

NLW3535AV5 LED Package Specification



Wuhu Retop Electronics Co., Ltd.

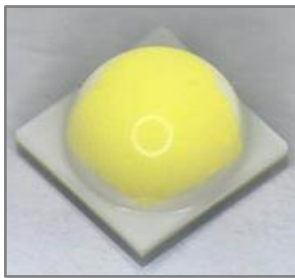
Part No: NLW3535AV5

Version : A (TiO₂ coating)

Date: 2018-8-10



NLW3535AV5



Features

- Ceramic Package, High flux output.
- Excellent lumen maintenance rate > 97% (6000hours, $T_s=105^\circ\text{C}$)
- Low thermal resistance
- High current operation capability
- High lumen efficiency
- High cost effective, lower system cost.

Applications

- Outdoor lighting
- Indoor lighting
- Work light

Specification

CCT	CRI Typ @1050mA	Luminous Flux		Forward Voltage		Angle Typ	Thermal resistance Typ
		Typ @1050mA	Typ @1500mA	Typ @1050mA	Typ @1050mA		
6500K	70	460	655	2.68	2.90	110°	2.5°C/W
5000K	70	465	662	2.68	2.90	110°	2.5°C/W
4000K	70	460	655	2.68	2.90	110°	2.5°C/W

Notes:

1. Electro-optical characteristic test condition: Current=1050mA, test time=20ms, Ambient temperature=25°C ;
2. Viewing angle is 50% central beam intensity angle, Optical simulation software light source data of ProSourceLighttools\tracepro\ASAP\ZEMAX can be provided ;
3. ETI maintains a testing tolerance of $\pm 7\%$ on luminous flux and optical power measurements, ± 0.007 on CIE(x, y), ± 3 on CRI, ± 0.1 on voltage.

