

XI9595

3W Series (ELRD)



Introduction

The 9595 package is a lighting grade high power LED. It is a compact package with high lumens and efficiency and is suitable for many lighting applications.

Features

- ◆ Top view white LED
- ◆ Moisture Sensitivity Level: 5a
- ◆ High flux output
- ◆ White package
- ◆ Wide viewing angle
- ◆ Pb-free
- ◆ Typical viewing angle: 120°
- ◆ ANSI binning
- ◆ Reliability testing conforms to IESNA LM80 Lumen maintenance test method
- ◆ The product itself will remain within RoHS compliant version.
- ◆ Compliance with EU REACH.
- ◆ Compliance Halogen Free .(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)

Applications

- ◆ Omni-directional Bulbs
- ◆ Linear Lighting
- ◆ Panel Light

Product Nomenclature

The product name is designated as below:

XI9595 – ABCDEFG – HIJKL – MNOP

Designation:

AB = color [1]

CD = color bin or CCT bin [1]

E = Steps Mcadams bin

FG = min. luminous flux (lm) or radiation power (mW) performance

HI = forward voltage bin

J = internal code

KL = power consumption[2]

M = internal code

N = Dam

O = internal code

P = packaging type[3]

Notes

1. Table of color offerings:

Symbol	Color	CCT range	Color Rendering Index
GT	Cool-White	4745~7050K	>65
KT	Cool-White	4745~7050K	>80
PT	Cool-White	4745~7050K	>90
HT	Cool-White	4745~7050K	>93
LM	Warm-White	2580~3710K	>70
	Neutral-White	3710K-4745K	
KM	Warm White	2580~3710K	>80
	Neutral-White	3710K-4745K	
PM	Warm White	2580~3710K	>90
	Neutral-White	3710K-4745K	
HM	Warm White	2580~3710K	>93
	Neutral-White	3710K-4745K	

2. Table of power consumptions:

Symbol	Description
03	3W

3. Table of packaging types:

Symbol	Description
P	Tape

Absolute Maximum Ratings

2 series 5 parallel

Parameter	Symbol	Ratings	Unit
Max. DC Forward Current (mA)	IF	500	mA
Max. Peak Pulse Current (mA)	IPulse	750 _[1]	mA
Power Dissipation	Pd	5	W
Thermal Resistance	R _{th}	5	°C/W
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Junction temperature	Tj	115	°C
Max. Soldering Temperature	T _{Sol}	260	°C

Notes:

1. Duty cycle = 1/10@1KHZ

2 parallel 5 series

Parameter	Symbol	Ratings	Unit
Max. DC Forward Current (mA)	IF	200	mA
Max. Peak Pulse Current (mA)	IPulse	300 _[1]	mA
Power Dissipation	Pd	5	W
Thermal Resistance	R _{th}	5	°C/W
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Junction temperature	Tj	115	°C
Max. Soldering Temperature	T _{Sol}	260	°C

Notes:

1. Duty cycle = 1/10@1KHZ

Absolute Maximum Ratings

2 parallel 6 series

Parameter	Symbol	Ratings	Unit
Max. DC Forward Current (mA)	IF	200	mA
Max. Peak Pulse Current (mA)	IPulse	300 _[1]	mA
Power Dissipation	Pd	5	W
Thermal Resistance	R _{th}	5	°C/W
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Junction temperature	Tj	115	°C
Max. Soldering Temperature	T _{Sol}	260	°C

Notes:

1. Duty cycle = 1/10@1KHZ

3 parallel 6 series

Parameter	Symbol	Ratings	Unit
Max. DC Forward Current (mA)	IF	200	mA
Max. Peak Pulse Current (mA)	IPulse	300 _[1]	mA
Power Dissipation	Pd	5	W
Thermal Resistance	R _{th}	5	°C/W
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Junction temperature	Tj	115	°C
Max. Soldering Temperature	T _{Sol}	260	°C

Notes:

1. Duty cycle = 1/10@1KHZ

PN of the XI9595 series: Warm White LED

Order Code of XI 9595	Min. Luminous Flux (lm)	Typ. Luminous Flux (lm)	CCT (K) Wavelength (nm)	Forward Voltage (V)	Forward Current (mA)	CRI (typ.)
XI9595-LM307K8-06603-000P(ELRD)	475	525	2885-3225	5.0-7.0	550	69
XI9595-PM307K4-06503-000P(ELRD)	300	339	2870-3220	5.5-7.0	500	93
XI9595-LM307K6-06503-000P(ELRD)	350	395	2870-3220	5.5-7.0	500	72
XI9595-LM307K6-15103-000P(ELRD)	350	395	2870-3220	13-16	200	72
XI9595-LM307K6-15203-000P(ELRD)	425	475	2870-3220	13-16	200	72
XI9595-LM307N2-15203-000P(ELRD)	475	500	2870-3220	13-16	200	72
XI9595-LM307K8-18203-000P(ELRD)	475	525	2885-3225	15-20	183	70
XI9595-LM307K8-18303-000P(ELRD)	500	700	2885-3225	15-20	183	70
XI9595-LM307N42-18303-000P(ELRD)	575	700	2885-3225	15-20	183	70

Notes:

1. Luminous flux measurement tolerance: $\pm 10\%$.
2. The data of luminous flux measured at thermal pad=25°C
3. Typical luminous flux or light output performance is operated within the condition guided by this datasheet
4. The CRI value is based on the Everlight testing instrument.
5. CRI measurement tolerance: ± 2 .

PN of the XI9595 series: Neutral White LED

Order Code of XI 9595	Min. Luminous Flux (lm)	Typ. Luminous Flux (lm)	CCT (K) Wavelength (nm)	Forward Voltage (V)	Forward Current (mA)	CRI (typ.)
XI9595-LM407N2-06603-000P(ELRD)	475	545	3710-4260	5.0-7.0	550	69
XI9595-PM407K4-06503-000P(ELRD)	300	365	3710-4260	5.5-7.0	500	91
XI9595-LM457K6-06503-000P(ELRD)	350	415	4260-4745	5.5-7.0	500	72
XI9595-LM457K6-15103-000P(ELRD)	350	415	4260-4745	13-16	200	72
XI9595-LM407N2-18203-000P(ELRD)	475	545	3710-4260	15-20	183	70

Notes:

1. Luminous flux measurement tolerance: $\pm 10\%$.
2. The data of luminous flux measured at thermal pad=25°C
3. Typical luminous flux or light output performance is operated within the condition guided by this datasheet
4. The CRI value is based on the Everlight testing instrument.
5. CRI measurement tolerance: ± 2 .

PN of the XI9595 series: Cool White LED

Order Code of XI 9595	Min. Luminous Flux (lm)	Typ. Luminous Flux (lm)	CCT (K) Wavelength (nm)	Forward Voltage (V)	Forward Current (mA)	CRI (typ.)
XI9595-GT507K8-06603-000P(ELRD)	500	550	4735-5285	5.0-7.0	550	69
XI9595-GT507K6-06503-000P(ELRD)	350	415	4745-5310	5.5-7.0	500	66
XI9595-GT507K6-15203-000P(ELRD)	450	500	4745-5310	13-16	200	66
XI9595-GT507N2-15203-000P(ELRD)	475	500	4745-5310	13-16	200	66
XI9595-GT577N1-15203-000P(ELRD)	450	500	5310-6020	13-16	200	66
XI9595-GT507K8-18203-000P(ELRD)	500	550	4735-5285	15-20	183	70
XI9595-GT507K8-18203-000P(ELRD)	500	700	4735-5285	15-20	183	70

Notes:

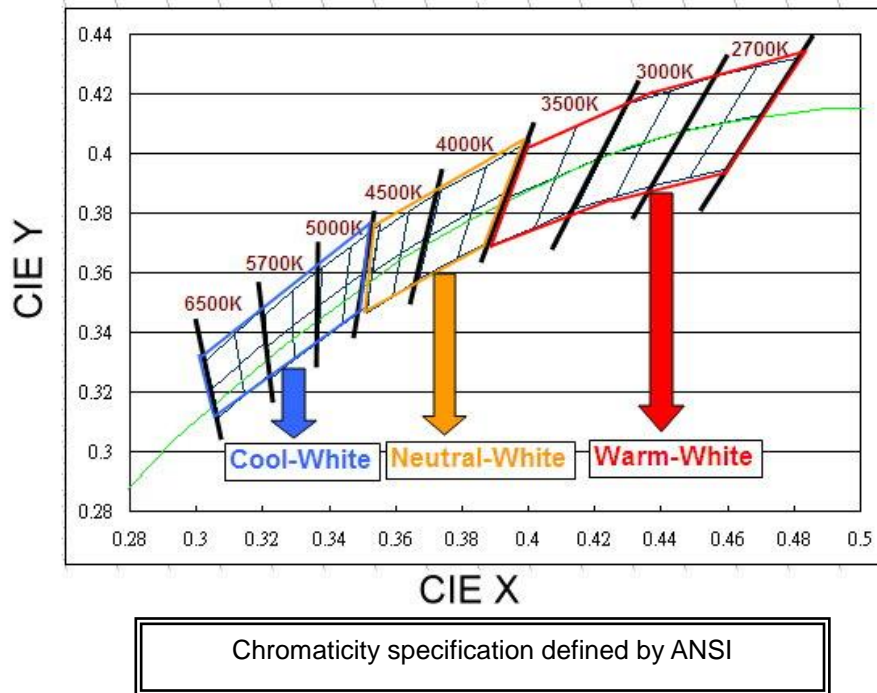
1. Luminous flux measurement tolerance: $\pm 10\%$.
2. The data of luminous flux measured at thermal pad=25°C
3. Typical luminous flux or light output performance is operated within the condition guided by this datasheet
4. The CRI value is based on the Everlight testing instrument.
5. CRI measurement tolerance: ± 2 .

