSXPG~TSXPK
		SWP	J	TSWPG~TSWPK
Part No. – 1D	U	SX0	G H I J K	USX0G~USX0K
		SW0		USW0G~USW0K
		SXP		USXPG~USXPK
		SWP		USWPG~USWPK
	V*	SX0		VSX0G~VSX0K
		SW0		VSW0G~VSW0K
		SXP		VSXPG~VSXPK
		SWP		VSWPG~VSWPK
Part No. – 1E	T	SYP	G H I J K	TSYPG~TSYPK
		SYN		TSYNG~TSYNK
Part No. – 1F	U	SYP	G H I J K	USYPG~USYPK
		SYN		USYNG~USYNK
	V*	SYP		VSYPG~VSYPK
		SYN		VSYNG~VSYNK

* : Not yet available

1W Order Code (P4)

1. Pure White (1G,1H,1I,1J)

Standard Order Codes for pure white				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1G	T	SVM	G H I J K	TSVMG~TSVMK
		SVN		TSVNG~TSVNK
		SV0		TSV0G~TSV0K
Part No. – 1H	U	SVM	G H I J K	USVMG~USVMK
		SVN		USVNG~USVNK
		SV0		USV0G~USV0K
	V*	SVM		V SVMG~V SVMK
		SVN		V SVNG~V SVNK
		SV0		V SV0G~V SV0K
Part No. – 1I	T	SUM	G H I J K	TSUMG~TSUMK
		SUN		TSUNG~TSUNK
		SVN		TSVNG~TSVNK
Part No. – 1J	U	SUM	G H I J K	USUMG~USUMK
		SUN		USUNG~USUNK
		SVN		USVNG~USVNK
	V*	SUM		V SUMG~V SUMK
		SUN		V SUNG~V SUNK
		SVN		V SVNG~V SVNK

* : Not yet available

1W Order Code (P4)

Z Power LED has an order code, use it as follows to purchase.

- Example: S42180 – 1A
 - S42180 : Part Number
 - 1A : Order code

You can select PCB type, Lens type and Z-Power LED series number as part number.

2. Natural white (1A,1B)

Standard Order Codes for Natural white				
Order Code	LF	CC	V _F	Bin Codes
Part No. - 1A	S1	ST1	H I J K	S1ST1H~S1ST1K
		SS1		S1SS1H~S1SS1K
		ST0		S1ST0H~S1ST0K
		SS0		S1SS0H~S1SS0K
	S2	ST1		S2ST1H~S2ST1K
		SS1		S2SS1H~S2SS1K
		ST0		S2ST0H~S2ST0K
		SS0		S2SS0H~S2SS0K
Part No. - 1B*	T1	ST1	H I J K	T1ST1H~T1ST1K
		SS1		T1SS1H~T1SS1K
		ST0		T1ST0H~T1ST0K
		SS0		T1SS0H~T1SS0K
	T2	ST1		T2ST1H~T2ST1K
		SS1		T2SS1H~T2SS1K
		ST0		T2ST0H~T2ST0K
		SS0		T2SS0H~T2SS0K

* : Not yet available

1W Order Code (P4)

2. Natural white (1C,1D)

Standard Order Codes for Natural white				
Order Code	LF	CC	V _F	Bin Codes
Part No. - 1C	S1	SS1	H I J K	S1SS1H~S1SS1K
		SR1		S1SR1H~S1SR1K
		SS0		S1SS0H~S1SS0K
		SR0		S1SR0H~S1SR0K
	S2	SS1		S2SS1H~S2SS1K
		SR1		S2SR1H~S2SR1K
		SS0		S2SS0H~S2SS0K
		SR0		S2SR0H~S2SR0K
Part No. - 1D*	T1	SS1	H I J K	T1SS1H~T1SS1K
		SR1		T1SR1H~T1SR1K
		SS0		T1SS0H~T1SS0K
		SR0		T1SR0H~T1SR0K
	T2	SS1		T2SS1H~T2SS1K
		SR1		T2SR1H~T2SR1K
		SS0		T2SS0H~T2SS0K
		SR0		T2SR0H~T2SR0K

