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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



X42180

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

X42180

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

* The appearance and specifications of the product may be changed for improvement without notice.

Rev. 10

February. 2011

www.acriche.com

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

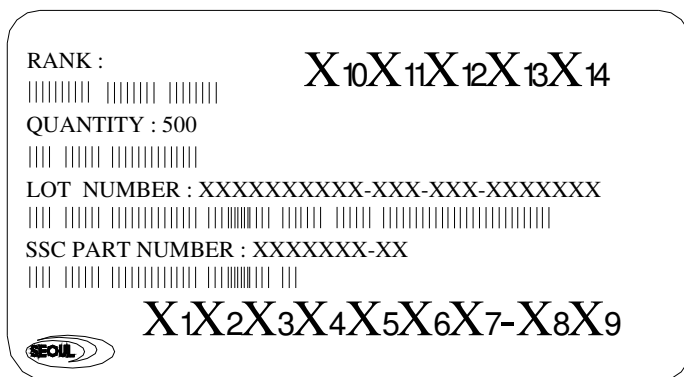
2. Internal Number

- X_8, X_9 : Revision No.

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

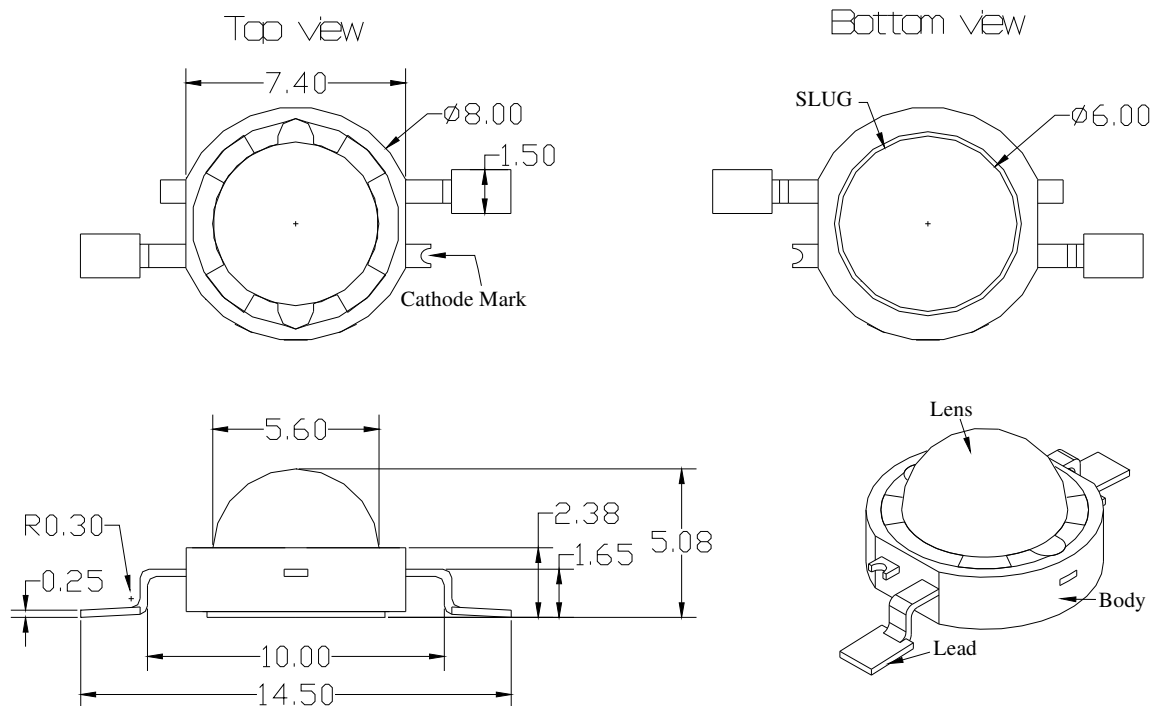
4. Sticker Diagram on Reel & Aluminum Vinyl Bag



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

Outline Dimension

1. Dome Type



Notes :

1. All dimensions are in millimeters. (tolerance : ± 0.2)
2. Scale : none
3. Slug of package is connected to anode.

* The appearance and specifications of the product may be changed for improvement without notice.

Characteristics for Z-Power LED

1. Pure White (W42180)

1-1 Electro-Optical characteristics at $I_F = 350\text{mA}$, $T_A = 25^\circ\text{C}$

Parameter		Symbol	Value			Unit
			Min	Typ	Max	
Luminous Flux ^[1]	T rank	Φ_V ^[2]	70	80	91	lm
	U rank	Φ_V ^[2]	91	105	-	lm
Correlated Color Temperature ^[3]		CCT	-	6300	-	K
CRI		R_a	-	75	-	-
Forward Voltage ^[4]		V_F	3.0	3.25	4	V
View Angle		$2\Theta_{1/2}$	127			deg.
Thermal resistance ^[5]		$R\theta_{J-B}$	8.8			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]		$R\theta_{J-C}$	7.2			$^\circ\text{C} / \text{W}$

1-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	1000 (@ $T_J = 90^\circ\text{C}$) ^[7]	mA
		1800 (@ 1KHz, 1/10 duty)	
Power Dissipation	P_d	4	W
Junction Temperature	T_J	145 (@ $I_F \leq 700\text{mA}$)	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[8]	-	$\pm 10,000\text{V HBM}$	-

* Notes :

- [1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram. CCT $\pm 5\%$ tester tolerance.
- [4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements
- [5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 $R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 Break voltage of Metal PCB is 6.5kVAC.
- [7] I_F Max is guaranteed under the $T_J \leq 90^\circ\text{C}$.
- [8] It is included the zener chip to protect the product from ESD.

-----Caution-----

1. Please do not drive at rated current more than 5 sec. without proper heat sink.

Characteristics for Z-Power LED

2. Warm White (N42180)

2-1 Electro-Optical characteristics at $I_F=350\text{mA}$, $T_A=25^\circ\text{C}$

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]	-	72	-	lm
Correlated Color Temperature ^[3]	CCT	-	3000	-	K
CRI	R_a	-	93	-	-
Forward Voltage ^[4]	V_F	3.0	3.25	4	V
View Angle	2θ 1/2	124			deg.
Thermal resistance ^[5]	$R\theta_{J-B}$	8.8			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]	$R\theta_{J-C}$	7.2			$^\circ\text{C} / \text{W}$

2-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	800	mA
Power Dissipation	P_d	3.2	W
Junction Temperature	T_j	145	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[7]	-	$\pm 10,000\text{V HBM}$	-

* Notes :

- [1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram.
CCT $\pm 5\%$ tester tolerance
- [4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements
- [5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 $R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
Break voltage of Metal PCB is 6.5kVAC
- [7] It is included the zener chip to protect the product from ESD.

-----Caution-----

1. Please do not drive at rated current more than 5 sec. without proper heat sink

Characteristics for Z-Power LED

3. Warm White (N42180H)

3-1 Electro-Optical characteristics at $I_F = 350\text{mA}$, $T_A = 25^\circ\text{C}$

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]	-	86	-	lm
Correlated Color Temperature ^[3]	CCT	-	3000	-	K
CRI	R_a	-	80	-	-
Forward Voltage ^[4]	V_F	3.0	3.25	4	V
View Angle	2θ 1/2	124			deg.
Thermal resistance ^[5]	$R\theta_{J-B}$	8.8			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]	$R\theta_{J-C}$	7.2			$^\circ\text{C} / \text{W}$

3-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	800	mA
Power Dissipation	P_d	3.2	W
Junction Temperature	T_j	145	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[7]	-	$\pm 10,000\text{V HBM}$	-

* Notes :

- [1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram.
CCT $\pm 5\%$ tester tolerance
- [4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements
- [5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 $R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
Break voltage of Metal PCB is 6.5kVAC
- [7] It is included the zener chip to protect the product from ESD.