Product Binning Luminous Flux Bins

Group	Bin	Minimum Photometric Flux (lm)	Maximum Photometric Flux (lm)
J	1	100	110
	2	110	120
	3	120	130
	4	130	140
	5	140	150
	6	150	160
	7	160	180
	8	180	200
	9	200	225
K	1	225	250
	2	250	275
	3	275	300
	4	300	325
	5	325	350
	6	350	375
	7	375	400
	8	400	425
	9	425	450
Group	Bin	Minimum Photometric Flux (lm)	Maximum Photometric Flux (lm)
N	2-1	475	487.5
	2-2	487.5	500
	4-1	550	575
	4-2	575	600

Group	Bin	Minimum Photometric Flux (lm)	Maximum Photometric Flux (lm)
N	1	450	475
	2	475	500
	3	500	550
	4	550	600
	5	600	650
	6	650	700
	7	700	750
	8	750	800
	9	800	900
P	1	900	1000
	2	1000	1100
	3	1100	1200
	4	1200	1350
	5	1350	1500
	6	1500	1650
	7	1650	1800
	8	1800	2000
	9	2000	2200

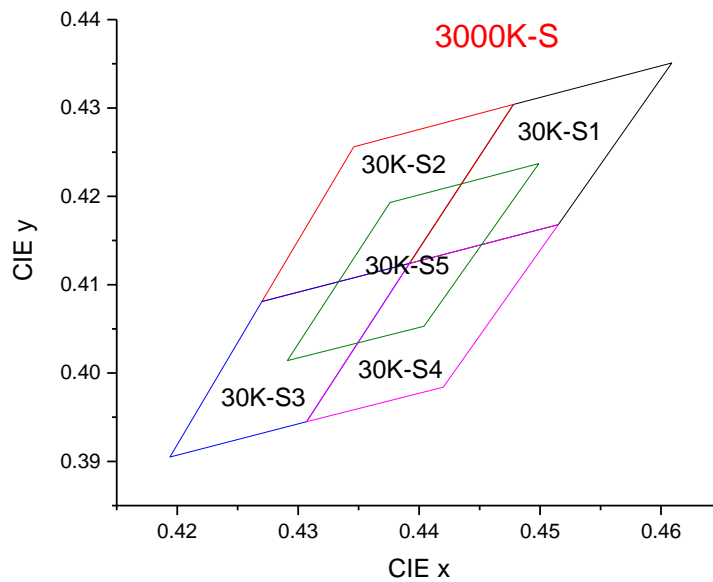
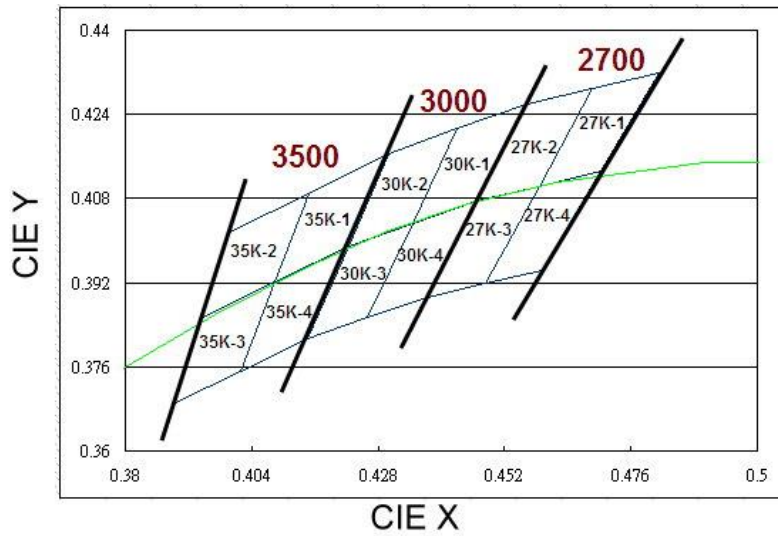
White Bin Structure



Notes:

- 1. The CCT range of Cool-White varies from 4745K to 7050K.
- 2. The CCT range of Neutral-White varies from 3710K to 4745K.
- 3. The CCT range of Warm-White varies from 2580K to 3710K
- 4. Color coordinates measurement allowance : ± 0.01
- 5. Color bins are defined at $I_F=500\text{mA}$ operation

Warm-White Bin Structure



Warm-White Bin Coordinates

2700K

Bin	CIE X	CIE Y
27K-1	0.469	0.429
	0.459	0.410
	0.470	0.413
	0.481	0.432
Reference Range: 2580~2700K		

Bin	CIE X	CIE Y
27K-2	0.456	0.426
	0.447	0.408
	0.459	0.410
	0.469	0.429
Reference Range: 2700~2870K		

Bin	CIE X	CIE Y
27K-4	0.459	0.410
	0.448	0.392
	0.459	0.394
	0.470	0.413
Reference Range: 2580~2700K		

Bin	CIE X	CIE Y
27K-3	0.447	0.408
	0.437	0.389
	0.448	0.392
	0.459	0.410
Reference Range: 2700~2870K		

3000K

Bin	CIE X	CIE Y
30K-1	0.443	0.421
	0.435	0.403
	0.447	0.408
	0.456	0.426
Reference Range: 2870~3000K		

Bin	CIE X	CIE Y
30K-2	0.430	0.417
	0.422	0.399
	0.435	0.403
	0.443	0.421
Reference Range: 3000~3220K		

Bin	CIE X	CIE Y
30K-4	0.435	0.403
	0.426	0.385
	0.437	0.389
	0.447	0.408
Reference Range: 2870~3000K		

Bin	CIE X	CIE Y
30K-3	0.422	0.399
	0.415	0.381
	0.426	0.385
	0.435	0.403
Reference Range: 3000~3220K		

3000K-S (2 parallel 6 series, 6 parallel 2 series, 3 parallel 6 series)

Bin	CIE X	CIE Y
30K-S1	0.4609	0.4351
	0.4478	0.4304
	0.4392	0.4124
	0.4515	0.4168
Reference Range: 2885~3045K		

Bin	CIE X	CIE Y
30K-S2	0.4478	0.4304
	0.4346	0.4256
	0.4270	0.4081
	0.4392	0.4124
Reference Range: 3045~3225K		

Bin	CIE X	CIE Y
30K-S4	0.4515	0.4168
	0.4392	0.4124
	0.4307	0.3945
	0.4420	0.3984
Reference Range: 2885~3045K		

Bin	CIE X	CIE Y
30K-S3	0.4392	0.4124
	0.427	0.4081
	0.4194	0.3905
	0.4307	0.3945
Reference Range: 3045~3225K		

Bin	CIE X	CIE Y
30K-S5	0.4499	0.4237
	0.4376	0.4193
	0.4291	0.4014
	0.4404	0.4053
Reference Range: 2885~3045K		

Bin	CIE X	CIE Y

3500K

Bin	CIE X	CIE Y
35K-1	0.415	0.409
	0.408	0.392
	0.422	0.399
	0.430	0.417
Reference Range: 3220~3500K		

Bin	CIE X	CIE Y
35K-2	0.400	0.402
	0.394	0.385
	0.408	0.392
	0.415	0.409
Reference Range: 3500~3710K		

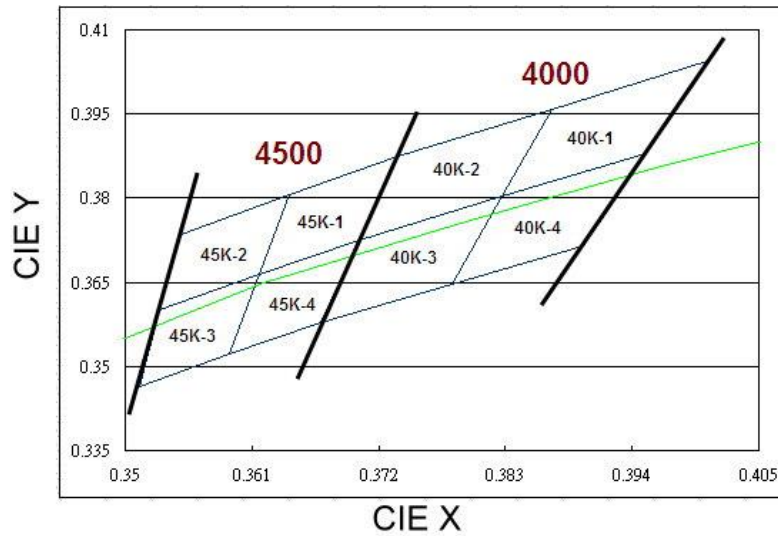
Bin	CIE X	CIE Y
35K-4	0.408	0.392
	0.402	0.375
	0.415	0.381
	0.422	0.399
Reference Range: 3220~3500K		

Bin	CIE X	CIE Y
35K-3	0.394	0.385
	0.389	0.369
	0.402	0.375
	0.408	0.392
Reference Range: 3500~3710K		

Note:

1. Color coordinates measurement allowance : ± 0.01 .

Neutral-White Bin Structure



Neutral-White Bin Coordinates

4000K

Bin	CIE X	CIE Y
40K-1	0.387	0.396
	0.383	0.380
	0.395	0.388
	0.401	0.404
Reference Range: 3710~4000K		

Bin	CIE X	CIE Y
40K-2	0.374	0.387
	0.370	0.373
	0.383	0.380
	0.387	0.396
Reference Range: 4000~4260K		

Bin	CIE X	CIE Y
40K-4	0.383	0.380
	0.378	0.365
	0.390	0.372
	0.395	0.388
Reference Range: 3710~4000K		

Bin	CIE X	CIE Y
40K-3	0.370	0.373
	0.367	0.358
	0.378	0.365
	0.383	0.380
Reference Range: 4000~4260K		

4500K

Bin	CIE X	CIE Y
45K-1	0.364	0.381
	0.362	0.366
	0.370	0.373
	0.374	0.387
Reference Range: 4260~4500K		

Bin	CIE X	CIE Y
45K-2	0.355	0.374
	0.353	0.360
	0.362	0.366
	0.364	0.381
Reference Range: 4500~4745K		

