SD-POWER LED Series

Technical Datasheet for SD-03/04

SD-Power series is desingned for high current operation and high flux output applications.
SD-Power LED its thermal management perform exceeds then other power LED solutions.
It integrate of the art SMD design and thermal emission material.
SD-Power LED is ideal light sources for general applications,custom designed solutions,and automotive large LCD backlights.

Features

*Super high Flux output and high Luminance

*Designed for high current operation

*Low thermal resistance

*SMT solder bility

*Lead Free product

*ROHS compliant

Applications

*General Illumination

- Outdoor & Indoor architectural lighting
- Decorative lighting
- Torch lighting
- Portable lighting and Reading lighting
- Traffic signaling

Full Code of SD-Power LED Series

Full code form:	SD	-	P	XX	XX	X	X	X	X	XX
	1		2	3	4	5	6	7	8	9

Part Number

1- SD: SnowDragon

2- P : High Power LED

3- XX: Size

80 - Φ8mm

4- XX: Emitted Color

R1 - Red 625nm B3 - Blue 465nm W3 - Warm White 2700-3300K

5- X : Wafer Size

2 - 24mil 3 - 30mil 4 - 40mil 6 - 60mil

6- X : Wafer Quantity

1 - 1EA 4 - 4EA

7- X : Viewing Angle

0 - 120deg 1 - 15deg

8- X : Power

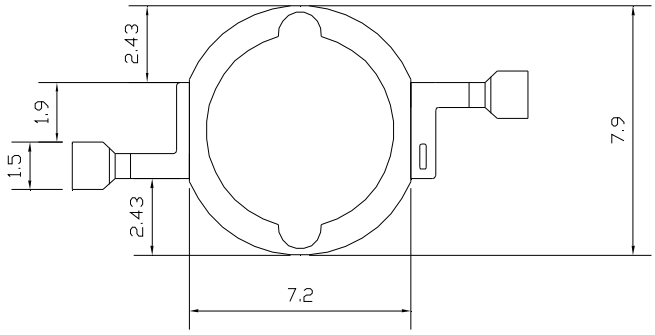
0 - 0.5W 1 - 1W 3 - 3W

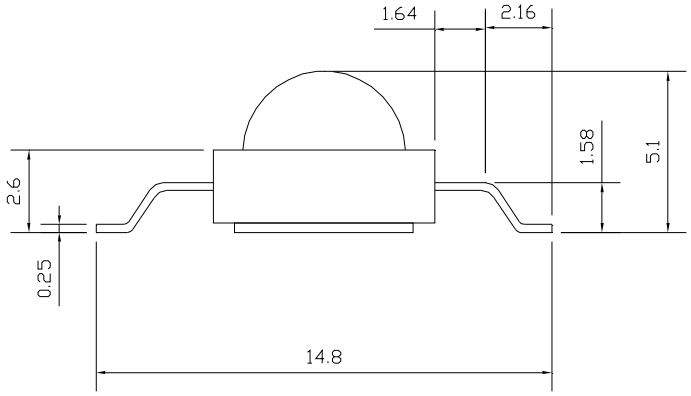
9- XX: Brightness Grade

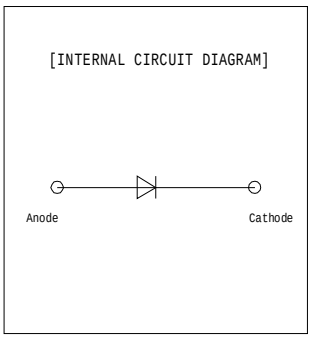
40 - 40-50lm 70 - 70-80lm

Outline Dimensions

1、Dome Type







Notes

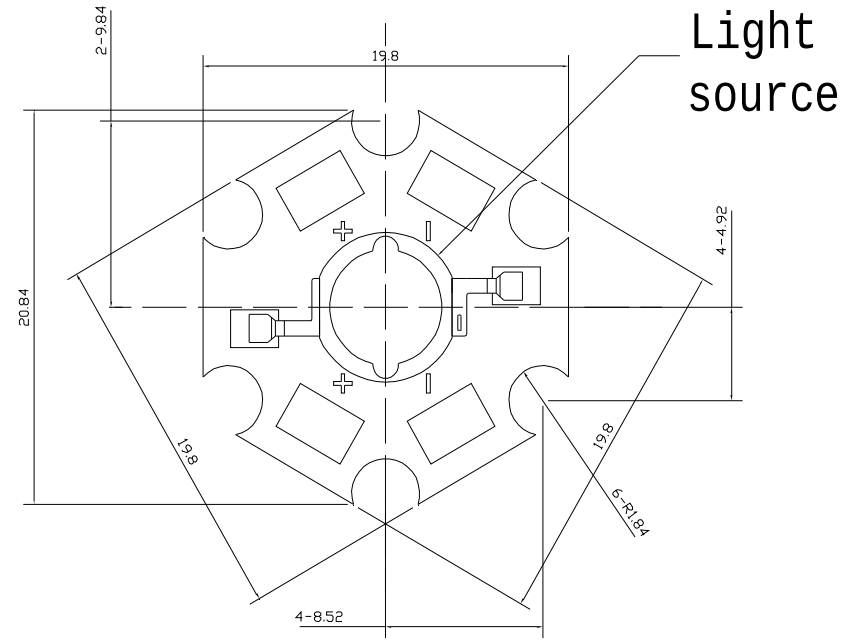
1. All dimensions are in millimeters.(tolerance:±0.2)

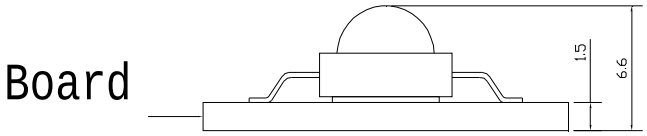
2. Scale:none

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

Outline Dimensions

2、Dome Type





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Notes

1. All dimensions are in millimeters.(tolerance:±0.2)

2. Scale:none

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

1、Cool -White

1-1 Electrical-Optical Characteristics at IF=350mA，TA=25℃