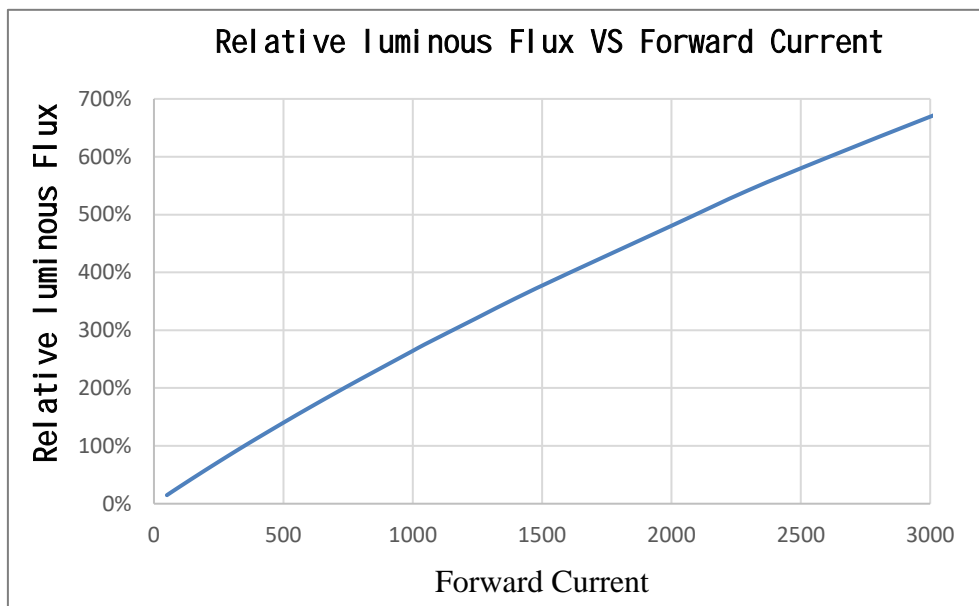
Absolute Maximum Ratings

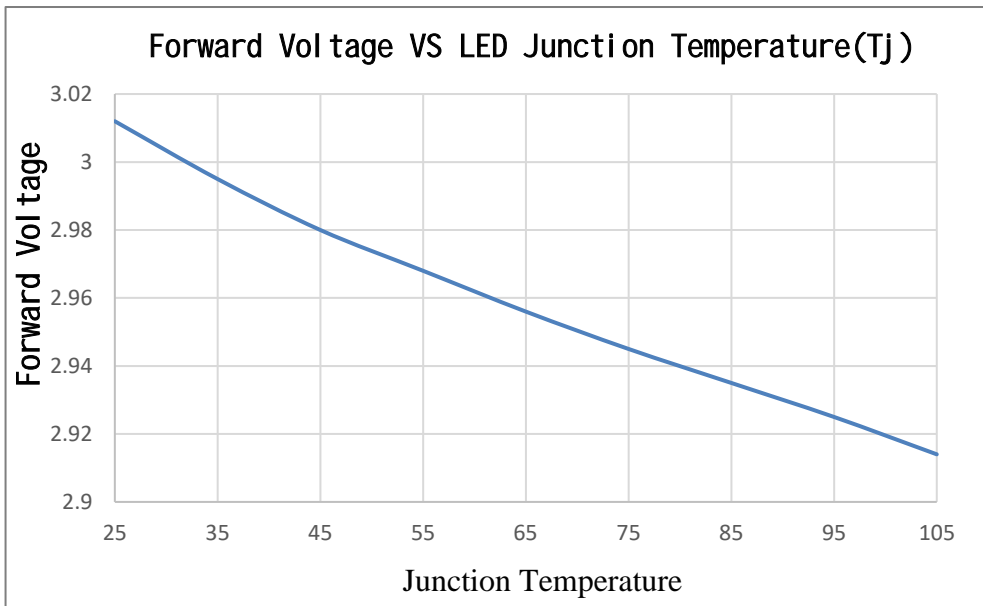
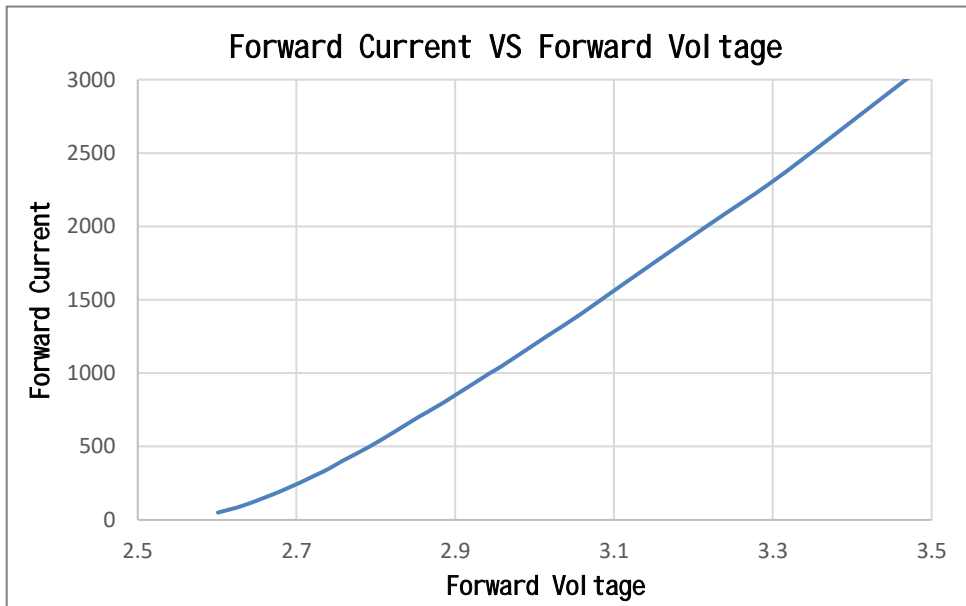
Item	Symbol	Absolute Maximum Ratings
LED Junction Temperature ()	T_j	150°C
Operating Temperature Range ()	T_{op}	-40°C - 100°C
Storage Temperature()	T_{stg}	-40°C - 100°C
Forward Current	I_F	3000mA
Pulsed Forward Current	I_{FM}	3500mA
Reverse Voltage	V_R	Non Reverse Operation Design