-----Caution-----

1. Please do not drive at rated current more than 5 sec. without proper heat sink

Characteristics for Z-Power LED

4. Natural White (S42180)

4-1 Electro-Optical characteristics at $I_F=350\text{mA}$, $T_A=25^\circ\text{C}$

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]	-	76	-	lm
Correlated Color Temperature ^[3]	CCT	-	4000	-	K
CRI	R_a	-	93	-	-
Forward Voltage ^[4]	V_F	3.0	3.25	4	V
View Angle	2θ 1/2	124			deg.
Thermal resistance ^[5]	$R\theta_{J-B}$	8.8			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]	$R\theta_{J-C}$	7.2			$^\circ\text{C} / \text{W}$

4-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	800	mA
Power Dissipation	P_d	3.2	W
Junction Temperature	T_j	145	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[8]	-	$\pm 10,000\text{V HBM}$	-

* Notes :

[1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.

[2] Φ_V is the total luminous flux output as measured with an integrated sphere.

[3] Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram. CCT $\pm 5\%$ tester tolerance.

[4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements

[5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)

$R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)

Break voltage of Metal PCB is 6.5kVAC.

[7] It is included the zener chip to protect the product from ESD.

-----Caution-----

1. Please do not drive at rated current more than 5 sec. without proper heat sink

Characteristics for Z-Power LED

5. Natural White (S42180H)

5-1 Electro-Optical characteristics at $I_F = 350\text{mA}$, $T_A = 25^\circ\text{C}$

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]	-	94	-	lm
Correlated Color Temperature ^[3]	CCT	-	4000	-	K
CRI	R_a	-	80	-	-
Forward Voltage ^[4]	V_F	3.0	3.25	4	V
View Angle	2θ 1/2	124			deg.
Thermal resistance ^[5]	$R\theta_{J-B}$	8.8			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]	$R\theta_{J-C}$	7.2			$^\circ\text{C} / \text{W}$

5-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	800	mA
Power Dissipation	P_d	3.2	W
Junction Temperature	T_j	145	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[8]	-	$\pm 10,000\text{V HBM}$	-

* Notes :

- [1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram. CCT $\pm 5\%$ tester tolerance.
- [4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements
- [5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 $R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 Break voltage of Metal PCB is 6.5kVAC.
- [7] It is included the zener chip to protect the product from ESD.

-----Caution-----
1. Please do not drive at rated current more than 5 sec. without proper heat sink

Characteristics for Z-Power LED

6. Blue (B42180)

6-1 Electro-Optical characteristics at $I_F = 350\text{mA}$, $T_A = 25^\circ\text{C}$

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]	-	22	-	lm
Dominant Wavelength ^[3]	λ_D	455	465	475	nm
Forward Voltage ^[4]	V_F	3.0	3.25	4	V
View Angle	2Θ 1/2	130			deg.
Thermal resistance ^[5]	$R\theta_{J-B}$	8.8			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]	$R\theta_{J-C}$	7.2			$^\circ\text{C} / \text{W}$

6-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	1000	mA
Power Dissipation	P_d	4	W
Junction Temperature	T_j	145	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[7]	-	$\pm 10,000\text{V HBM}$	-

* Notes :

- [1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Dominant wavelength is derived from the CIE 1931 Chromaticity diagram.
A tolerance of $\pm 0.5\text{nm}$ for dominant wavelength
- [4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements
- [5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 $R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
Break voltage of Metal PCB is 6.5kVAC
- [7] It is included the zener chip to protect the product from ESD.

-----Caution-----

1. Please do not drive at rated current more than 5 sec. without proper heat sink
2. Blue power light sources represented here are IEC825 Class 2 for eye safety

Characteristics for Z-Power LED

7. Royal Blue (D42180)

7-1 Electro-Optical characteristics at $I_F = 350\text{mA}$, $T_A = 25^\circ\text{C}$

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Radiant Power ^[1]	Φ_V ^[2]	-	468	-	mW
Dominant Wavelength ^[3]	λ_D	455	457	460	nm
Forward Voltage ^[4]	V_F	3.0	3.25	3.8	V
View Angle	2Θ 1/2	130			deg.
Thermal resistance ^[5]	$R\theta_{J-B}$	8.8			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]	$R\theta_{J-C}$	7.2			$^\circ\text{C} / \text{W}$

7-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	1000	mA
Power Dissipation	P_d	4	W
Junction Temperature	T_j	145	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[7]	-	$\pm 10,000\text{V HBM}$	-

* Notes :

- [1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram.
CCT $\pm 5\%$ tester tolerance
- [4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements
- [5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 $R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
Break voltage of Metal PCB is 6.5kVAC
- [7] It is included the zener chip to protect the product from ESD.

-----Caution-----

1. Please do not drive at rated current more than 5 sec. without proper heat sink
2. Blue power light sources represented here are IEC825 Class 2 for eye safety

Characteristics for Z-Power LED

8. Green (G42180)

8-1 Electro-Optical characteristics at $I_F = 350\text{mA}$, $T_A = 25^\circ\text{C}$

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]	-	70	-	lm
Dominant Wavelength ^[3]	λ_D	520	525	535	nm
Forward Voltage ^[4]	V_F	3.0	3.25	4.1	V
View Angle	2Θ 1/2	130			deg.
Thermal resistance ^[5]	$R\theta_{J-B}$	9.5			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]	$R\theta_{J-C}$	8.0			$^\circ\text{C} / \text{W}$

8-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	1000	mA
Power Dissipation	P_d	4	W
Junction Temperature	T_j	145	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[7]	-	$\pm 10,000\text{V}$ HBM	-

* Notes :

- [1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Dominant wavelength is derived from the CIE 1931 Chromaticity diagram.
A tolerance of $\pm 0.5\text{nm}$ for dominant wavelength
- [4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements
- [5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_j \leq 110^\circ\text{C}$)
 $R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_j \leq 110^\circ\text{C}$)
Break voltage of Metal PCB is 6.5kVAC
- [7] It is included the zener chip to protect the product from ESD.

-----Caution-----

1. Please do not drive at rated current more than 5 sec. without proper heat sin

Characteristics for Z-Power LED

9. Red (R42180)

9-1 Electro-Optical characteristics at $I_F=350\text{mA}$, $T_A=25^\circ\text{C}$

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]	-	48	-	lm
Dominant Wavelength ^[3]	λ_D	618	625	630	nm
Forward Voltage ^[4]	V_F	2.0	2.3	3.0	V
View Angle	2θ 1/2	130			deg.
Thermal resistance ^[5]	$R\theta_{J-B}$	9			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]	$R\theta_{J-C}$	7.8			$^\circ\text{C} / \text{W}$

9-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	800	mA
Power Dissipation	P_d	2.4	W
Junction Temperature	T_j	145	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[7]	-	$\pm 10,000\text{V HBM}$	-

* Notes :

- [1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Dominant wavelength is derived from the CIE 1931 Chromaticity diagram.
A tolerance of $\pm 0.5\text{nm}$ for dominant wavelength
- [4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements
- [5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 $R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
Break voltage of Metal PCB is 6.5kVAC
- [7] It is included the zener chip to protect the product from ESD.