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux [1]	ϕv [2]	50	~	130	lm
Correlated Color Temperature [3]	CCT	4500	~	10000	K
Forward Voltage [4]	V_F	3.0	~	3.8	V
View Angle	2θ1/2	120			deg.
Thermal Resistance [5]	$R\theta_{J-B}$	8			℃/W
Thermal Resistance [6]	$R\theta_{J-C}$	6.5			℃/W

1-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	350	mA
Power Dissipation	P_D	1.05~1.33	W
Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-30~+85	℃
Storage Temperature	T_{stg}	-40~+120	℃
ESD Sensitivity [7]	~	±2,000V HBM	~

*Notes:

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

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

[3] Correlated Color Temperatures is derived from the CIE 1931 Chromaticity diagram.

CCT ±5% testing tolerance

[4] A tolerance of ±0.06V on forward voltage measurements

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

$R\theta_{J-C}$ is measured with only emitter.. (25℃≤TJ≤110℃)

Break voltage of Metal PCB is 6.5kVAC

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

----------Caution----------

Please do not drive at rated current more than 5sec. Without proper hear sink

2、Neutral-White

2-1 Electrical-Optical Characteristics at IF=350mA，TA=25℃

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux [1]	ϕv [2]	30	~	90	lm
Correlated Color Temperature [3]	CCT	3500	~	4500	K
Forward Voltage [4]	V_F	3.0	~	3.8	V
View Angle	2θ1/2	120			deg.
Thermal Resistance [5]	$R\theta_{J-B}$	8			℃/W
Thermal Resistance [6]	$R\theta_{J-C}$	6.5			℃/W

2-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	350	mA
Power Dissipation	P_D	1.05~1.33	W
Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-30~+85	℃
Storage Temperature	T_{stg}	-40~+120	℃
ESD Sensitivity [7]	~	±2,000V HBM	~

*Notes:

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

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

[3] Correlated Color Temperatures is derived from the CIE 1931 Chromaticity diagram.