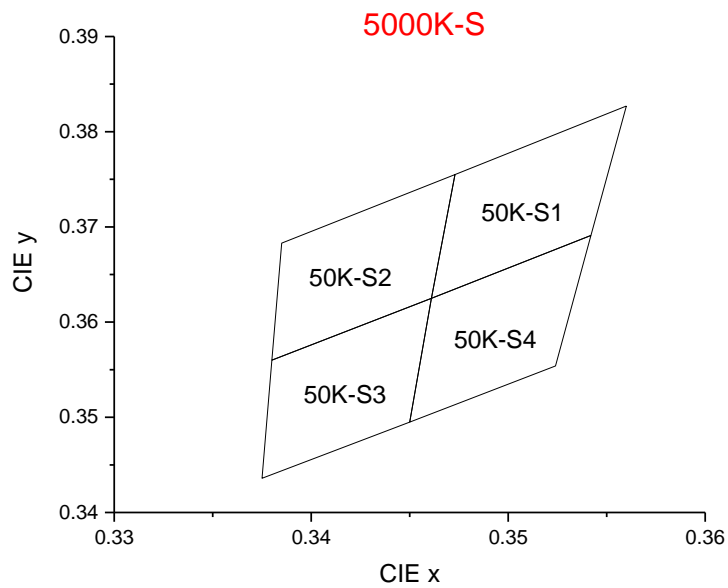
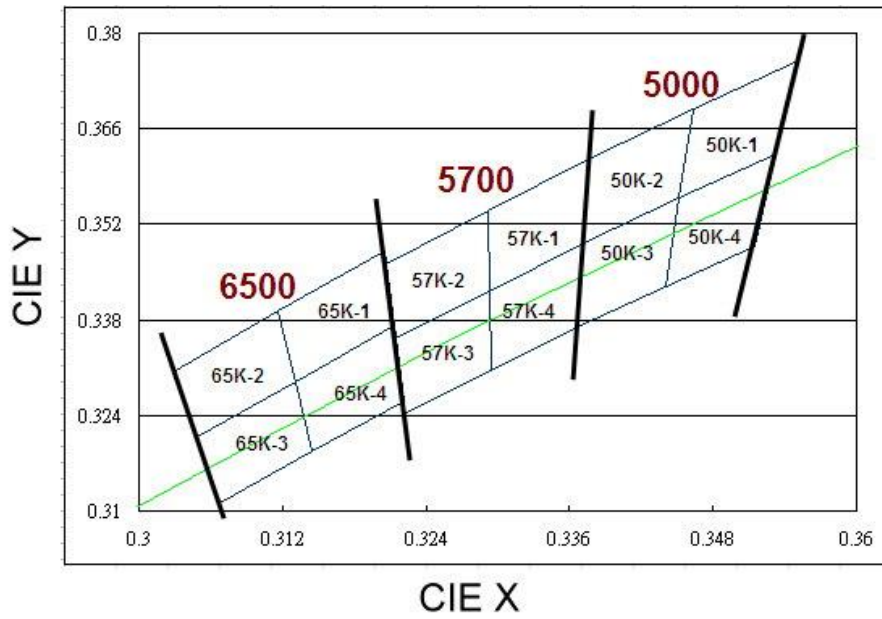
Bin	CIE X	CIE Y
45K-4	0.362	0.366
	0.359	0.352
	0.367	0.358
	0.370	0.373
Reference Range: 4260~4500K		

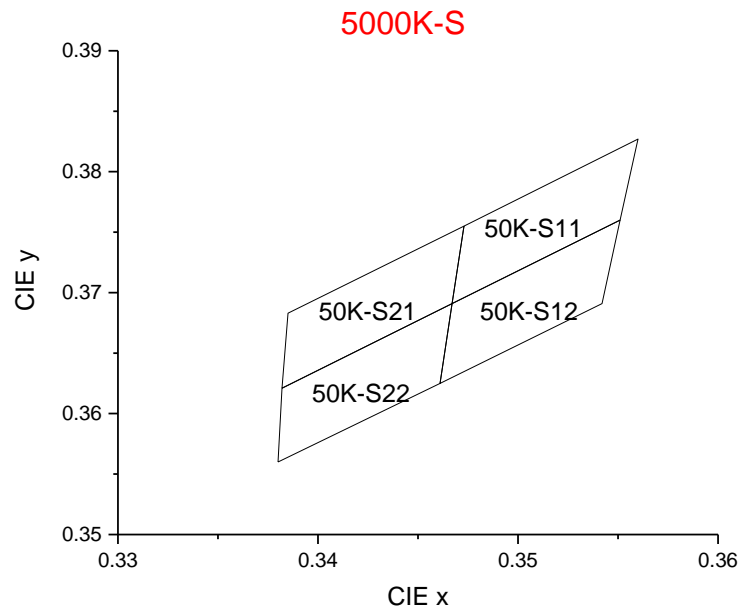
Bin	CIE X	CIE Y
45K-3	0.353	0.360
	0.351	0.347
	0.359	0.352
	0.362	0.366
Reference Range: 4500~4745K		

Note:

1. Color coordinates measurement allowance : ± 0.01 .

Cool-White Bin Structure





Cool-White Bin Coordinates

5000K

Bin	CIE X	CIE Y
50K-1	0.346	0.369
	0.345	0.356
	0.353	0.362
	0.355	0.376
Reference Range: 4745~5000K		

Bin	CIE X	CIE Y
50K-2	0.338	0.362
	0.337	0.349
	0.345	0.356
	0.346	0.369
Reference Range: 5000~5310K		

Bin	CIE X	CIE Y
50K-4	0.345	0.356
	0.344	0.343
	0.352	0.349
	0.353	0.362
Reference Range: 4745~5000K		

Bin	CIE X	CIE Y
50K-3	0.337	0.349
	0.337	0.337
	0.344	0.343
	0.345	0.356
Reference Range: 5000~5310K		

5000K-S (2 parallel 6 series, 3 parallel 6 series)

Bin	CIE X	CIE Y
50K-S1	0.3560	0.3827
	0.3473	0.3755
	0.3461	0.3625
	0.3542	0.3691
Reference Range: 4735~4995K		

Bin	CIE X	CIE Y
50K-S2	0.3473	0.3755
	0.3385	0.3683
	0.3380	0.3560
	0.3461	0.3625
Reference Range: 4995~5285K		

Bin	CIE X	CIE Y
50K-S4	0.3542	0.3691
	0.3461	0.3625
	0.3450	0.3495
	0.3524	0.3554
Reference Range: 4735~5000K		

Bin	CIE X	CIE Y
50K-S3	0.3461	0.3625
	0.3380	0.3560
	0.3375	0.3436
	0.3450	0.3495
Reference Range: 4995~5285K		

5000K-S (6 parallel 2 series)

Bin	CIE X	CIE Y
50K-S11	0.3473	0.3755
	0.3467	0.3691
	0.3551	0.3760
	0.356	0.3827
Reference Range: 4735~4995K		

Bin	CIE X	CIE Y
50K-S21	0.3382	0.3621
	0.3467	0.3691
	0.3473	0.3755
	0.3385	0.3683
Reference Range: 4995~5285K		

Bin	CIE X	CIE Y
50K-S12	0.3467	0.3691
	0.3461	0.3625
	0.3542	0.3691
	0.3551	0.3760
Reference Range: 4735~4995K		

Bin	CIE X	CIE Y
50K-S22	0.3380	0.3560
	0.3461	0.3625
	0.3467	0.3691
	0.3382	0.3621
Reference Range: 4995~5285K		

Bin	CIE X	CIE Y
50K-S4	0.3450	0.3495
	0.3524	0.3554
	0.3542	0.3690
	0.3461	0.3625
Reference Range: 4735~4995K		

Bin	CIE X	CIE Y
50K-S3	0.3375	0.3436
	0.3450	0.3495
	0.3461	0.3625
	0.3380	0.3560
Reference Range: 4995~5285K		

5700K

Bin	CIE X	CIE Y
57K-1	0.329	0.354
	0.329	0.342
	0.337	0.349
	0.338	0.362
Reference Range: 5310~5700K		

Bin	CIE X	CIE Y
57K-2	0.321	0.346
	0.322	0.335
	0.329	0.342
	0.329	0.354
Reference Range: 5700~6020K		

Bin	CIE X	CIE Y
57K-4	0.329	0.342
	0.329	0.331
	0.337	0.337
	0.337	0.349
Reference Range: 5310~5700K		

Bin	CIE X	CIE Y
57K-3	0.322	0.335
	0.322	0.324
	0.329	0.331
	0.329	0.342
Reference Range: 5700~6020K		

6500K

Bin	CIE X	CIE Y
65K-1	0.312	0.339
	0.313	0.329
	0.321	0.337
	0.321	0.348
Reference Range: 6020~6500K		

Bin	CIE X	CIE Y
65K-2	0.303	0.330
	0.305	0.321
	0.313	0.329
	0.312	0.339
Reference Range: 6500~7050K		

Bin	CIE X	CIE Y
65K-4	0.313	0.329
	0.315	0.319
	0.322	0.326
	0.321	0.337
Reference Range: 6020~6500K		

Bin	CIE X	CIE Y
65K-3	0.305	0.321
	0.307	0.311
	0.315	0.319
	0.313	0.329
Reference Range: 6500~7050K		

Note:

1. Color coordinates measurement allowance : ± 0.01 .

Forward Voltage Bins

2 series 5 parallel

Bin	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
O3	5.5	6.0
O4	6.0	6.5
O5	6.5	7.0

Notes:

1. Forward voltage measurement tolerance: $\pm 0.1V$.
2. Forward voltage bins are defined at $I_f \approx 500mA$ operation.

2 series 6 parallel

Bin	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
O2	5.0	5.5
O3	5.5	6.0
O4	6.0	6.5
O5	6.5	7.0

Notes:

1. Forward voltage measurement tolerance: $\pm 0.1V$.
2. Forward voltage bins are defined at $I_f \approx 550mA$ operation.

2 parallel 5 series

Bin	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
R5	13.0	14.0
R6	14.0	15.0
R7	15.0	16.0

Notes:

1. Forward voltage measurement tolerance: $\pm 0.1V$.
2. Forward voltage bins are defined at $I_f \approx 200mA$ operation.