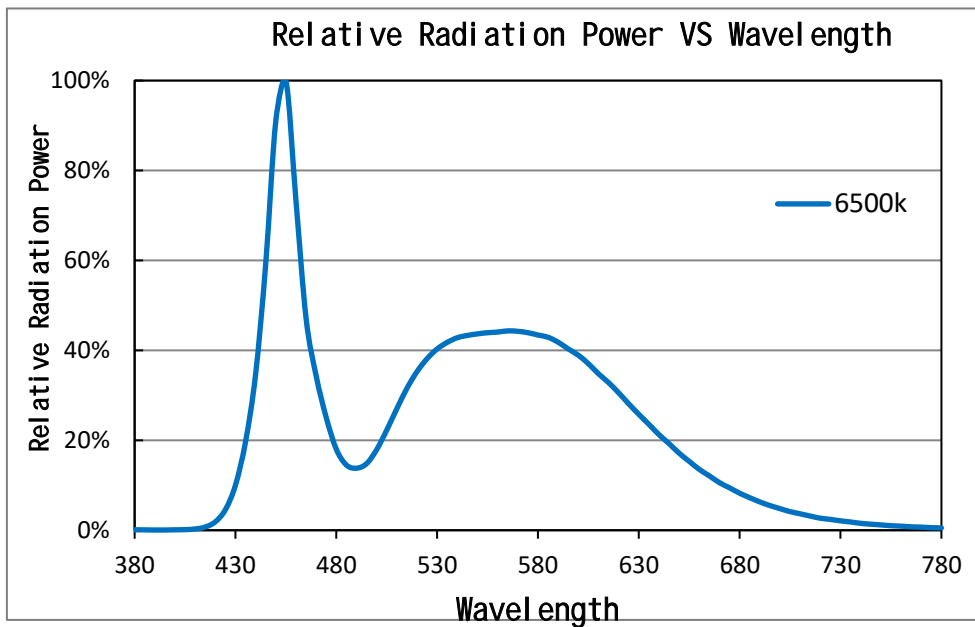
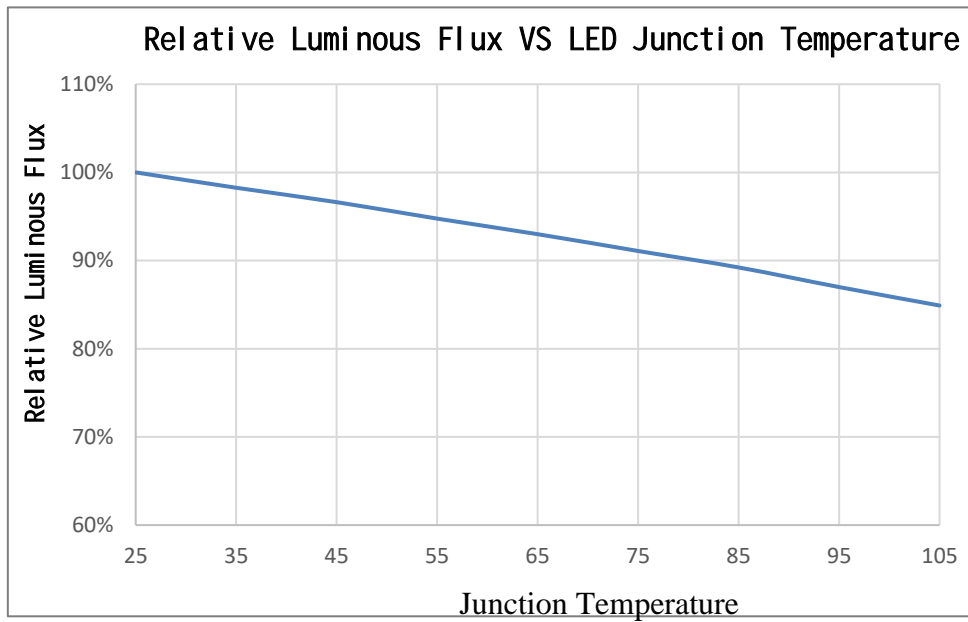
Notes:

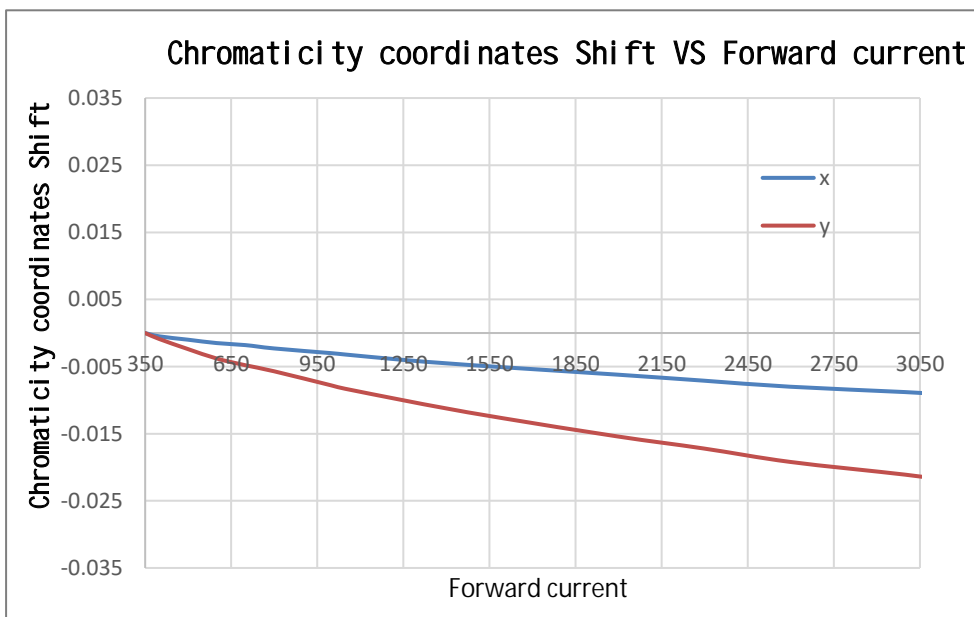
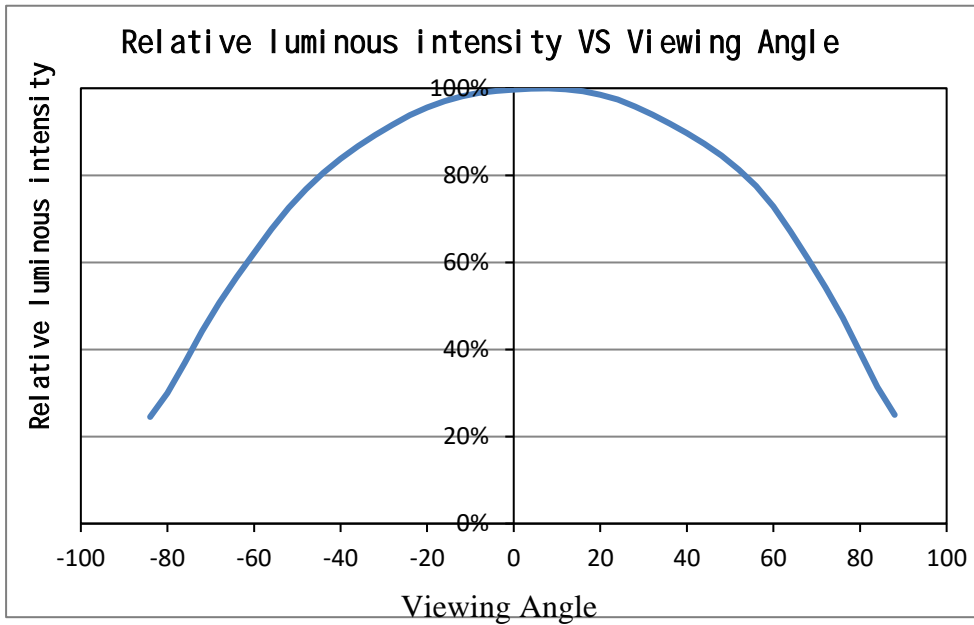
1. Maximum Forward Current and Maximum Pulsed Forward Current precondition is the LED junction temperature lower than the rated junction temperature ;
2. IFM condition Pulse width at 500ms and duty cycle at 0.016.