CCT ±5% testing tolerance

[4] A tolerance of ±0.06V on forward voltage measurements

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

$R\theta_{J-C}$ is measured with only emitter.. (25℃≤TJ≤110℃)

Break voltage of Metal PCB is 6.5kVAC

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

----------Caution----------

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3、Warm-White

3-1 Electrical-Optical Characteristics at IF=350mA，TA=25℃

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux [1]	ϕv [2]	40	~	100	lm
Correlated Color Temperature [3]	CCT	2400	~	3300	K
Forward Voltage [4]	V_F	3.0	~	3.8	V
View Angle	2θ1/2	120			deg.
Thermal Resistance [5]	$R\theta_{J-B}$	8			℃/W
Thermal Resistance [6]	$R\theta_{J-C}$	6.5			℃/W

3-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	350	mA
Power Dissipation	P_D	1.05~1.33	W
Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-30~+85	℃
Storage Temperature	T_{stg}	-40~+120	℃
ESD Sensitivity [7]	~	±2,000V HBM	~

*Notes:

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

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

[3] Correlated Color Temperatures is derived from the CIE 1931 Chromaticity diagram.

CCT ±5% testing tolerance

[4] A tolerance of ±0.06V on forward voltage measurements

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

$R\theta_{J-C}$ is measured with only emitter.. (25℃≤TJ≤110℃)

Break voltage of Metal PCB is 6.5kVAC

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

----------Caution----------

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4、Blue

4-1 Electrical-Optical Characteristics at IF=350mA，TA=25℃

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux [1]	ϕv [2]	10	16	25	lm
Dominant Wavelength [3]	λ_D	455	465	475	nm
Forward Voltage [4]	V_F	3.0	3.5	3.8	V
View Angle	2θ1/2	125			deg.
Thermal Resistance [5]	$R\theta_{J-B}$	7.8			℃/W
Thermal Resistance [6]	$R\theta_{J-C}$	6			℃/W

4-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	350	mA
Power Dissipation	P_D	1.05~1.33	W
Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-30~+85	℃
Storage Temperature	T_{stg}	-40~+120	℃
ESD Sensitivity [7]	~	±2,000V HBM	~

*Notes:

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

[2] ϕv 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 ±0.5nm for dominant wavelength

[4] A tolerance of ±0.06V on forward voltage measurements

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

$R\theta_{J-C}$ is measured with only emitter.. (25℃≤TJ≤110℃)

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 5sec. Without proper hear sink

2、Blue power light sources represented here are IEC825 Class 2 for eyes safety

5、Green

5-1 Electrical-Optical Characteristics at IF=350mA，TA=25℃

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux [1]	ϕv [2]	50	60	80	lm
Dominant Wavelength [3]	λ_D	515	525	535	nm
Forward Voltage [4]	V_F	3.2	3.5	3.8	V
View Angle	2θ1/2	125			deg.
Thermal Resistance [5]	$R\theta_{J-B}$	7.8			℃/W
Thermal Resistance [6]	$R\theta_{J-C}$	6			℃/W

5-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	350	mA
Power Dissipation	P_D	1.12~1.33	W
Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-30~+85	℃
Storage Temperature	T_{stg}	-40~+120	℃
ESD Sensitivity [7]	~	±2,000V HBM	~

*Notes:

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

[2] ϕv 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 ±0.5nm for dominant wavelength

[4] A tolerance of ±0.06V on forward voltage measurements

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

$R\theta_{J-C}$ is measured with only emitter.. (25℃≤TJ≤110℃)

Break voltage of Metal PCB is 6.5kVAC

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

----------Caution----------

Please do not drive at rated current more than 5sec. Without proper hear sink

6、Red

6-1 Electrical-Optical Characteristics at IF=400mA，TA=25℃

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux [1]	ϕv [2]	30	~	50	lm
Dominant Wavelength [3]	λ_D	615	625	635	nm
Forward Voltage [4]	V_F	2.0	2.3	2.9	V
View Angle	2θ1/2	130			deg.
Thermal Resistance [5]	$R\theta_{J-B}$	7			℃/W
Thermal Resistance [6]	$R\theta_{J-C}$	5.8			℃/W