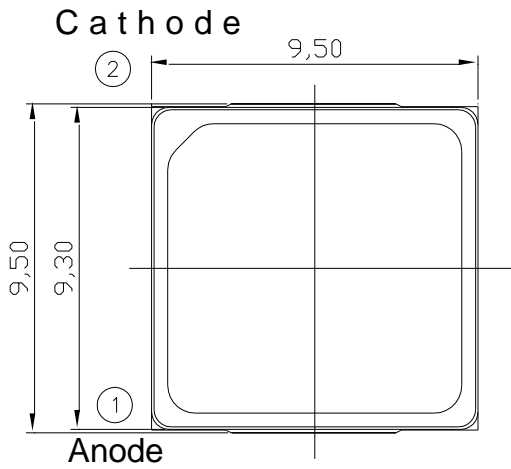
2 parallel 6 series, 3 parallel 6 series

Bin	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
R7	15.0	16.0
R8	16.0	17.0
R9	17.0	18.0
T1	18.0	19.0
T2	19.0	20.0

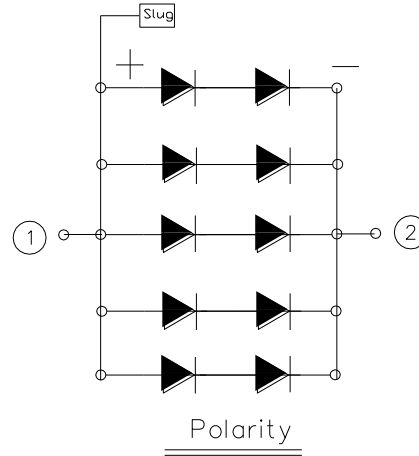
Notes:

1. Forward voltage measurement tolerance: $\pm 0.1V$.
2. Forward voltage bins are defined at $I_f \approx 183mA$ operation.

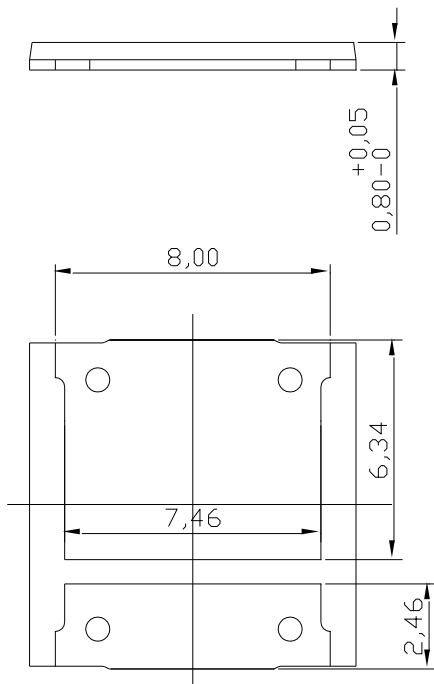
Mechanical Dimension for 2 series 5 parallel



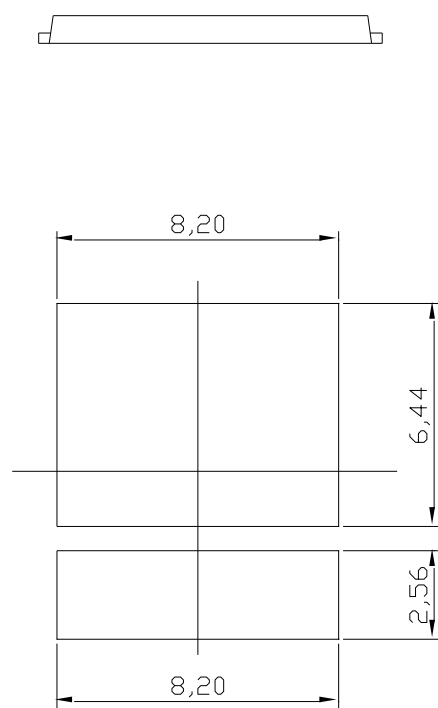
TOP VIEW



Polarity



BACK VIEW

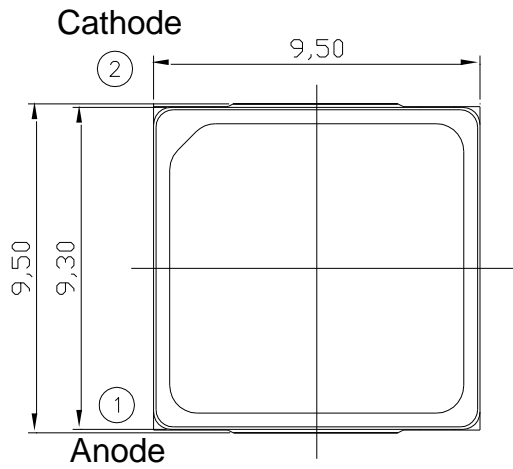


Soldering patterns

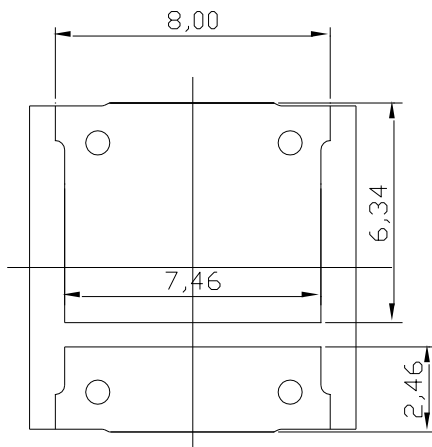
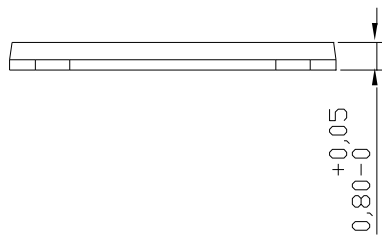
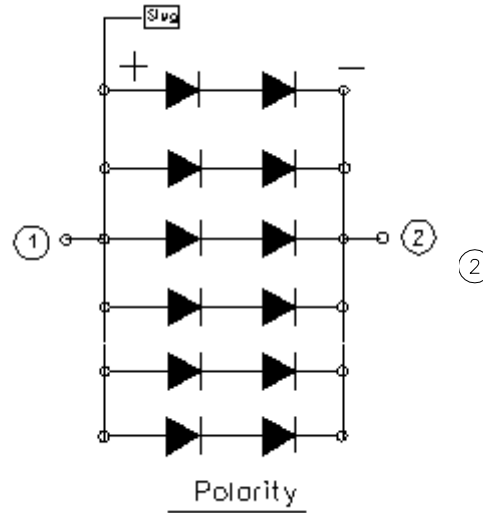
Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.15\text{mm}$.
3. The thermal pad is electrically unity from the Anode and contact pads.
4. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

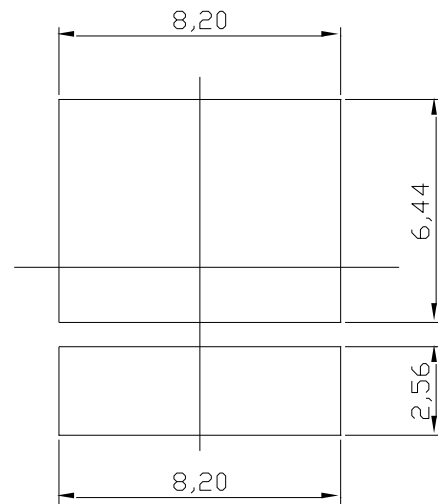
Mechanical Dimension for 2 series 6 parallel



TOP VIEW



BACK VIEW

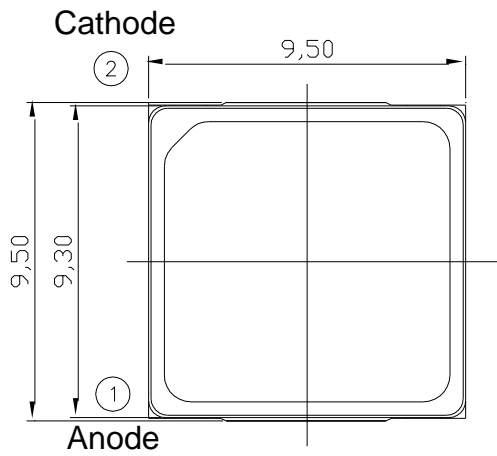


Soldering patterns

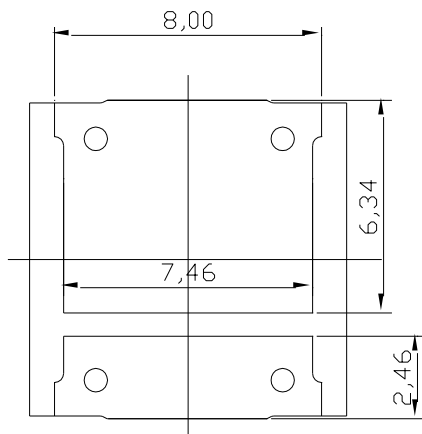
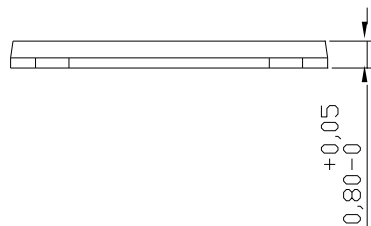
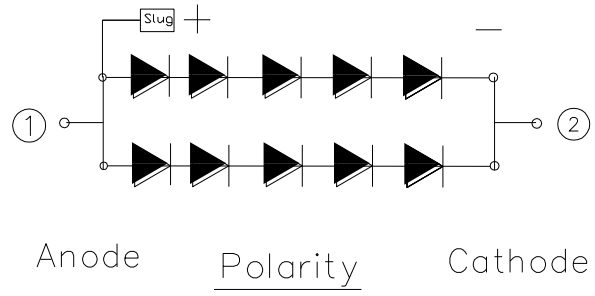
Notes:

5. Dimensions are in millimeters.
6. Tolerances unless mentioned are $\pm 0.15\text{mm}$.
7. The thermal pad is electrically unity from the Anode and contact pads.
8. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

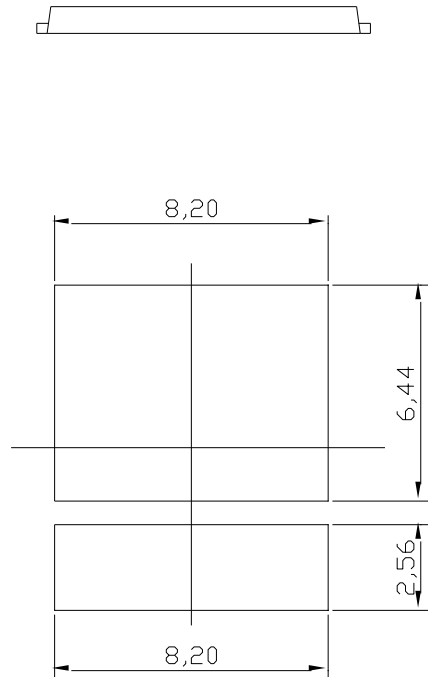
Mechanical Dimension for 2 parallel 5 series