-----Caution-----

1. Please do not drive at rated current more than 5 sec. without proper heat sink

Characteristics for Z-Power LED

10. Amber (A42180)

10-1 Electro-Optical characteristics at $I_F=350\text{mA}$, $T_A=25^\circ\text{C}$

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]	-	48	-	lm
Dominant Wavelength ^[3]	λ_D	585	590	595	nm
Forward Voltage ^[4]	V_F	2.0	2.3	3.0	V
View Angle	2θ 1/2	130			deg.
Thermal resistance ^[5]	$R\theta_{J-B}$	9			$^\circ\text{C} / \text{W}$
Thermal resistance ^[6]	$R\theta_{J-C}$	7.8			$^\circ\text{C} / \text{W}$

10-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	800	mA
Power Dissipation	P_d	2.4	W
Junction Temperature	T_j	145	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
ESD Sensitivity ^[7]	-	$\pm 10,000\text{V HBM}$	-

* Notes :

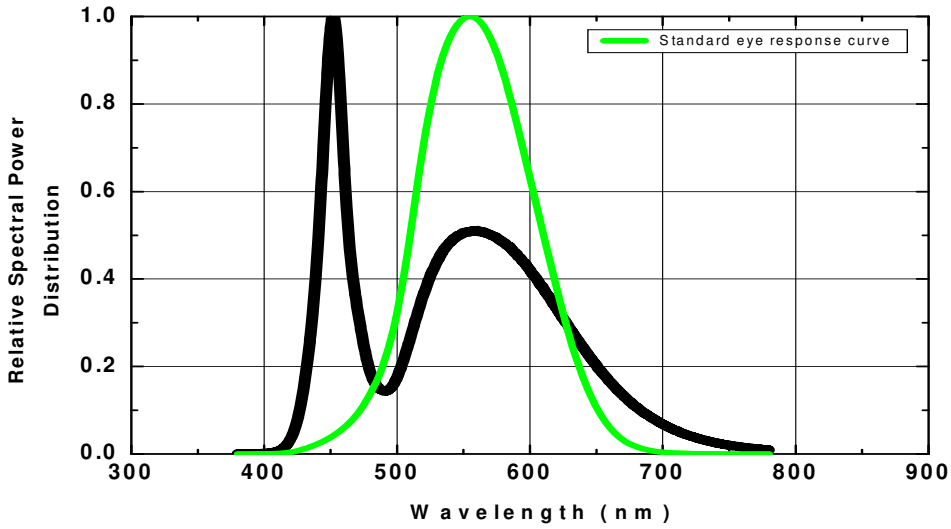
- [1] SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
- [2] Φ_V is the total luminous flux output as measured with an integrated sphere.
- [3] Dominant wavelength is derived from the CIE 1931 Chromaticity diagram.
A tolerance of $\pm 0.5\text{nm}$ for dominant wavelength
- [4] A tolerance of $\pm 0.06\text{V}$ on forward voltage measurements
- [5], [6] $R\theta_{J-B}$ is measured with a SSC metal core pcb. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
 $R\theta_{J-C}$ is measured with only emitter. ($25^\circ\text{C} \leq T_J \leq 110^\circ\text{C}$)
Break voltage of Metal PCB is 6.5kVAC
- [7] It is included the zener chip to protect the product from ESD.

-----Caution-----

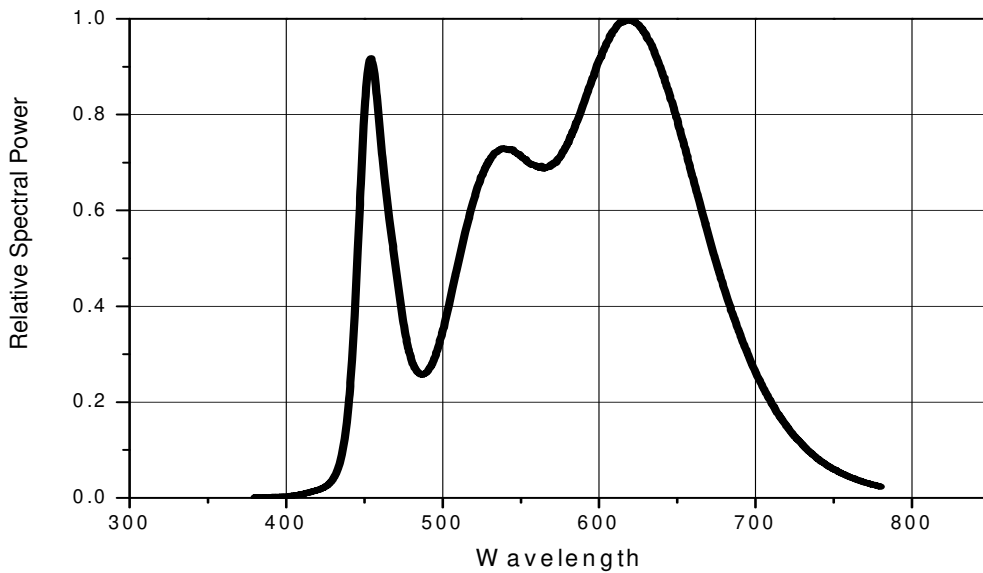
1. Please do not drive at rated current more than 5 sec. without proper heat sink