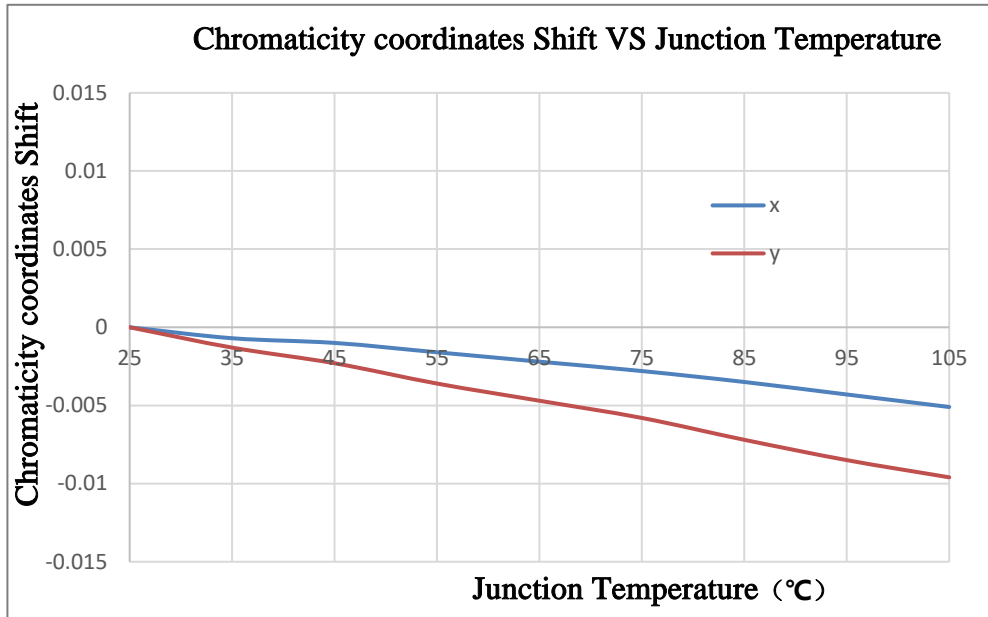
Product Characteristic Curve





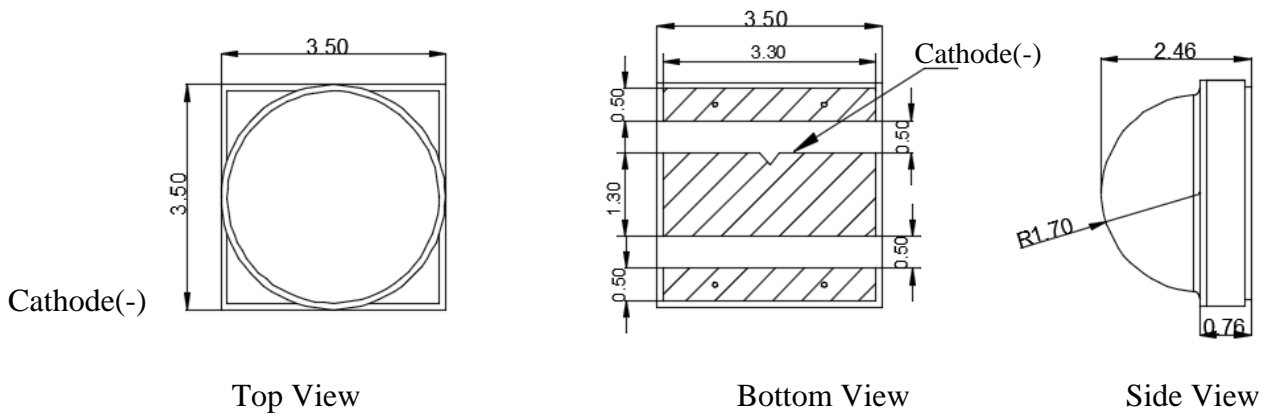






Mechanical Dimensions

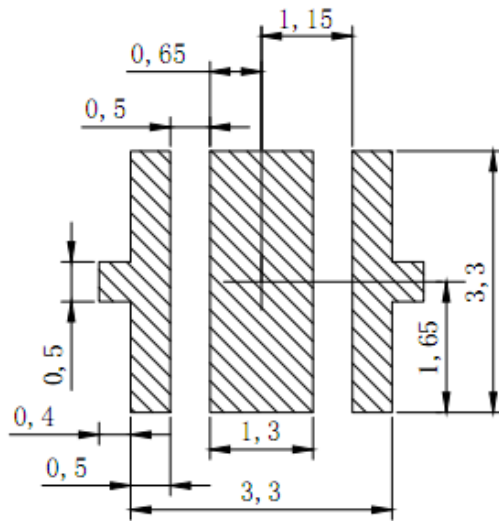
Unit : mm, Tolerance : ± 0.10



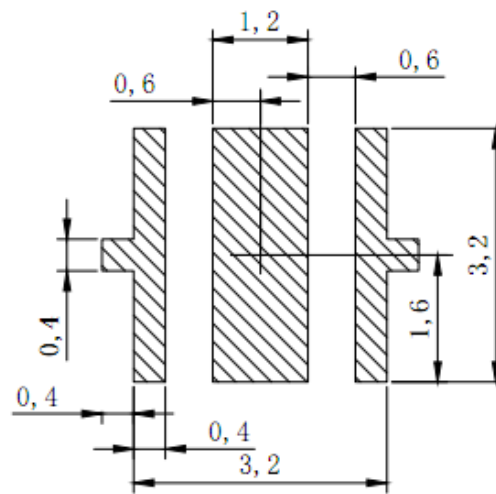
Top View

Bottom View

Side View

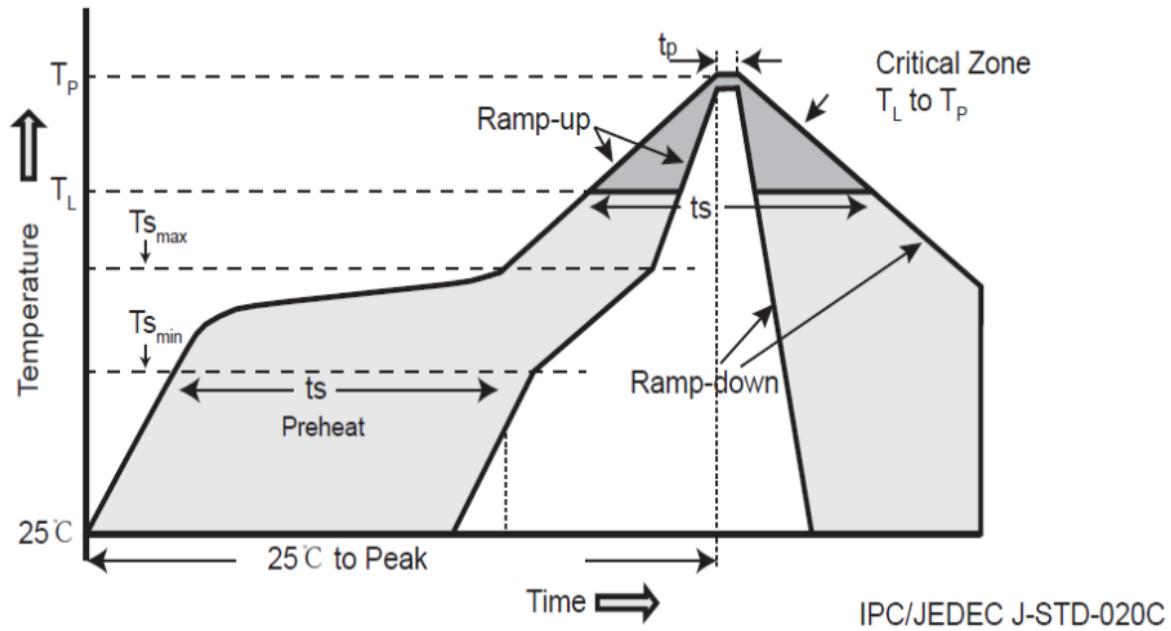


Recommended Solder Pad Dimensions



Recommended PCB Stencil Pattern

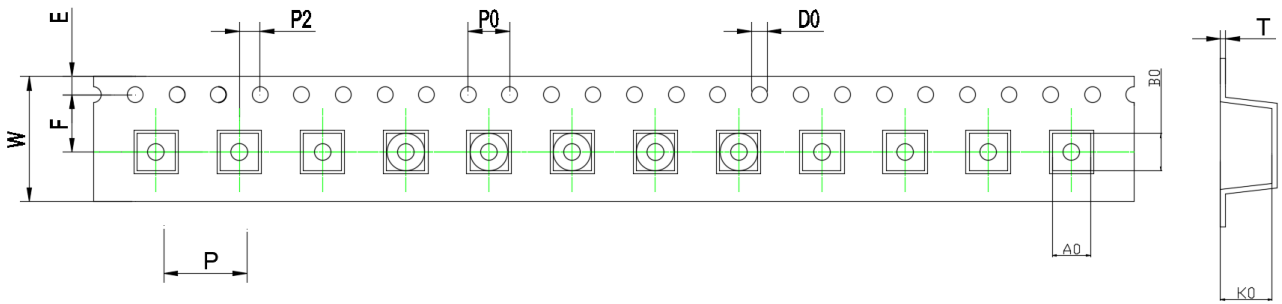
Reflow Profile



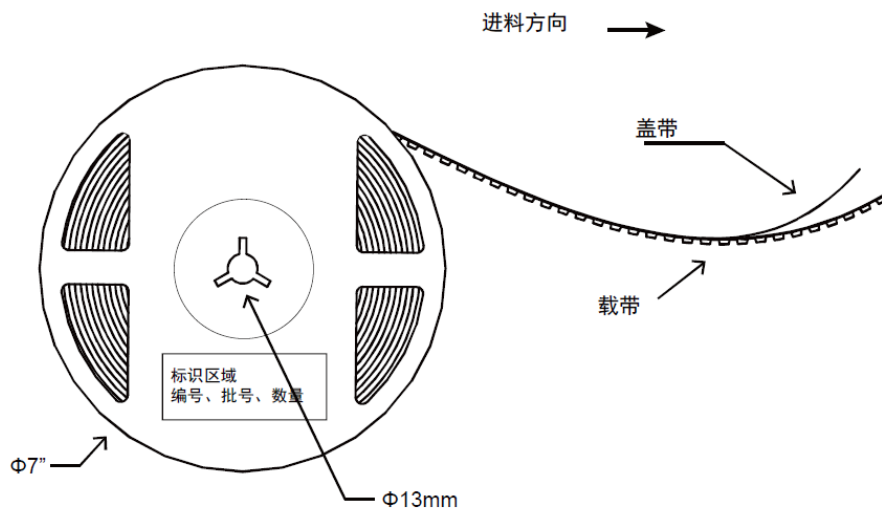
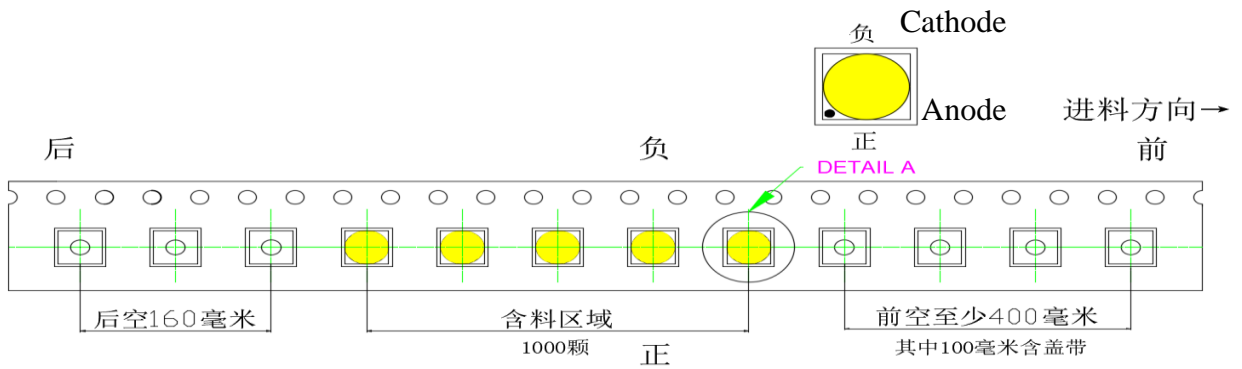
Profile Feature	Lead-Based Solder	Lead-Free Solder
Average Ramp-Up Rate (T_{smax} to T_p)	3°C/s Max.	3°C/s Max.
Preheat: Temperature Min (T_{smin})	100°C	150°C
Preheat: Temperature Max (T_{smax})	150°C	200°C
Preheat Time (T_{smin} to T_{smax})	60-120s	60-180s
Time Maintain Above: Temperature (T_L)	183°C	217°C
Time Maintain Above: Time (t_L)	60-150s	60-150s
Peak/Classification Temperature (T_p)	215°C	260°C
Time within 5°C of Peak Temperature (t_p)	10-30s	20-40s
Ramp-Down (T_p to T_L)	6°C/s Max.	6°C/s Max.
Time 25 °C to peak Temperature	6minutes Max.	8minutes Max