* : Not yet available

1W Order Code (P4)

2. Natural white (1E,1F)

Standard Order Codes for Natural white				
Order Code	LF	CC	V _F	Bin Codes
Part No. - 1E	S1	ST0	H I J K	S1ST0H~S1ST0K
		SS0		S1SS0H~S1SS0K
		STA		S1STAH~S1STAK
		SSA		S1SSAH~S1SSAK
	S2	ST0		S2ST0H~S2ST0K
		SS0		S2SS0H~S2SS0K
		STA		S2STAH~S2STAK
		SSA		S2SSAH~S2SSAK
Part No. - 1F*	T1	ST0	H I J K	T1ST0H~T1ST0K
		SS0		T1SS0H~T1SS0K
		STA		T1STAH~T1STAK
		SSA		T1SSAH~T1SSAK
	T2	ST0		T2ST0H~T2ST0K
		SS0		T2SS0H~T2SS0K
		STA		T2STAH~T2STAK
		SSA		T2SSAH~T2SSAK

* : Not yet available

1W Order Code (P4)

2. Natural white (1G,1H)

Standard Order Codes for Natural white				
Order Code	LF	CC	V _F	Bin Codes
Part No. - 1G	S1	SS0	H I J K	S1SS0H~S1SS0K
		SR0		S1SR0H~S1SR0K
		SSA		S1SSAH~S1SSAK
		SRA		S1SRAH~S1SRAK
	S2	SS0		S2SS0H~S2SS0K
		SR0		S2SR0H~S2SR0K
		SSA		S2SSAH~S2SSAK
		SRA		S2SRAH~S2SRAK
Part No. - 1H*	T1	SS0	H I J K	T1SS0H~T1SS0K
		SR0		T1SR0H~T1SR0K
		SSA		T1SSAH~T1SSAK
		SRA		T1SRAH~T1SRAK
	T2	SS0		T2SS0H~T2SS0K
		SR0		T2SR0H~T2SR0K
		SSA		T2SSAH~T2SSAK
		SRA		T2SRAH~T2SRAK

* : Not yet available

1W Order Code (P4)

Z Power LED has an order code, use it as follows to purchase.

- Example: N42180 – 1A
 - N42180 : Part Number
 - 1A : Order code

You can select PCB type, Lens type and Z-Power LED series number as part number.

3. Warm White - N42180 (1A,1B)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1A	R	SLO	H I J K	RSLOH~RSLOK
		SLA		RSLAH~RSLAK
		SKA		RSKAH~RSKAK
		SK0		RSK0H~RSK0K
	S1	SLO		S1SLOH~S1SLOK
		SLA		S1SLAH~S1SLAK
		SKA		S1SKAH~ S1SKAK
		SK0		S1SK0H~ S1SK0K
Part No. - 1B*	S2	SLO	S2SLOH~S2SLOK	
		SLA	S2SLAH~S2SLAK	
		SKA	S2SKAH~S2SKAK	
		SK0	S2SK0H~S2SK0K	

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180 (1C,1D)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1C	R	SK0	H I J K	RSK0H~RSK0K
		SKA		RSKAH~RSKAK
		SJA		RSJAH~RSJAK
		SJ0		RSJ0H~RSJ0K
	S1	SK0		S1SK0H~S1SK0K
		SKA		S1SKAH~S1SKAK
		SJA		S1SJAH~S1SJAK
		SJ0		S1SJ0H~S1SJ0K
Part No. - 1D*	S2	SK0	H I J K	S2SK0H~S2SK0K
		SKA		S2SKAH~S2SKAK
		SJA		S2SJAH~S2SJAK
		SJ0		S2SJ0H~S2SJ0K

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180 (1E,1F)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. - 1E	R	SJ0	H I J K	RSJ0H~RSJ0K
		SJA		RSJAH~RSJAK
		SHA		RSHAH~RSHAK
		SH0		RSH0H~RSH0K
	S1	SJ0		S1SJ0H~S1SJ0K
		SJA		S1SJAH~S1SJAK
		SHA		S1SHAH~S1SHAK
		SH0		S1SH0H~S1SH0K
Part No. - 1F*	S2	SJ0	H I J K	S2SJ0H~S2SJ0K
		SJA		S2SJAH~S2SJAK
		SHA		S2SHAH~S2SHAK
		SH0		S2SH0H~S2SH0K