TOP VIEW



BACK VIEW

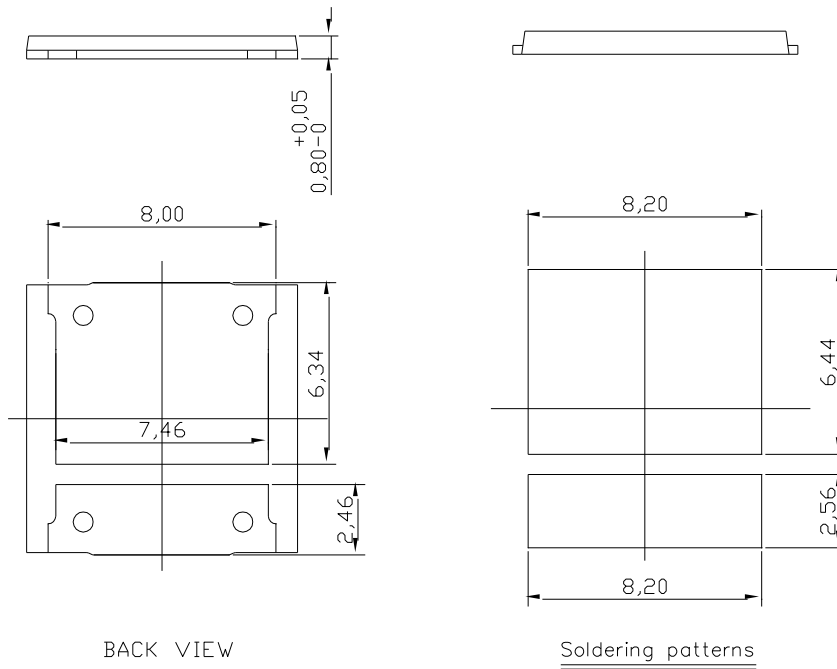
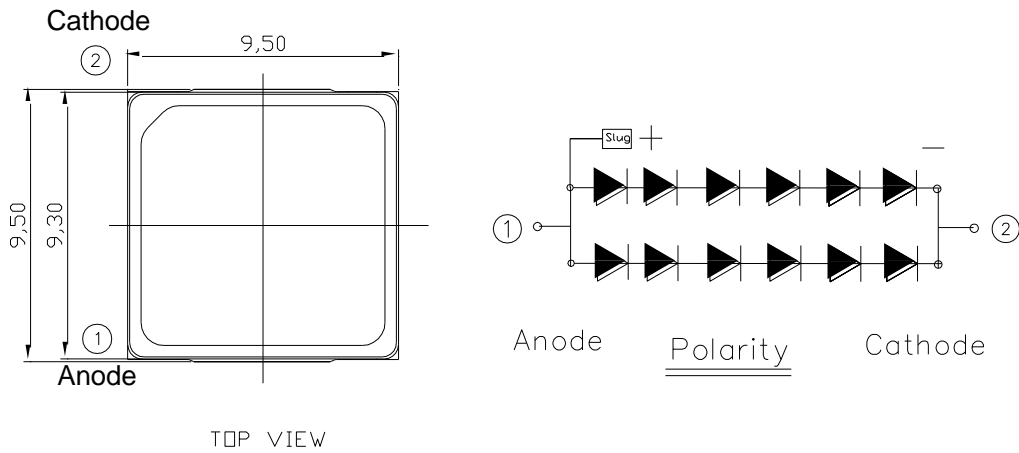


Soldering patterns

Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.15\text{mm}$.
3. The thermal pad is electrically unity from the Anode and contact pads.
4. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

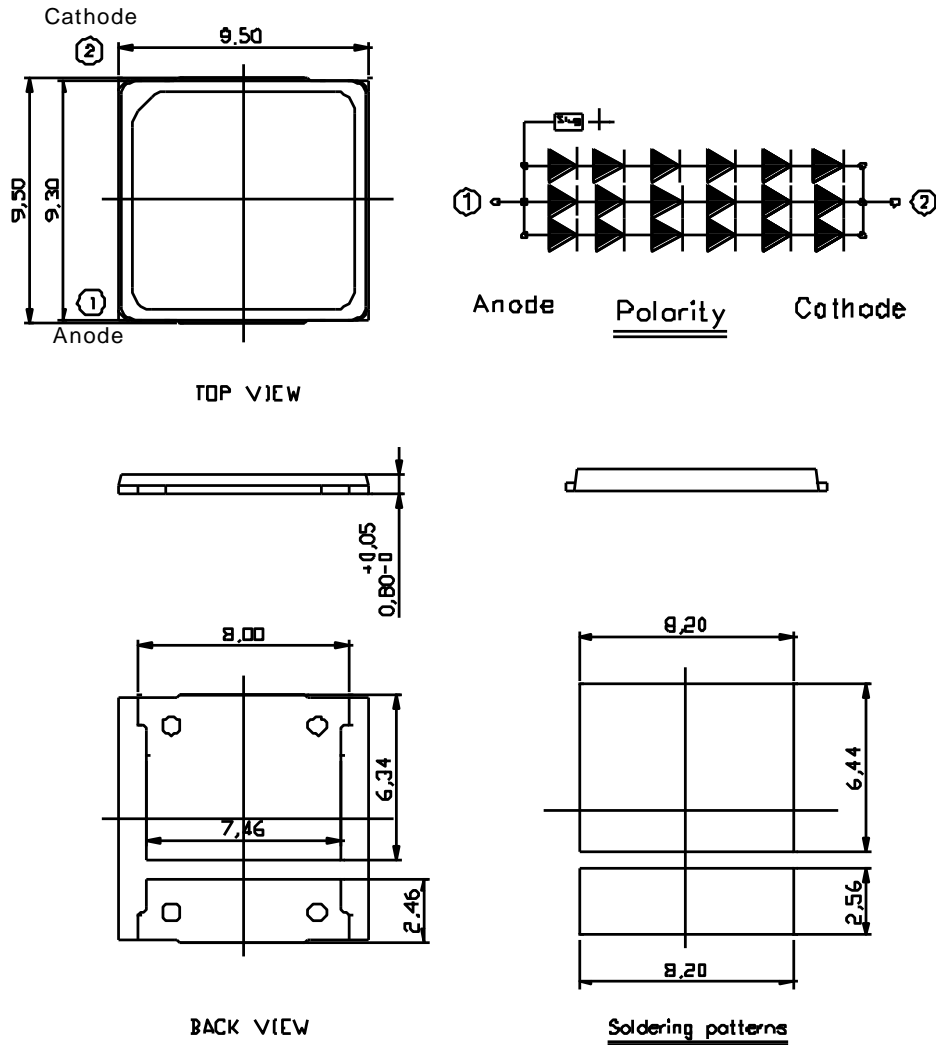
Mechanical Dimension for 2 parallel 6 series



Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.15\text{mm}$.
3. The thermal pad is electrically unity from the Anode and contact pads.
4. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

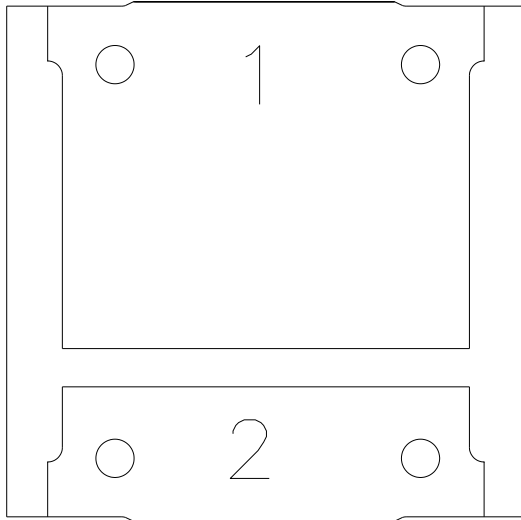
Mechanical Dimension for 3 parallel 6 series



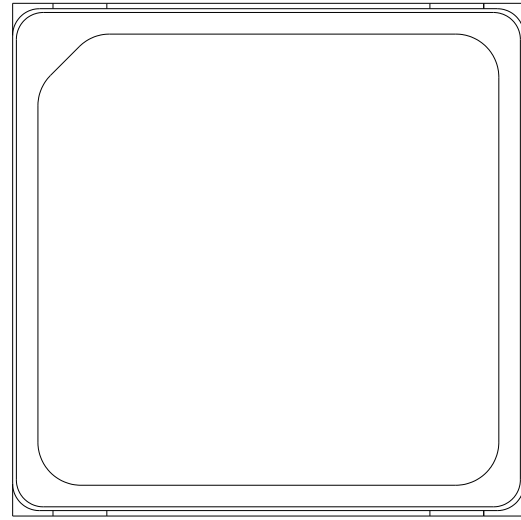
Notes:

5. Dimensions are in millimeters.
6. Tolerances unless mentioned are $\pm 0.15\text{mm}$.
7. The thermal pad is electrically unity from the Anode and contact pads.
8. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