Notes: 1. The temperature distribution is compatible with IPC/JEDEC J-STD-020C.
 2. Fulfilled Product Moisture Sensitivity Level1 (MSL 1).

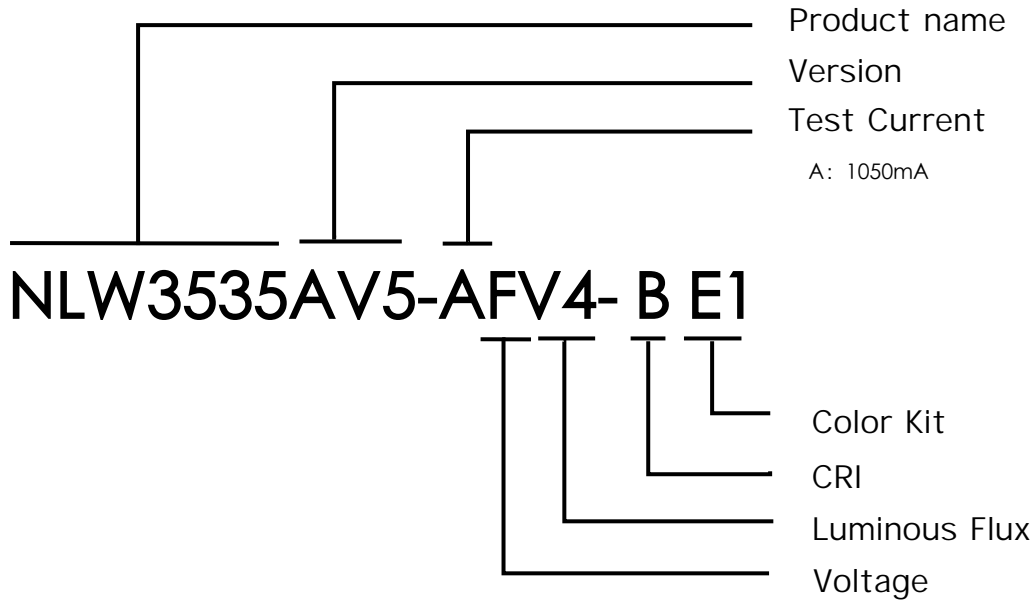
Tape and Reel : 1000pcs/reel
unit : mm



symbol	AO	BO	KO	PO	P	P2
Spec	3.90±0.1	3.90±0.1	2.48±0.1	4.00±0.10	8.0±0.1	2.00±0.10
symbol	W	T	E	F	DO	D1
Spec	12.0±0.3	0.2±0.05	1.75±0.10	5.5±0.1	1.50 ^{+0.1} ₋₀	1.50±0.10



Product Name Description:



NLW3535AV5-AFV4- B E1

Voltage Bin

Voltage	Min.	Max.	Unit
F	2.6	2.9	V

CRI

CRI	Ra
B	70

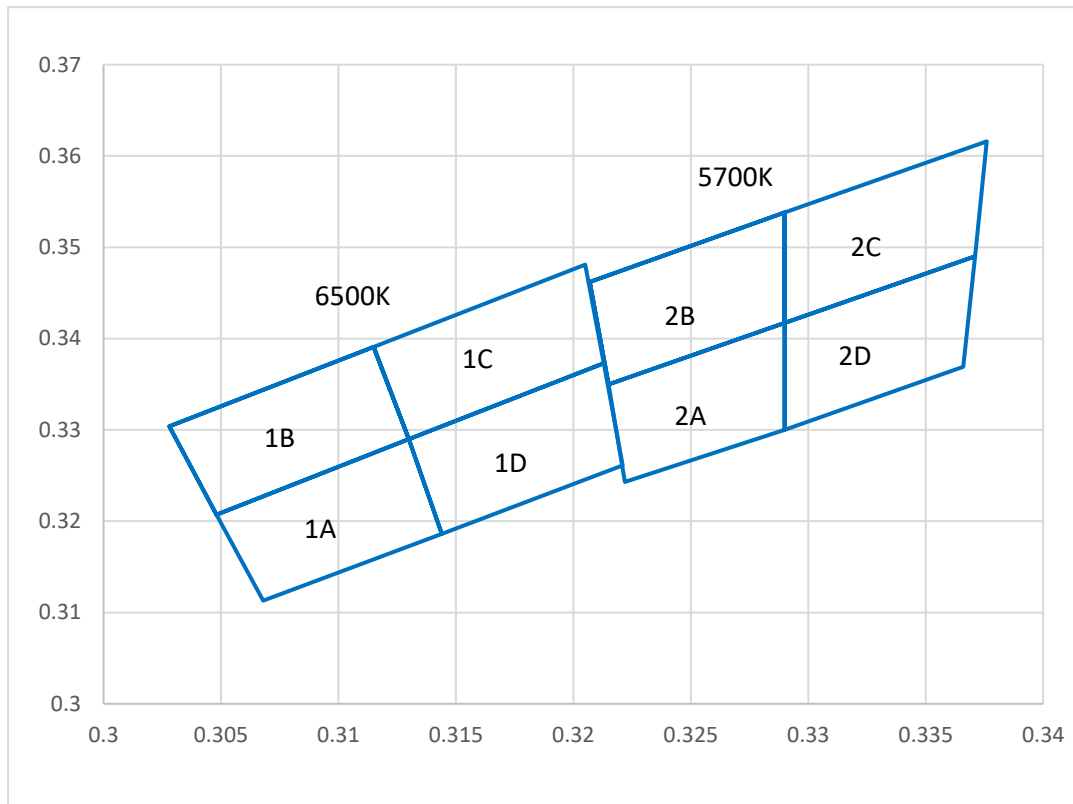
Color Kit

Color Kit	CCT	Unit
E1	6500	K
E2	5700	K

Flux Bin

Flux Bin	Min.	Max.	Unit
U3	320	340	Lm
U4	340	360	Lm
U5	360	380	Lm
U6	380	400	Lm
V2	400	420	Lm
V3	420	440	Lm
V4	440	460	Lm
V5	460	480	Lm
V6	480	500	Lm
W2	500	525	Lm

Chromaticity Diagram



Notes:

Test Condition:

IF=350mA, test time: 20ms, ambient temperature : 25 ,
±0.007 on chromaticity coordinate on (CCx,CCy).

ColorKit—Chromaticity coordinate

Code	Bin Code	x	y
E1	1A	0.3048	0.3207
		0.3028	0.3304
		0.3115	0.3391
		0.3130	0.3290
	1B	0.3130	0.3290
		0.3115	0.3391
		0.3205	0.3481
		0.3213	0.3373
	1C	0.3144	0.3186
		0.3130	0.3290
		0.3213	0.3373
		0.3221	0.3261
	1D	0.3068	0.3113
		0.3048	0.3207
		0.3130	0.3290
		0.3144	0.3186
E2	2A	0.3215	0.3350
		0.3290	0.3417
		0.3290	0.3300
		0.3222	0.3243
	2B	0.3207	0.3462
		0.3290	0.3538
		0.3290	0.3417
		0.3215	0.3350
	2C	0.3290	0.3538
		0.3376	0.3616
		0.3371	0.3490
		0.3290	0.3417
	2D	0.3290	0.3417
		0.3371	0.3490
		0.3366	0.3369
		0.3290	0.3300

Color Binnings :

Color	Kit	Chromaticity Bins
Cool White	E1	1A,1B,1C,1D
Cool White	E2	2A,2B,2C,2D

Ordering Description :

White LEDs have performance distribution and been classified into multiple color groups. It is recommended to order products in combination of color groups.

Color group classification for reference :
E1, E2.