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180 (1G,1H)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. - 1G	R	SL1	H I J K	RSL1H~RSL1K
		SL0		RSL0H~RSL0K
		SK0		RSK0H~RSK0K
		SK1		RSK1H~RSK1K
	S1	SL1		S1SL1H~S1SL1K
		SL0		S1SL0H~S1SL0K
		SK0		S1SK0H~S1SK0K
		SK1		S1SK1H~S1SK1K
Part No. - 1H*	S2	SL1	H I J K	S2SL1H~S2SL1K
		SL0		S2SL0H~S2SL0K
		SK0		S2SK0H~S2SK0K
		SK1		S2SK1H~S2SK1K

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180 (1I,1J)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1I	R	SJ1	H I J K	RSJ1H~RSJ1K
		SJ0		RSJ0H~RSJ0K
		SH0		RSH0H~RSH0K
		SH1		RSH1H~RSH1K
	S1	SJ1		S1SJ1H~S1SJ1K
		SJ0		S1SJ0H~S1SJ0K
		SH0		S1SH0H~S1SH0K
		SH1		S1SH1H~S1SH1K
Part No. – 1J*	S2	SJ1	H I J K	S2SJ1H~S2SJ1K
		SJ0		S2SJ0H~S2SJ0K
		SH0		S2SH0H~S2SH0K
		SH1		S2SH1H~S2SH1K

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180 (1K,1L)

Standard Order Codes for Warm White				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1K	R	SLA	H I J K	RSLAH~RSLAK
		SLB		RSLBH~RSLBK
		SKB		RSKBH~RSKBK
		SKA		RSKAH~RSKAK
	S1	SLA		S1SLAH~S1SLAK
		SLB		S1SLBH~S1SLBK
		SKB		S1SKBH~S1SKBK
		SKA		S1SKAH~S1SKAK
Part No. – 1L*	S2	SLA	H I J K	S2SLAH~S2SLAK
		SLB		S2SLBH~S2SLBK
		SKB		S2SKBH~S2SKBK
		SKA		S2SKAH~S2SKAK

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180 (1M,1N)

Standard Order Codes for Warm White				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1M	R	SJA	H I J K	RSJAH~RSJAK
		SJB		RSJBH~RSJBK
		SHB		RSHBH~RSHBK
		SHA		RSHAH~RSHAK
	S1	SJA		S1SJAH~S1SJAK
		SJB		S1SJBH~S1SJBK
		SHB		S1SHBH~S1SHBK
		SHA		S1SHAH~S1SHAK
Part No. – 1N*	S2	SJA	H I J K	S2SJAH~S2SJAK
		SJB		S2SJBH~S2SJBK
		SHB		S2SHBH~S2SHBK
		SHA		S2SHAH~S2SHAK

* : Not yet available

1W Order Code (P4)

Z Power LED has an order code, use it as follows to purchase.

- Example: N42180L – 1A
 - N42180L : Part Number
 - 1A : Order code

You can select PCB type, Lens type and Z-Power LED series number as part number.

3. Warm White – N42180L (1A,1B)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1A	S1	SLO	H I J K	S1SLOH~S1SLOK
		SLA		S1SLAH~S1SLAK
		SKA		S1SKAH~ S1SKAK
		SK0		S1SK0H~ S1SK0K
	S2	SLO		S2SLOH~S2SLOK
		SLA		S2SLAH~S2SLAK
		SKA		S2SKAH~S2SKAK
		SK0		S2SK0H~S2SK0K
Part No. - 1B*	T1	SLO	H I J K	T1SLOH~T1SLOK
		SLA		T1SLAH~T1SLAK
		SKA		T1SKAH~ T1SKAK
		SK0		T1SK0H~ T1SK0K
	T2	SLO		T2SLOH~T2SLOK
		SLA		T2SLAH~T2SLAK
		SKA		T2SKAH~T2SKAK
		SK0		T2SK0H~T2SK0K