6-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	400	mA
Power Dissipation	P_D	0.80~1.16	W
Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-30~+85	℃
Storage Temperature	T_{stg}	-40~+120	℃
ESD Sensitivity [7]	~	±2,500V HBM	~

*Notes:

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

[2] ϕv 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 ±0.5nm for dominant wavelength

[4] A tolerance of ±0.06V on forward voltage measurements

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

$R\theta_{J-C}$ is measured with only emitter.. (25℃≤TJ≤110℃)

Break voltage of Metal PCB is 6.5kVAC

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

----------Caution----------

Please do not drive at rated current more than 5sec. Without proper hear sink

7、Yellow

7-1 Electrical-Optical Characteristics at IF=400mA，TA=25℃

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux [1]	ϕv [2]	30	~	50	lm
Dominant Wavelength [3]	λ_D	585	580	595	nm
Forward Voltage [4]	V_F	2.0	2.3	2.9	V
View Angle	2θ1/2		130		deg.
Thermal Resistance [5]	$R\theta_{J-B}$		7		℃/W
Thermal Resistance [6]	$R\theta_{J-C}$		5.8		℃/W

7-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	400	mA
Power Dissipation	P_D	0.80~1.16	W
Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-30~+85	℃
Storage Temperature	T_{stg}	-40~+120	℃
ESD Sensitivity [7]	~	±2,500V HBM	~

*Notes:

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

[2] ϕv 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 ±0.5nm for dominant wavelength

[4] A tolerance of ±0.06V on forward voltage measurements

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

$R\theta_{J-C}$ is measured with only emitter.. (25℃≤TJ≤110℃)