Pad Configuration



BOTTOM VIEW



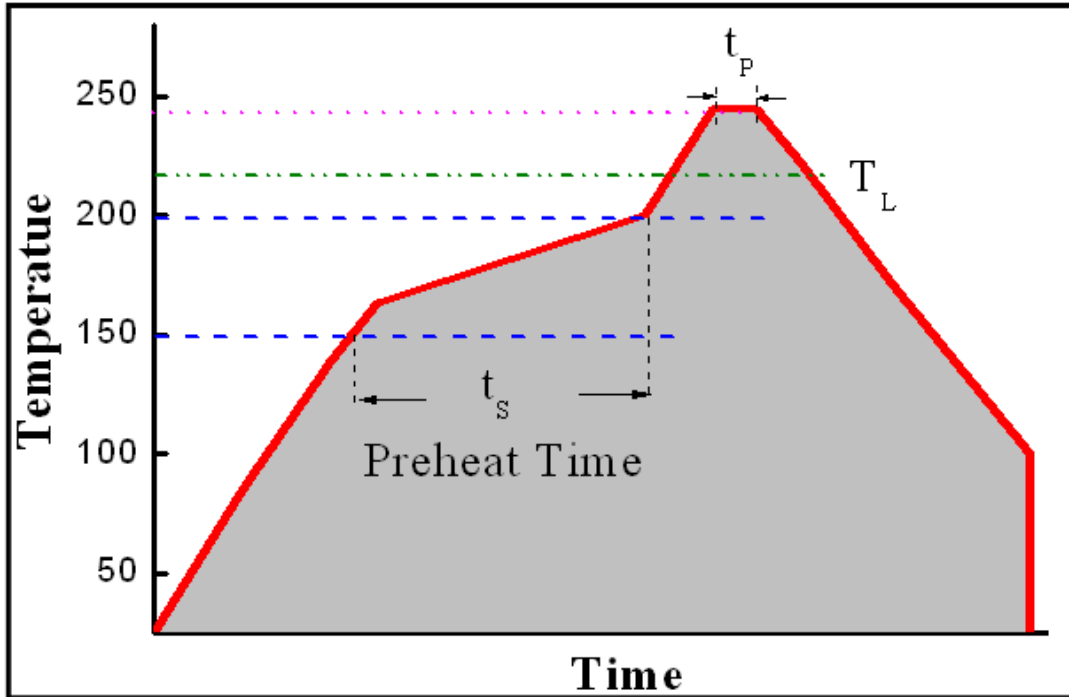
TOP VIEW

PAD	FUNCTION
1	ANODE
2	CATHODE

Reflow Soldering Characteristics

For Reflow Process

- a. 9595 series are suitable for SMT processes.
- b. Curing of glue in oven must be according to standard operation flow processes.

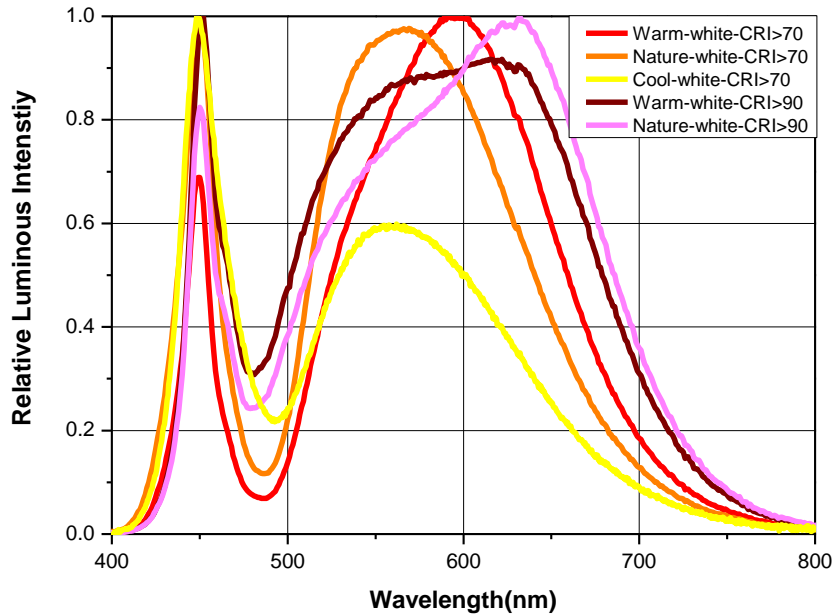


Profile Feature	Lead Free Assembly
Ramp-Up Rate	2-3 °C/S
Preheat Temperature	150-200 °C
Preheat Time (t_s)	60-120 S
Liquid Temperature (T_L)	217 °C
Time maintained above T_L	60-90 S
Peak Temperature (T_p)	240±5 °C
Peak Time (t_p)	Max 20 S
Ramp-Down Rate	3-5 °C/S

- c. Reflow soldering should not be done more than twice.
- d. In soldering process, stress on the LEDs during heating should be avoided.
- e. After soldering, do not bend the circuit board.

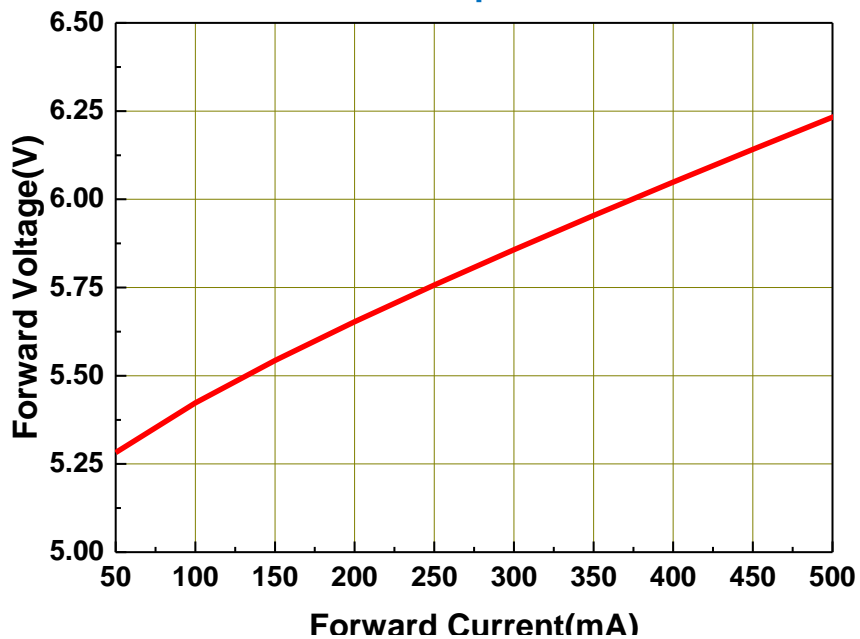
Wavelength Characteristics

Relative Spectral Distribution
@ Solder Pad Temperature = 25°C



Typical Electrical Characteristics

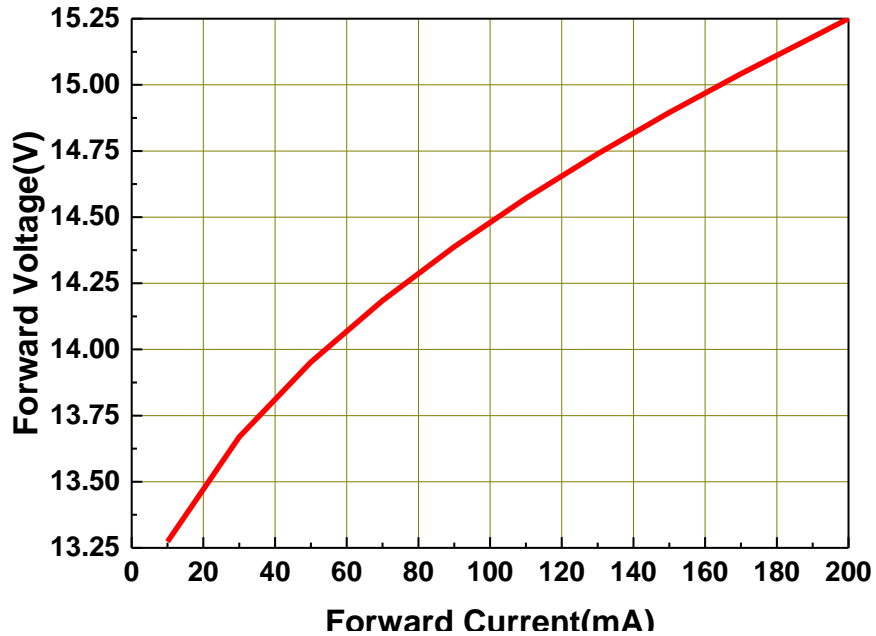
for 2 series 5 parallel
@ Solder Pad Temperature = 25°C