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180L (1C,1D)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1C	S1	SK0	H I J K	S1SK0H~S1SK0K
		SKA		S1SKAH~S1SKAK
		SJA		S1SJAH~S1SJAK
		SJ0		S1SJ0H~S1SJ0K
	S2	SK0		S2SK0H~S2SK0K
		SKA		S2SKAH~S2SKAK
		SJA		S2SJAH~S2SJAK
		SJ0		S2SJ0H~S2SJ0K
Part No. - 1D*	T1	SK0	H I J K	T1SK0H~T1SK0K
		SKA		T1SKAH~T1SKAK
		SJA		T1SJAH~T1SJAK
		SJ0		T1SJ0H~T1SJ0K
	T2	SK0		T2SK0H~T2SK0K
		SKA		T2SKAH~T2SKAK
		SJA		T2SJAH~T2SJAK
		SJ0		T2SJ0H~T2SJ0K

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180L (1E,1F)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. - 1E	S1	SJ0	H I J K	S1SJ0H~S1SJ0K
		SJA		S1SJAH~S1SJAK
		SHA		S1SHAH~S1SHAK
		SH0		S1SH0H~S1SH0K
	S2	SJ0		S2SJ0H~S2SJ0K
		SJA		S2SJAH~S2SJAK
		SHA		S2SHAH~S2SHAK
		SH0		S2SH0H~S2SH0K
Part No. - 1F*	T1	SJ0	H I J K	T1SJ0H~T1SJ0K
		SJA		T1SJAH~T1SJAK
		SHA		T1SHAH~T1SHAK
		SH0		T1SH0H~T1SH0K
	T2	SJ0		T2SJ0H~T2SJ0K
		SJA		T2SJAH~T2SJAK
		SHA		T2SHAH~T2SHAK
		SH0		T2SH0H~T2SH0K

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180L (1G,1H)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. - 1G	S1	SL1	H I J K	S1SL1H~S1SL1K
		SL0		S1SL0H~S1SL0K
		SK0		S1SK0H~S1SK0K
		SK1		S1SK1H~S1SK1K
	S2	SL1		S2SL1H~S2SL1K
		SL0		S2SL0H~S2SL0K
		SK0		S2SK0H~S2SK0K
		SK1		S2SK1H~S2SK1K
Part No. - 1H*	T1	SL1	H I J K	T1SL1H~T1SL1K
		SL0		T1SL0H~T1SL0K
		SK0		T1SK0H~T1SK0K
		SK1		T1SK1H~T1SK1K
	T2	SL1		T2SL1H~T2SL1K
		SL0		T2SL0H~T2SL0K
		SK0		T2SK0H~T2SK0K
		SK1		T2SK1H~T2SK1K

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180L (1I,1J)

Standard Order Codes for Warm white				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1I	S1	SJ1	H I J K	S1SJ1H~S1SJ1K
		SJ0		S1SJ0H~S1SJ0K
		SH0		S1SH0H~S1SH0K
		SH1		S1SH1H~S1SH1K
	S2	SJ1		S2SJ1H~S2SJ1K
		SJ0		S2SJ0H~S2SJ0K
		SH0		S2SH0H~S2SH0K
		SH1		S2SH1H~S2SH1K
Part No. – 1J*	T1	SJ1	H I J K	T1SJ1H~T1SJ1K
		SJ0		T1SJ0H~T1SJ0K
		SH0		T1SH0H~T1SH0K
		SH1		T1SH1H~T1SH1K
	T2	SJ1		T2SJ1H~T2SJ1K
		SJ0		T2SJ0H~T2SJ0K
		SH0		T2SH0H~T2SH0K
		SH1		T2SH1H~T2SH1K

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180L (1K,1L)