Color Spectrum, $T_A = 25^\circ C$

1. Pure White

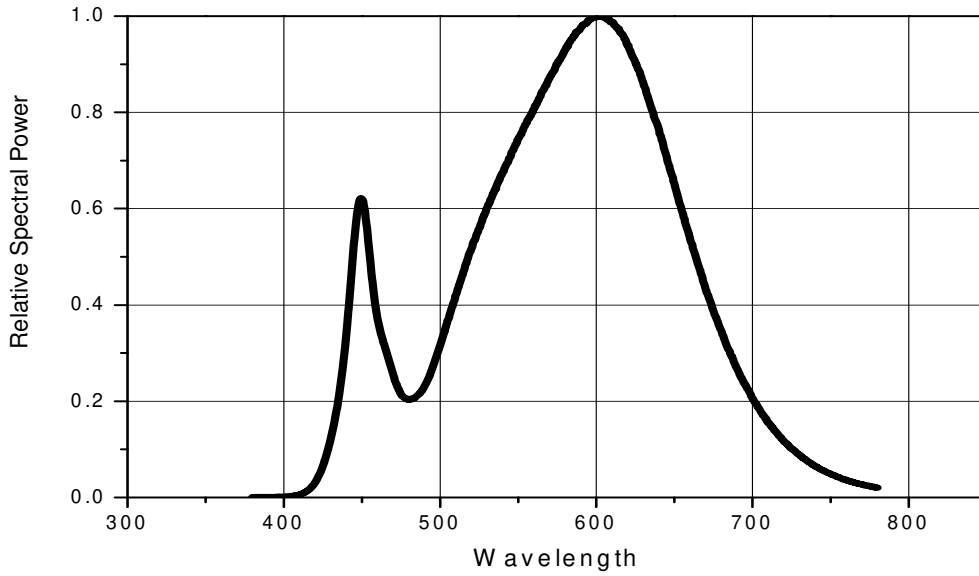


2. Warm White (N42180)

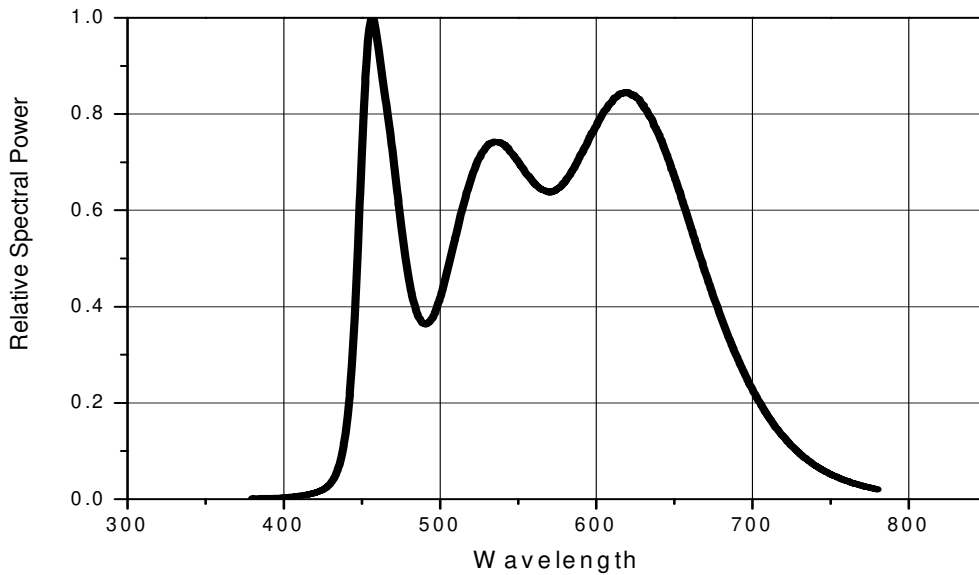


Color Spectrum, $T_A=25^\circ\text{C}$

3. Warm White (N42180H)

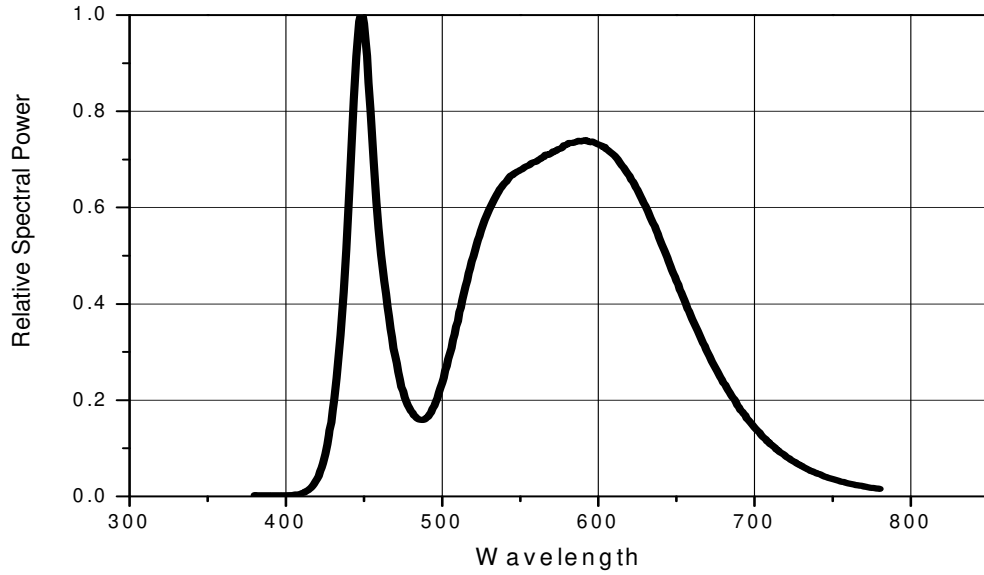


4. Natural White (S42180)

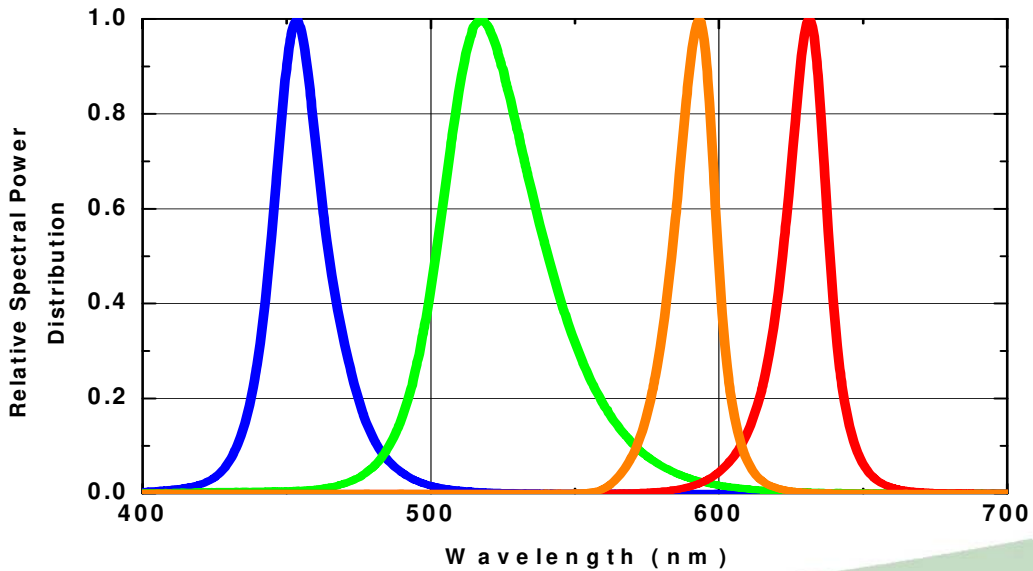


Color Spectrum, $T_A = 25^\circ C$

5. Natural White (S42180H)

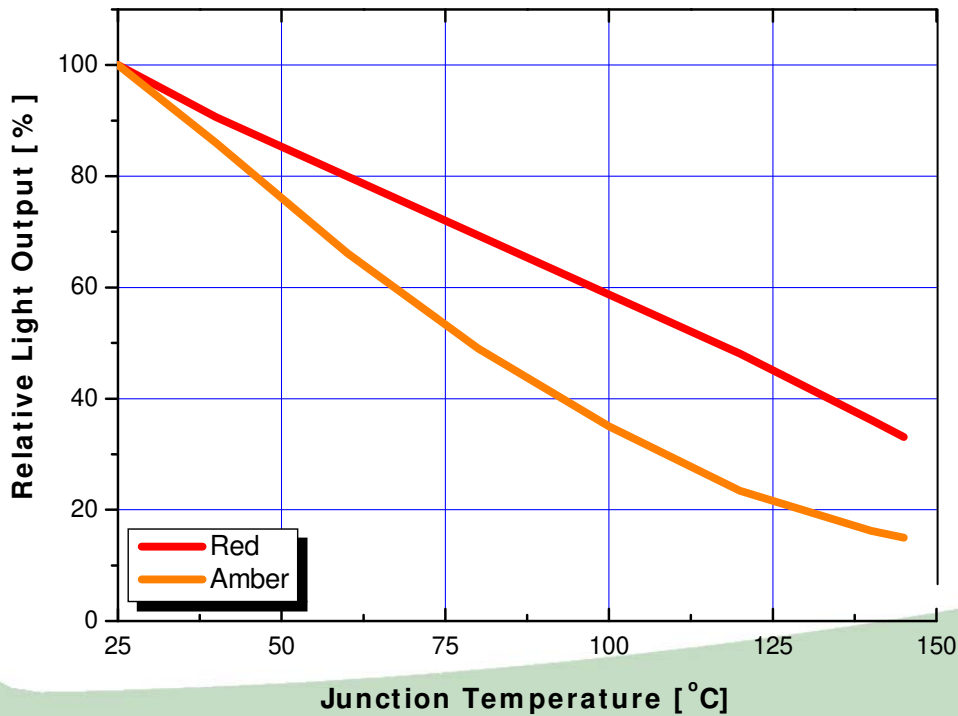
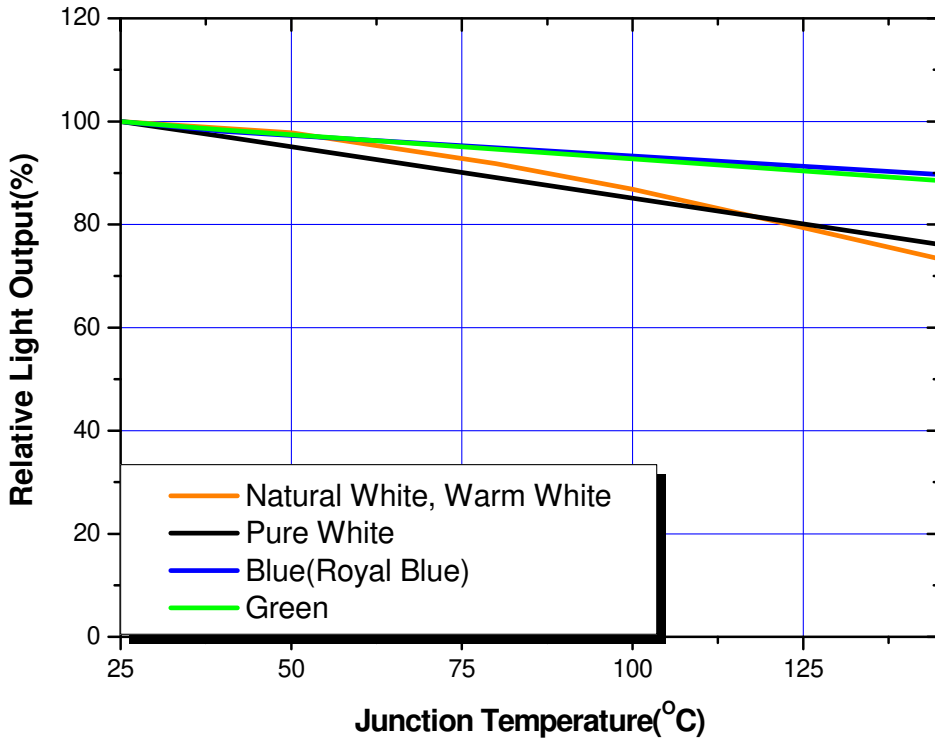