Typical Electrical Characteristics

for 2 parallel 5 series

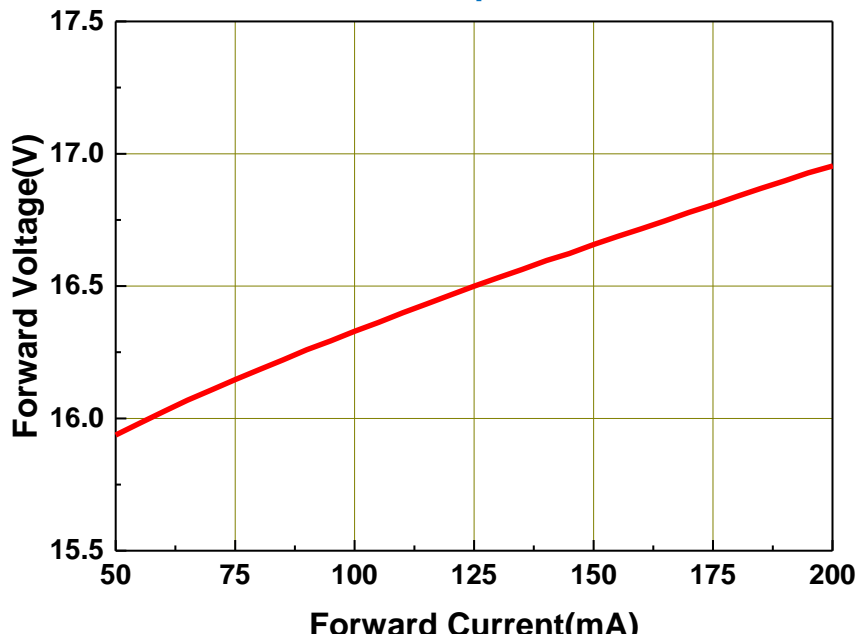
@ Solder Pad Temperature = 25°C



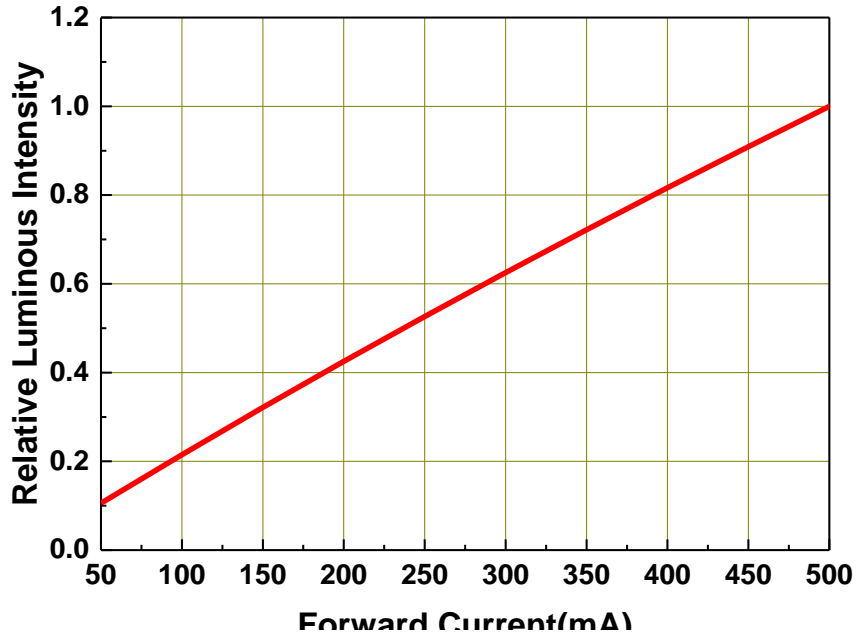
Typical Electrical Characteristics

for 3 parallel 6 series

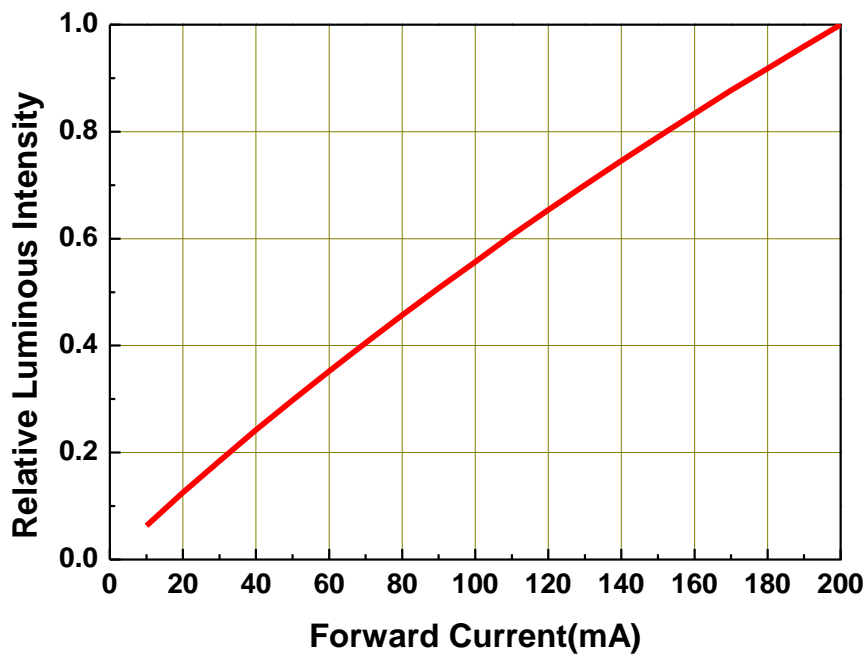
@ Solder Pad Temperature = 25°C



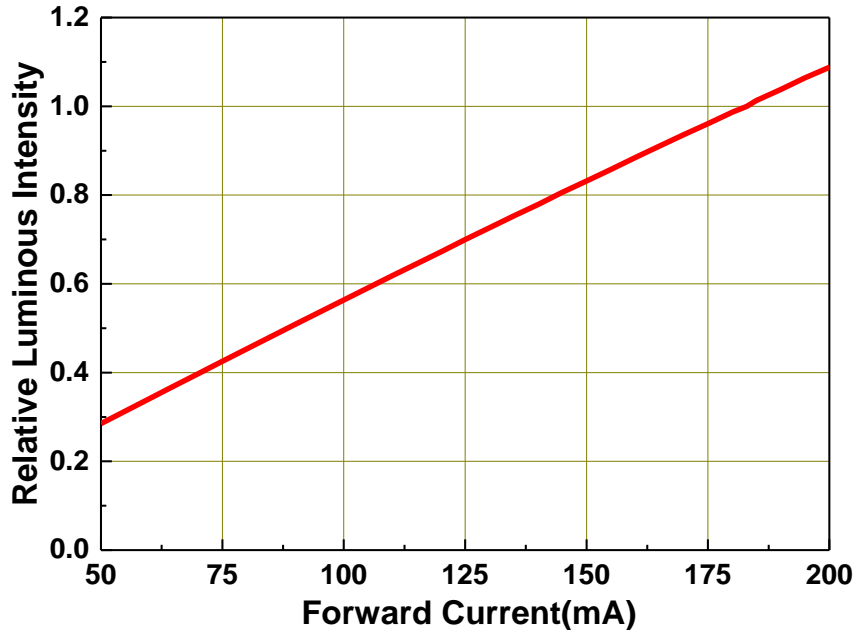
Typical Relative Luminous Flux V.S. Forward Current
for 2 series 5 parallel
@ Solder Pad Temperature = 25°C



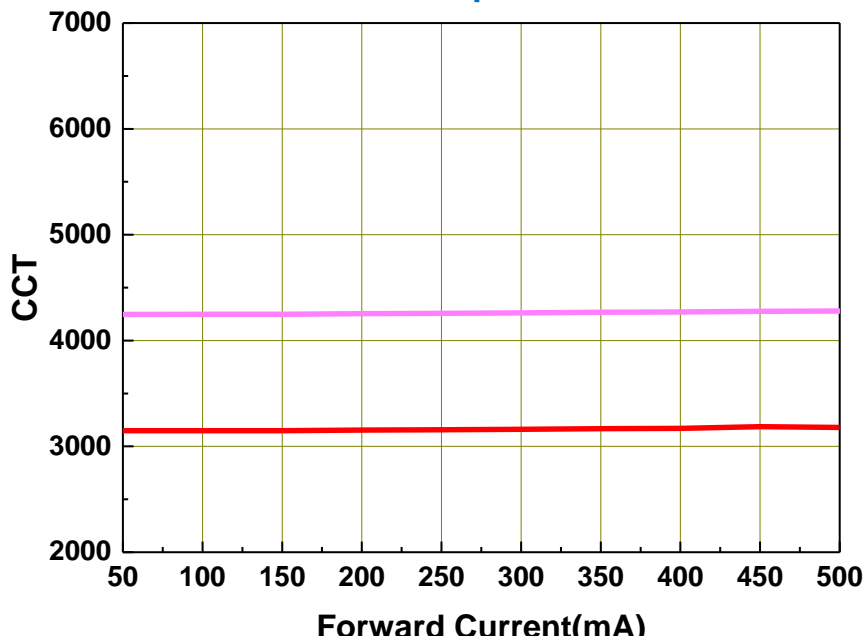
Typical Relative Luminous Flux V.S. Forward Current
for 2 parallel 5/6 series
@ Solder Pad Temperature = 25°C



Typical Relative Luminous Flux V.S. Forward Current for 3 parallel 6 series @ Solder Pad Temperature = 25°C

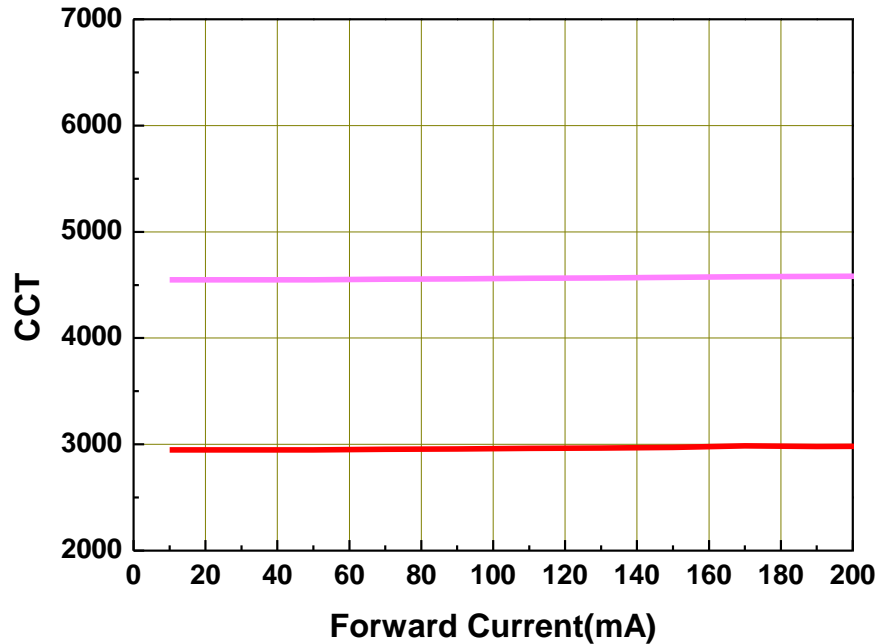


Typical Wavelength & Color Shift Characteristics V.S. Forward Current for 2 series 5 parallel @ Solder Pad Temperature = 25°C