Standard Order Codes for Warm White				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1K	S1	SLA	H I J K	S1SLAH~S1SLAK
		SLB		S1SLBH~S1SLBK
		SKB		S1SKBH~S1SKBK
		SKA		S1SKAH~S1SKAK
	S2	SLA		S2SLAH~S2SLAK
		SLB		S2SLBH~S2SLBK
		SKB		S2SKBH~S2SKBK
		SKA		S2SKAH~S2SKAK
Part No. – 1L*	T1	SLA	H I J K	T1SLAH~T1SLAK
		SLB		T1SLBH~T1SLBK
		SKB		T1SKBH~T1SKBK
		SKA		T1SKAH~T1SKAK
	T2	SLA		T2SLAH~T2SLAK
		SLB		T2SLBH~T2SLBK
		SKB		T2SKBH~T2SKBK
		SKA		T2SKAH~T2SKAK

* : Not yet available

1W Order Code (P4)

3. Warm White – N42180L (1M,1N)

Standard Order Codes for Warm White				
Order Code	LF	CC	V _F	Bin Codes
Part No. – 1M	S1	SJA	H I J K	S1SJAH~S1SJAK
		SJB		S1SJBH~S1SJBK
		SHB		S1SHBH~S1SHBK
		SHA		S1SHAH~S1SHAK
	S2	SJA		S2SJAH~S2SJAK
		SJB		S2SJBH~S2SJBK
		SHB		S2SHBH~S2SHBK
		SHA		S2SHAH~S2SHAK
Part No. – 1N*	T1	SJA	H I J K	T1SJAH~T1SJAK
		SJB		T1SJBH~T1SJBK
		SHB		T1SHBH~T1SHBK
		SHA		T1SHAH~T1SHAK
	T2	SJA		T2SJAH~T2SJAK
		SJB		T2SJBH~T2SJBK
		SHB		T2SHBH~T2SHBK
		SHA		T2SHAH~T2SHAK

* : Not yet available

1W Order Code (P4)

4. Blue - B42180

Standard Order Codes for Blue				
Order Code	Luminous Flux	Color Coordinate	Forward Voltage	Bin Codes
Part No. - 1A	M	BB1	H I J K	MBB1H~MBB1K
		BB2		MBB2H~MBB2K
	O	BB1		OBB1H~OBB1K
		BB2		OBB2H~OBB2K
Part No. - 1B	P	BB1	H I J K	PBB1H~PBB1K
		BB2		PBB2H~PBB2K
	Q*	BB1		QBB1H~QBB1K
		BB2		QBB2H~QBB2K
Part No. - 1C	M	BB3	H I J K	MBB3H~MBB3K
		BB4		MBB4H~MBB4K
	O	BB3		OBB3H~OBB3K
		BB4		OBB4H~OBB4K
Part No. - 1D	P	BB3	H I J K	PBB3H~PBB3K
		BB4		PBB4H~PBB4K
	Q*	BB3		QBB3H~QBB3K
		BB4		QBB4H~QBB4K

* : Not yet available

1W Order Code (P4)

5. Green - G42180

Standard Order Codes for Green				
Order Code	Luminous Flux	Color Coordinate	Forward Voltage	Bin Codes
Part No. - 1A	S	GG1	H,I,J,K	SGG1H~SGG1K
Part No. - 1B	T		H,I,J,K	TGG1H~TGG1K
	U*			UGG1H~UGG1K
Part No. - 1C	S	GG2	H,I,J,K	SGG2H~SGG2K
Part No. - 1D	T		H,I,J,K	TGG2H~TGG2K
	U*			UGG2H~UGG2K
Part No. - 1E	S	GG3	H,I,J,K	SGG3H~SGG3K
Part No. - 1F	T		H,I,J,K	TGG3H~TGG3K
	U*			UGG3H~UGG3K

* : Not yet available

1W Order Code (P4)

6. Red - R42180

Standard Order Codes for Red				
Order Code	Luminous Flux	Color Coordinate	Forward Voltage	Bin Codes
Part No. - 1A	Q	RR1	D,E,F,G	QRR1D~QRR1G
Part No. - 1B	R		D,E,F,G	RRR1D~RRR1G
	S*			SRR1D~SRR1G
Part No. - 1C	Q	RR2	D,E,F,G	QRR2D~QRR2G
Part No. - 1D	R		D,E,F,G	RRR2D~RRR2G
	S*			SRR2D~SRR2G

* : Not yet available



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