6. Red, Amber, Green, Blue(Royal Blue)



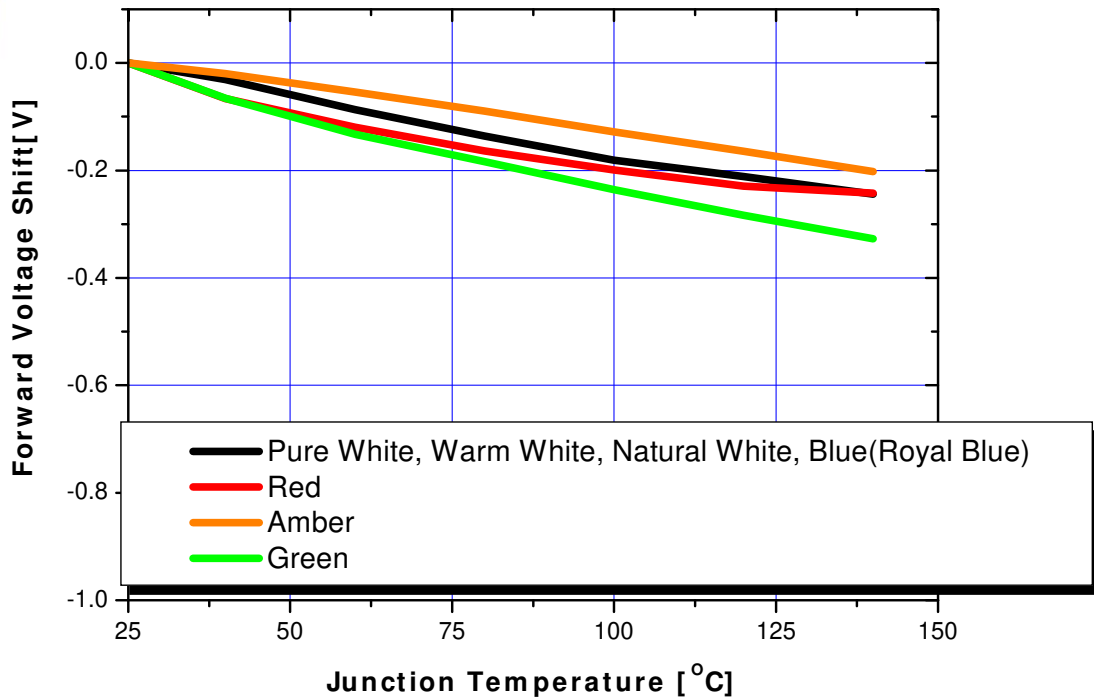
Junction Temperature Characteristics

1. Relative Light Output vs. Junction Temperature at $I_F = 350\text{mA}$

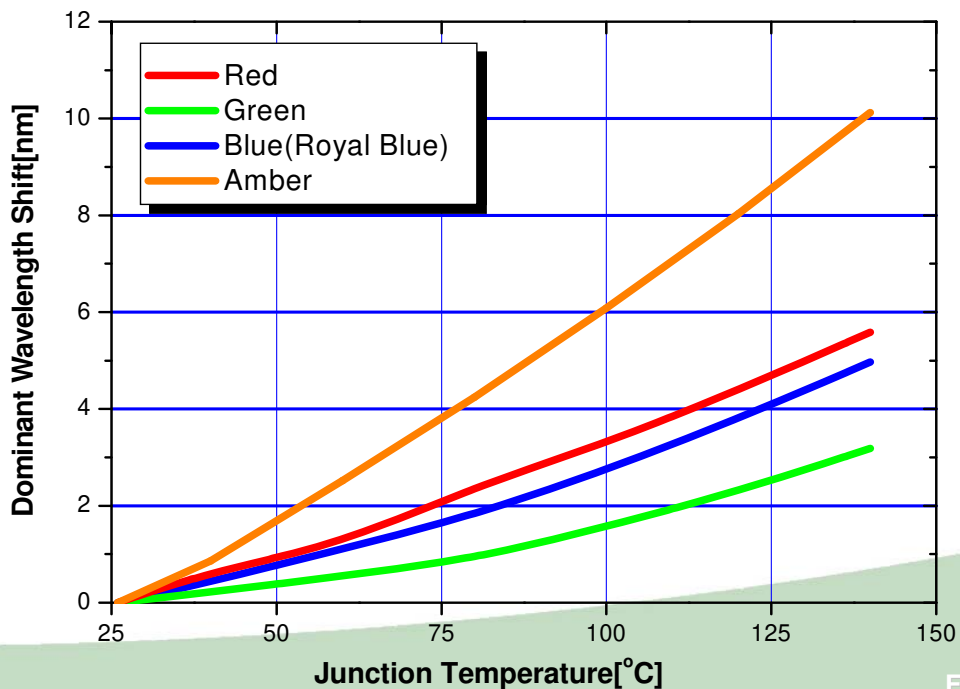


Junction Temperature Characteristics