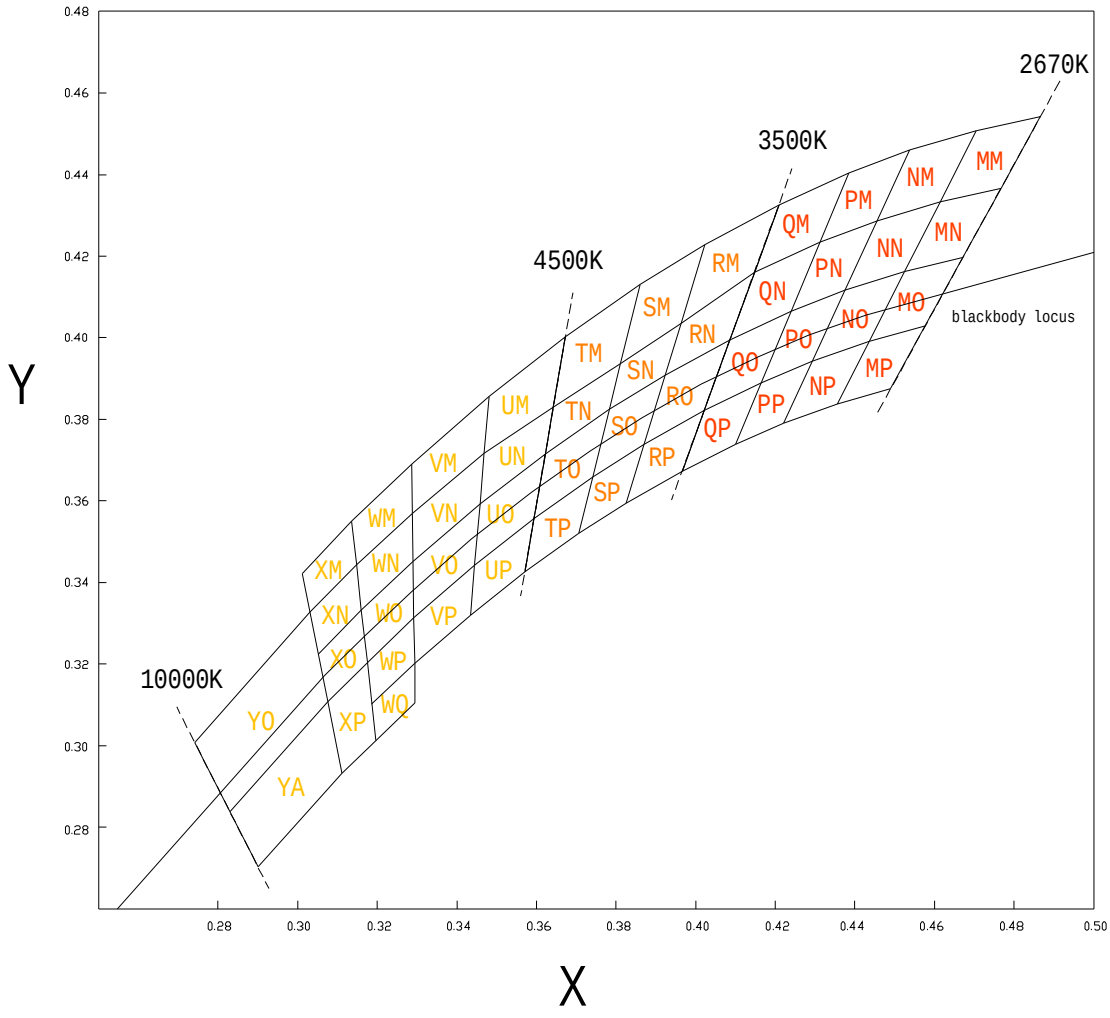
Break voltage of Metal PCB is 6.5kVAC

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

----------Caution----------

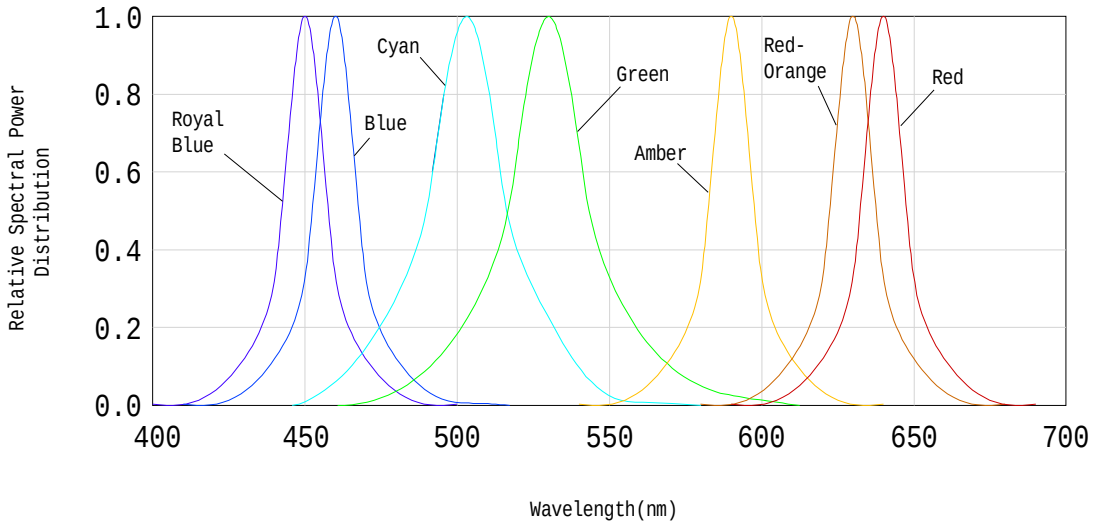
Please do not drive at rated current more than 5sec. Without proper hear sink

White Binning Informatio



White Binning Structure

Other Color Separation Standards



Color emitting		Wavelength(nm)	LuminousFlux(lm)	Drive Voltage(v)
Blue	spectrum	455-475	10-25	3.0-3.8
	span	5	5	0.4
Green	spectrum	515-535	50-80	3.0-3.8
	span	3	10	0.4
Red	spectrum	615-635	30-50	2.0-2.9
	span	5	10	0.3
Yellow	spectrum	585-595	30-50	2.0-2.9
	span	3	10	0.3