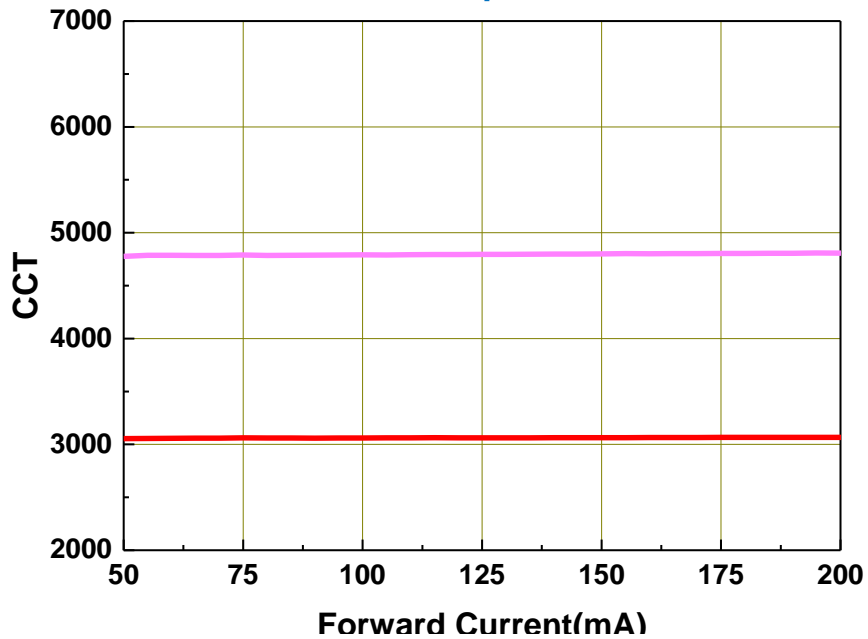
Typical Wavelength & Color Shift Characteristics V.S. Forward Current

for 2 parallel 5/6 series
@ Solder Pad Temperature = 25°C

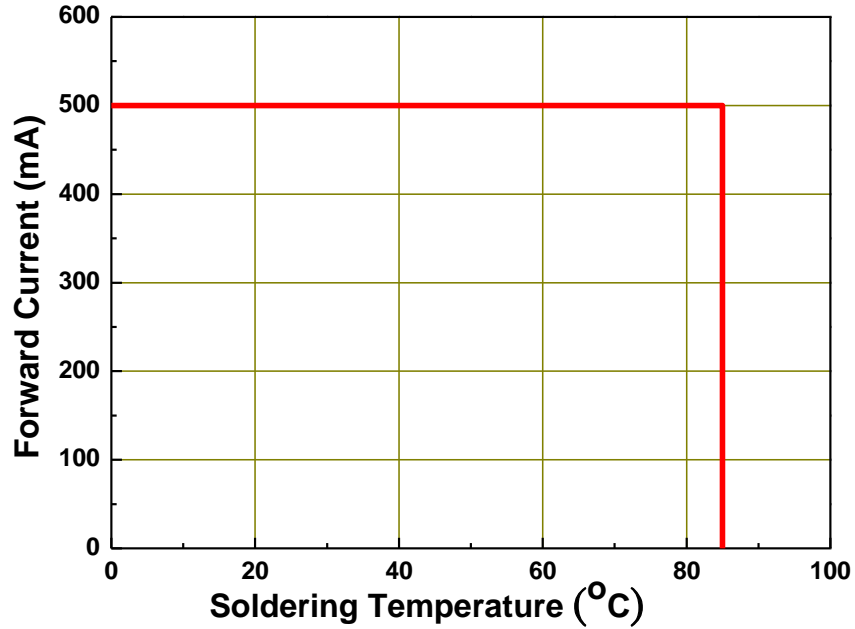


Typical Wavelength & Color Shift Characteristics V.S. Forward Current

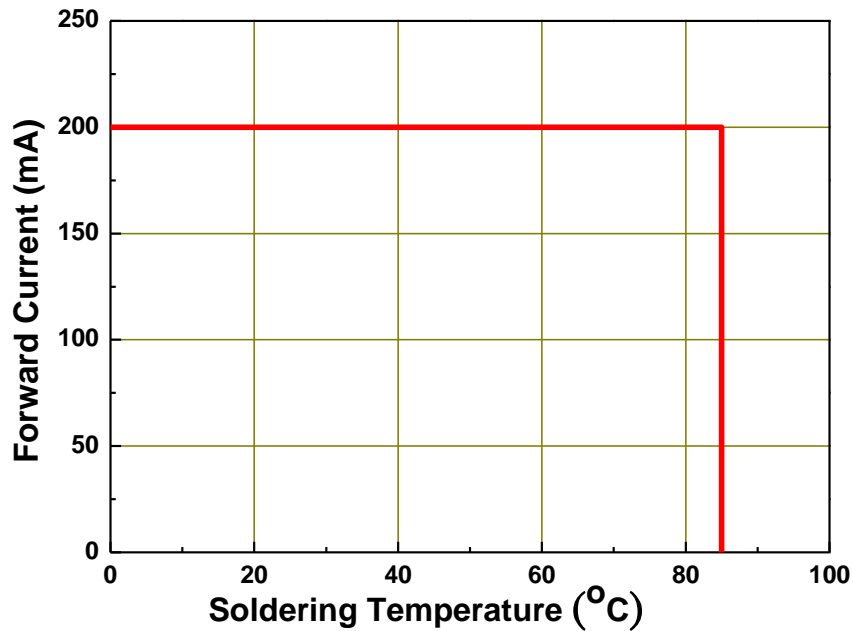
for 3 parallel 6 series
@ Solder Pad Temperature = 25°C



Forward Current Derating Curve
for 2 series 5 parallel
@ Junction Temperature <115°C

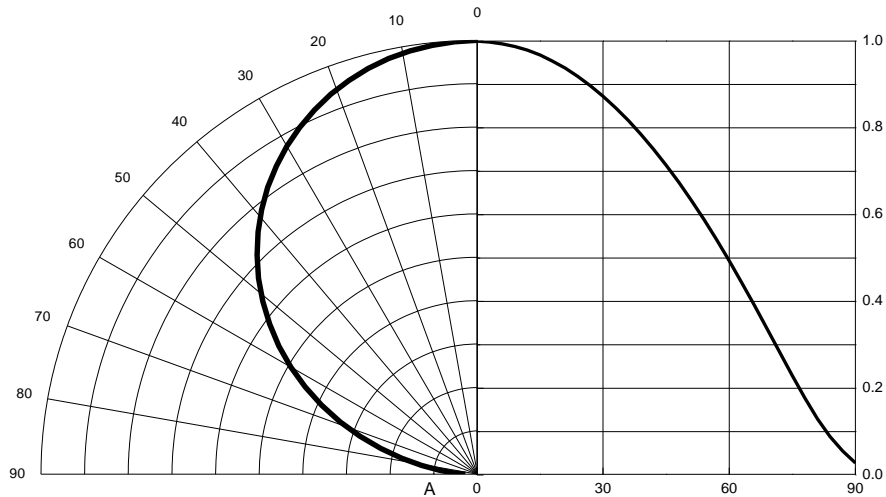


Forward Current Derating Curve
for 2/3 parallel 5/6 series
@ Junction Temperature <115°C



Typical Radiation Patterns

9595 series: Typical Diagram Characteristics of Radiation for Warm-White and Cool-White

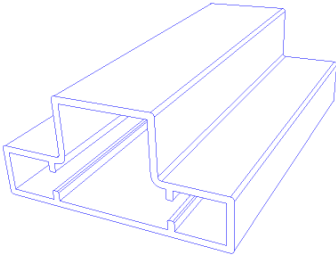


Notes:

1. $2\theta_{1/2}$ is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is $\pm 5^\circ$.

Tube Packaging Specifications

1. Tube



Product Labeling

RoHS
Pb
EVERLIGHT **5**

CPN: XXXXXXXXXXXXXXXXXXXX

 XXXXXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXX
 P/N: XXXXXXXXXXX

 XXXXXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXX
 LOT NO: Y150716XXX-XXXXXXXX-XXXXXXXX

 QTY: 0123456789 HUE: XXXXXXXXXXX
 
 CAT: XXXXXXXXXXX REF: XXXXXXXXXXX
 
 REFERENCE: BTPYMMDDXXXX

 MSL-X MADE IN XXXXXX



- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number
- MADE IN TAIWAN: Production Place

Reliability Data for 2 series 5 parallel

Stress Test	Stress Condition	Stress Duration
Reflow	Tsol=260°C, 10sec	3 times
Thermal Shock	H : + 100°C 20min. ↓ 10sec. 'L : - 10°C 20min.	500,1000 Cycles
Power Temperature Cycle	H : + 85°C 15min. ↓ 5min. 'L : - 40°C 15min. IF=500mA	500,1000 Cycles
High Temperature/Humidity Operation	Ta=85°C , RH=85%, IF=500mA	1000hours
Room Temperature Operation Life	Ta=25°C, IF=500mA	1000hours
High Temperature Operation Life #1	Ta=55°C, IF=500mA	1000hours
High Temperature Operation Life #2	Ta=85°C, IF=500mA	1000hours
Low Temperature Operation Life	Ta=-40°C, IF=500mA	1000hours
Pulse	30ms ON/2500ms OFF / 30000 Cycles IF=750mA	30ms ON/2500ms OFF / 30000 Cycles

Failure Criteria:

1. LEDs are open or shorted
2. Im: luminous flux attenuate difference(1000hrs)>50%
3. VF: forward voltage difference(1000hrs)>20%

Reliability Data for 2/3 parallel 5/6 series

Stress Test	Stress Condition	Stress Duration
Reflow	Tsol=260°C, 10sec	3 times
Thermal Shock	H : +100°C 20min. ↓ 10sec. L : - 10°C 20min.	500,1000 Cycles
Power Temperature Cycle	H : +85°C 15min. ↓ 5min. L : - 40°C 15min. IF=200mA	500,1000 Cycles
High Temperature/Humidity Operation	Ta=85°C , RH=85%, IF=200mA	1000hours
Room Temperature Operation Life	Ta=25°C , IF=200mA	1000hours
High Temperature Operation Life #1	Ta=55°C , IF=200mA	1000hours
High Temperature Operation Life #2	Ta=85°C , IF=200mA	1000hours
Low Temperature Operation Life	Ta=-40°C , IF=200mA	1000hours
Pulse	30ms ON/2500ms OFF / 30000 Cycles IF=300mA	30ms ON/2500ms OFF / 30000 Cycles

Failure Criteria:

1. LEDs are open or shorted
2. Im: luminous flux attenuate difference(1000hrs)>50%
3. VF: forward voltage difference(1000hrs)>20%

Storage Conditions

- Before the package is opened: The LEDs should be stored at 30°C or less and 50%RH or less after being shipped from Everlight. The storage life is 6 months. If the LEDs are to be stored for more than 6 months, they should be stored in a sealed container with a nitrogen atmosphere and moisture absorbent material.
- After opening the package: The LED's should be stored under 30°C or less and 30%RH or less. The LED should be used within 24hrs (1days) after opening the package. If unused LEDs remain, they should be stored in moisture proof packages.
- Before using LEDs: The LEDs should be baked under the following conditions: pre-curing at 60±5°C for 24 hours.
- Do not stack assemblies containing Everlight XI9595 LEDs to prevent damage to the optical surface of LEDs. Forces applied to the optical surface may result in the surface being damaged.

DISCLAIMER

- EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
- The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
- The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
- When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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- This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or lifesaving applications or any other application which can result in human injury or death. Please contact authorized EVERLIGHT sales agent for special application request.