2. Forward Voltage Shift vs. Junction Temperature at $I_F = 350\text{mA}$

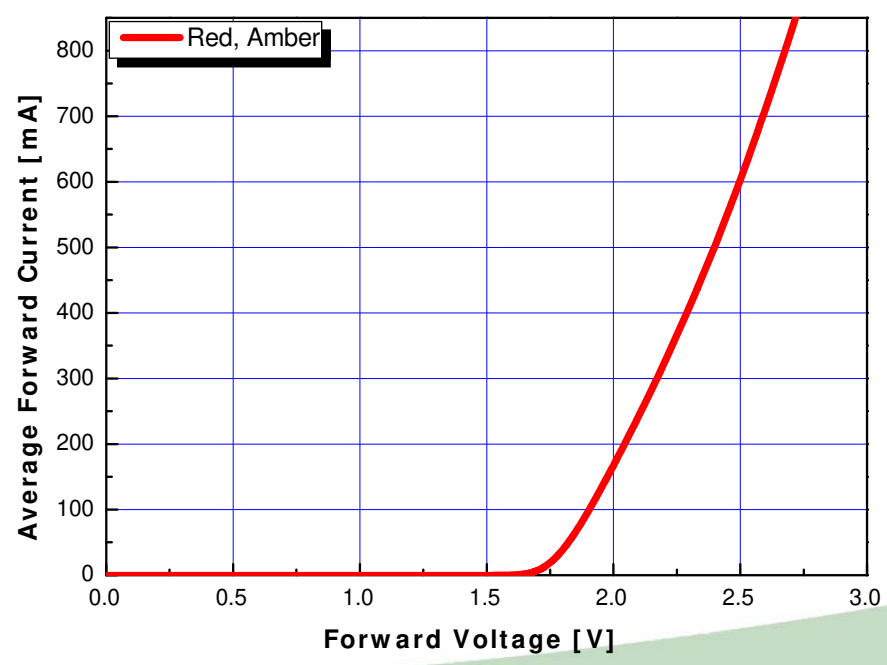
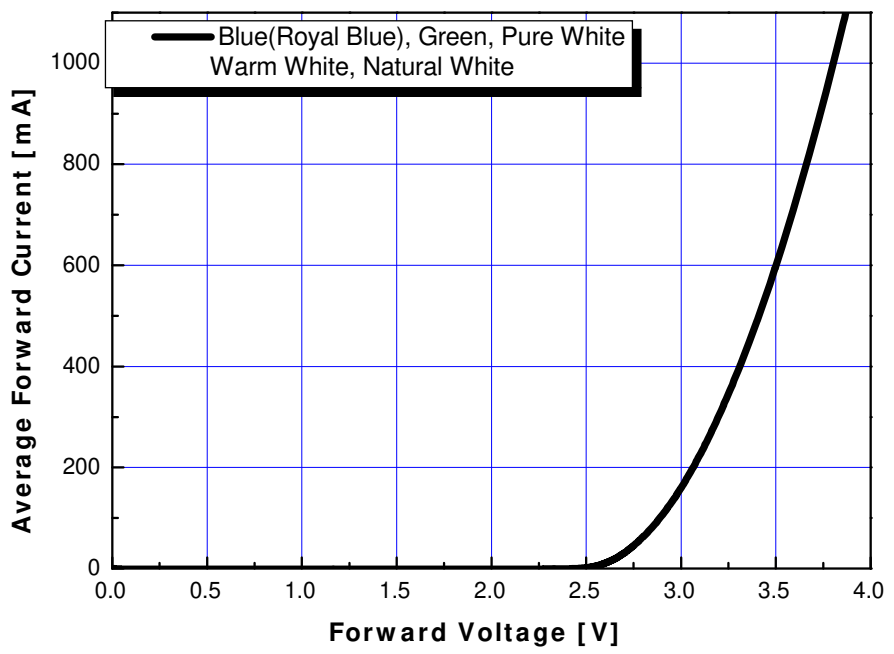


3. Wavelength Shift vs. Junction Temperature at $I_F = 350\text{mA}$



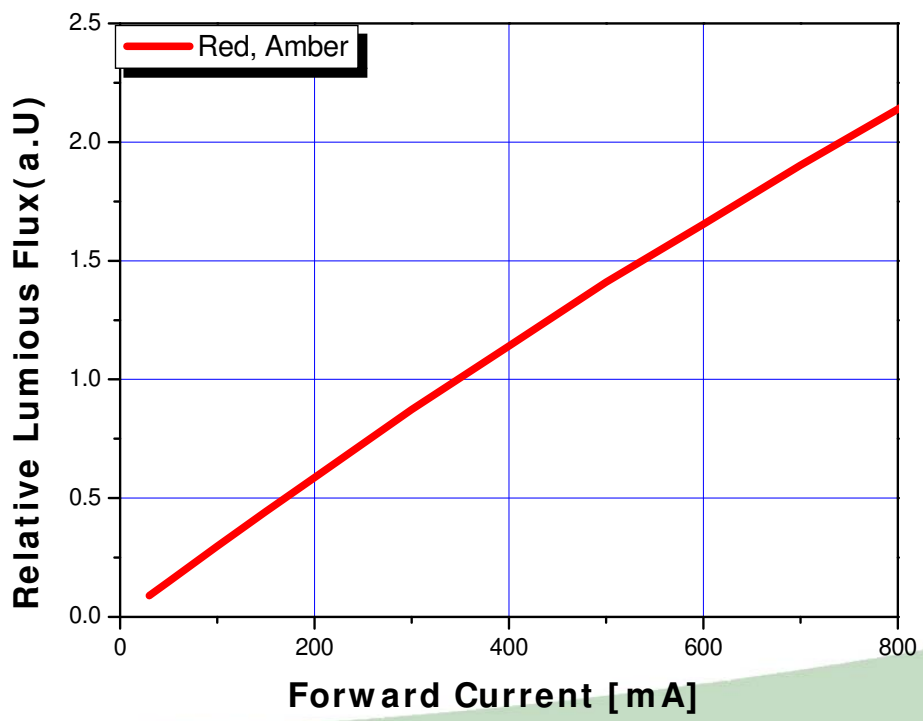
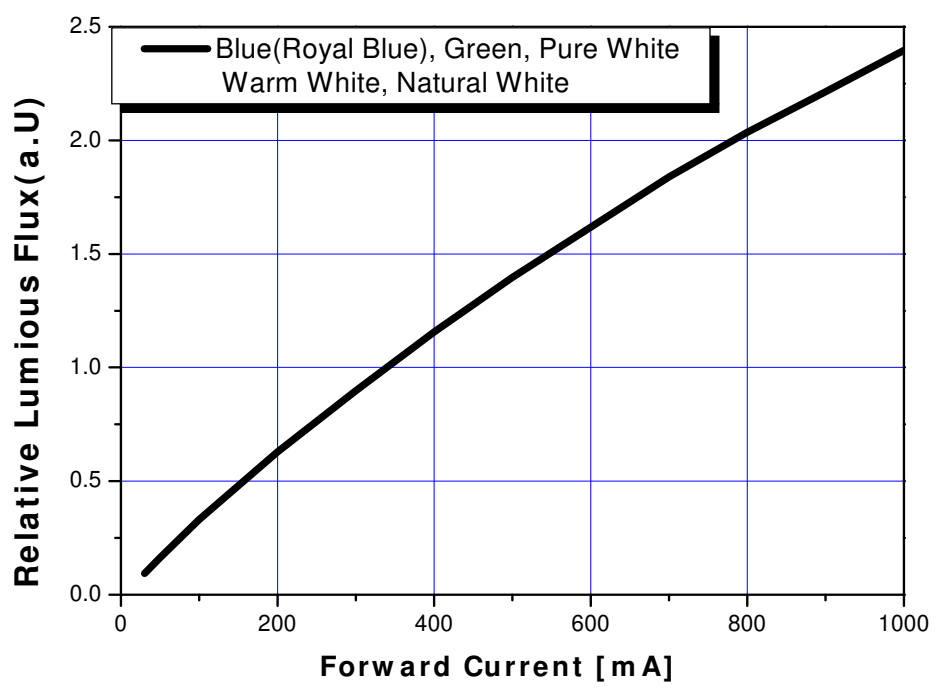
Forward Current Characteristics

1. Forward Voltage vs. Forward Current , $T_A = 25^\circ\text{C}$



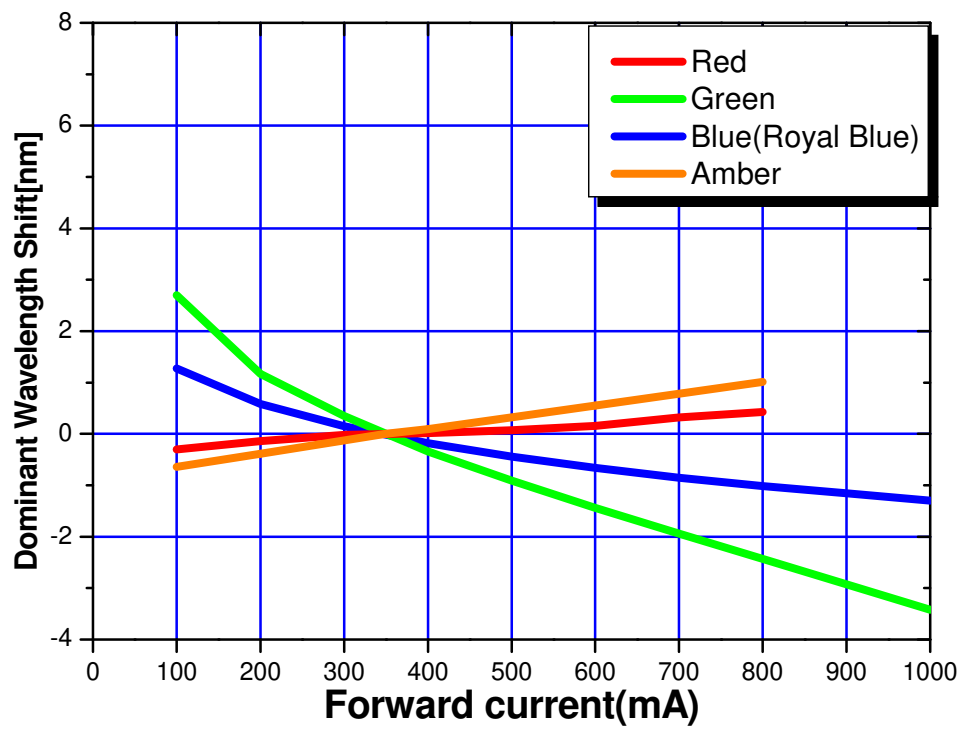
Forward Current Characteristics

2. Forward Current vs. Normalized Relative Luminous Flux, $T_A = 25^\circ\text{C}$



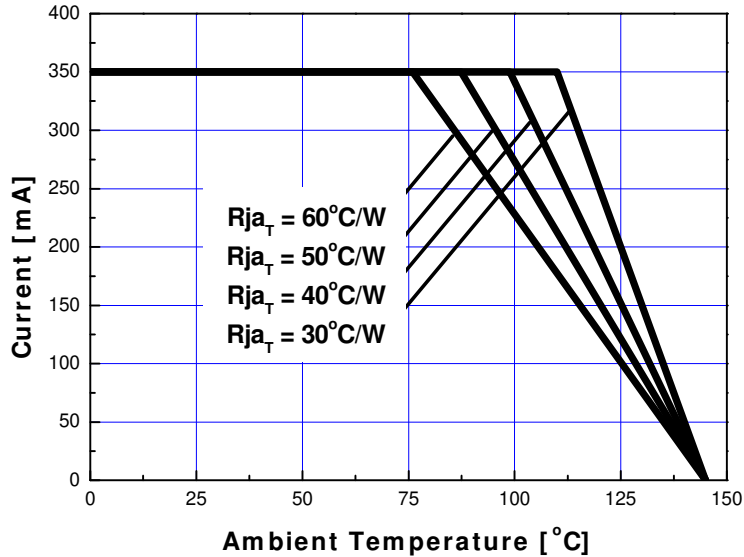
Forward Current Characteristics

3. Forward Current vs Wavelength Shift, $T_A = 25^\circ\text{C}$

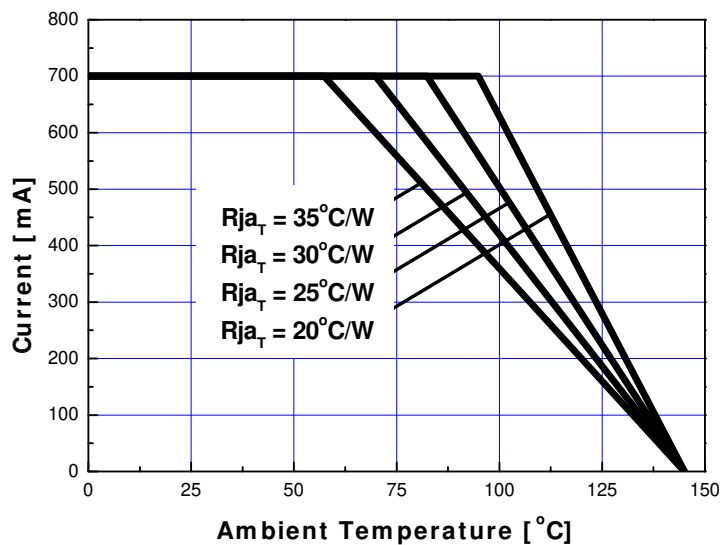


Ambient Temperature vs Allowable Forward Current

1-1. Pure White, Warm White, Natural White, Green, Blue(Royal Blue) ($T_{JMAX} = 145\text{ }^{\circ}\text{C}$, @350mA)

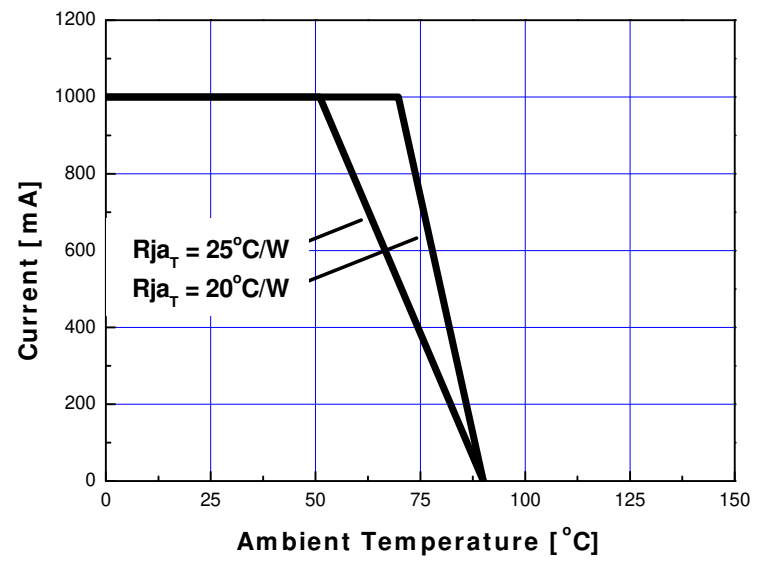


1-2. Pure White, Warm White, Natural White, Green, Blue(Royal Blue) ($T_{JMAX} = 145\text{ }^{\circ}\text{C}$, @700mA)



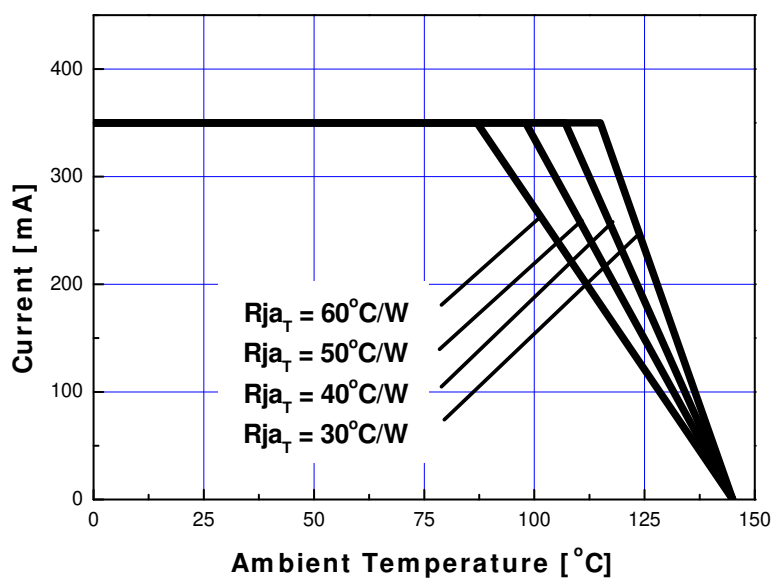
Ambient Temperature vs Allowable Forward Current

1-3. Pure White, Green, Blue(Royal Blue)
 ($T_{JMAX} = 90\text{ }^{\circ}\text{C}$, at 1000mA)

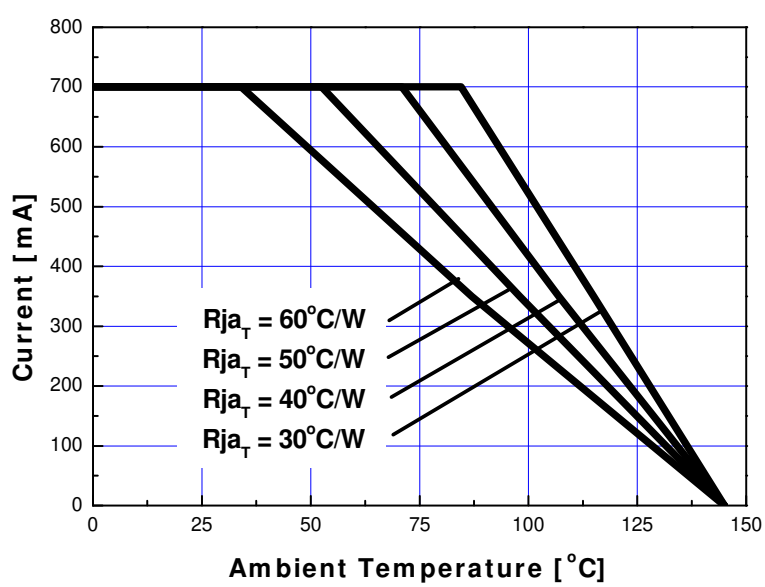


Ambient Temperature vs Allowable Forward Current

1-4. Red, Amber ($T_{JMAX} = 145\text{ }^{\circ}\text{C}$, at 350mA)

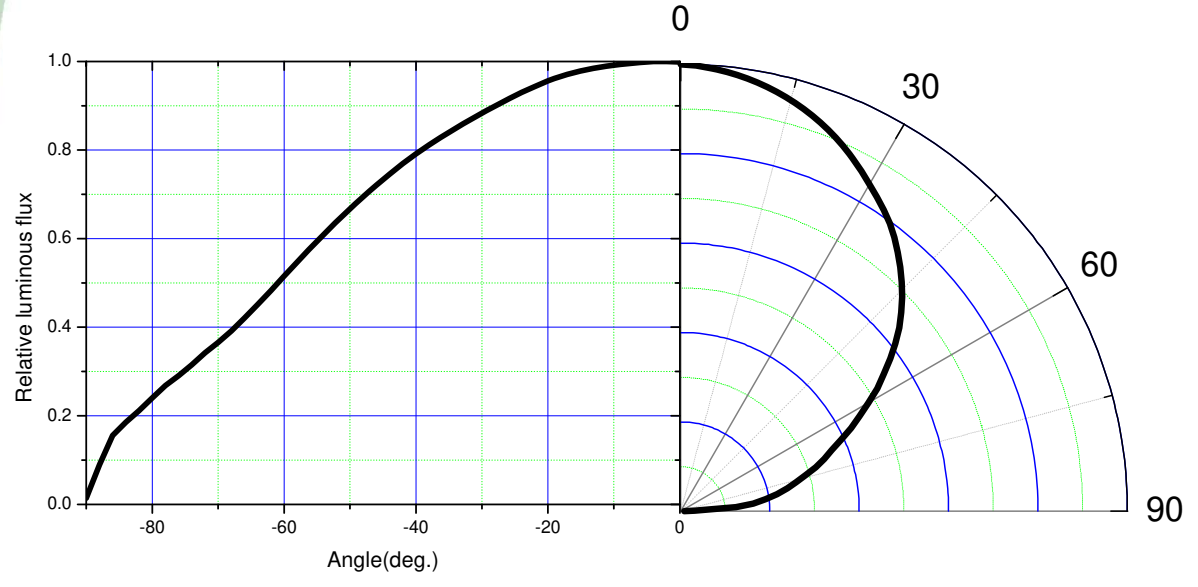


1-5. Red, Amber ($T_{JMAX} = 145\text{ }^{\circ}\text{C}$, @700mA)



Typical Dome Type Radiation pattern

1. Pure White



2. Warm White, Natural White

