



Solid-State Light. Done Right.

APPROVAL SHEET

AOT MODEL NAME	3105S
AOT PART NUMBER	3105S-W302
CUSTOMER NAME	General
DATE	2021/Mar.
VERSION	01

MAKER			CUSTOMER			
Prepared	Checked	Approved				
<i>Jack Tsai</i>						

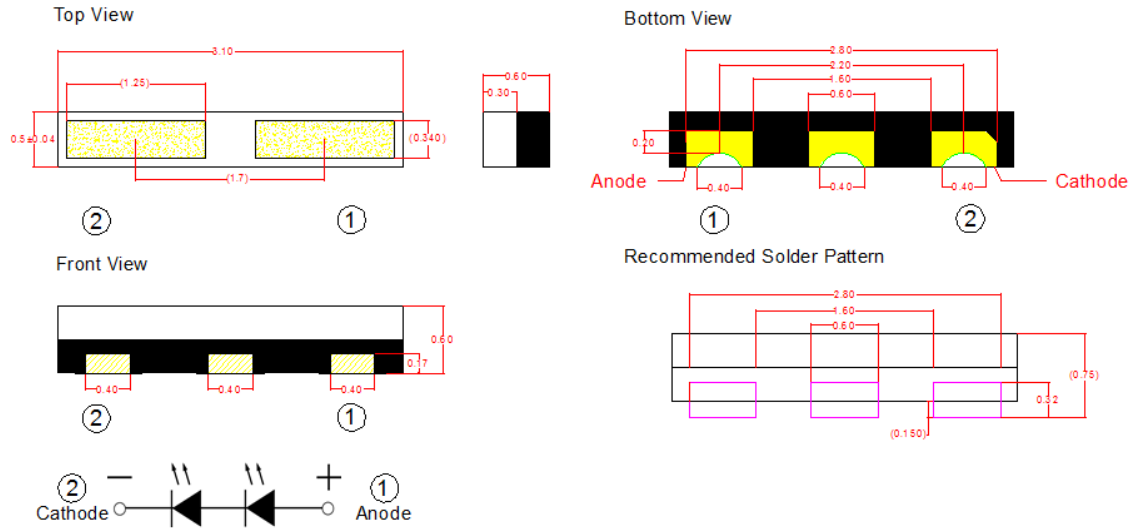
AOT Headquarters

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Package Outline

Model name : 3105S-W302

Unit: mm, Tolerance: ± 0.1 mm



Item	Materials
Package	BT Substrate
Encapsulating Material	Silicon Resin
Electrode	Au Plating

- Two blue Filp chip.
- High brightness SMD.
- Compact package outline (LxWxH) of 3.1mm x 0.6 mm x 0.5 mm.
- Compatible with reflow soldering.
- Complies with RoHS Directive.

Optical/Electronic Characteristics (Ta=25°C)

AOT Reading Standards						
Item	Symbol	Condition	Min	Typ.	Max	Unit
Forward Voltage	V_F	$I_F = 22\text{mA}$	5.4	-	6.0	V
Luminous Flux	ϕ_v	$I_F = 22\text{mA}$	15	-	19	lm
CIE	X/Y	$I_F = 22\text{mA}$		X:0.2590 Y:0.2375		
Thermal Resistance	R_{thj-s}	$I_F = 22\text{mA}$	-	60	80	°C/W

* Tolerance of measurements of the Forward Voltage is ± 0.05 V.

* Tolerance of measurements of the Luminous Flux is $\pm 7\%$.

Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	I_F	35	mA
Power Dissipation	P_D	210	mW
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-30~+85 ($I_F=22\text{mA}$)	°C
Storage Temperature	T_{stg}	-40~+100	°C
Soldering Temperature	T_{sld}	Reflow Soldering : 215°C for 10sec Hand Soldering : 215°C for 3sec	
Junction Temperature	T_j	110	°C
Forward Voltage at Low Current	V_{F2}	>3.8(@1uA)	V

* Max condition is not guarantee for life time

* $T_s(\text{max})=70^\circ\text{C}$



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Group Definition of Forward Voltage

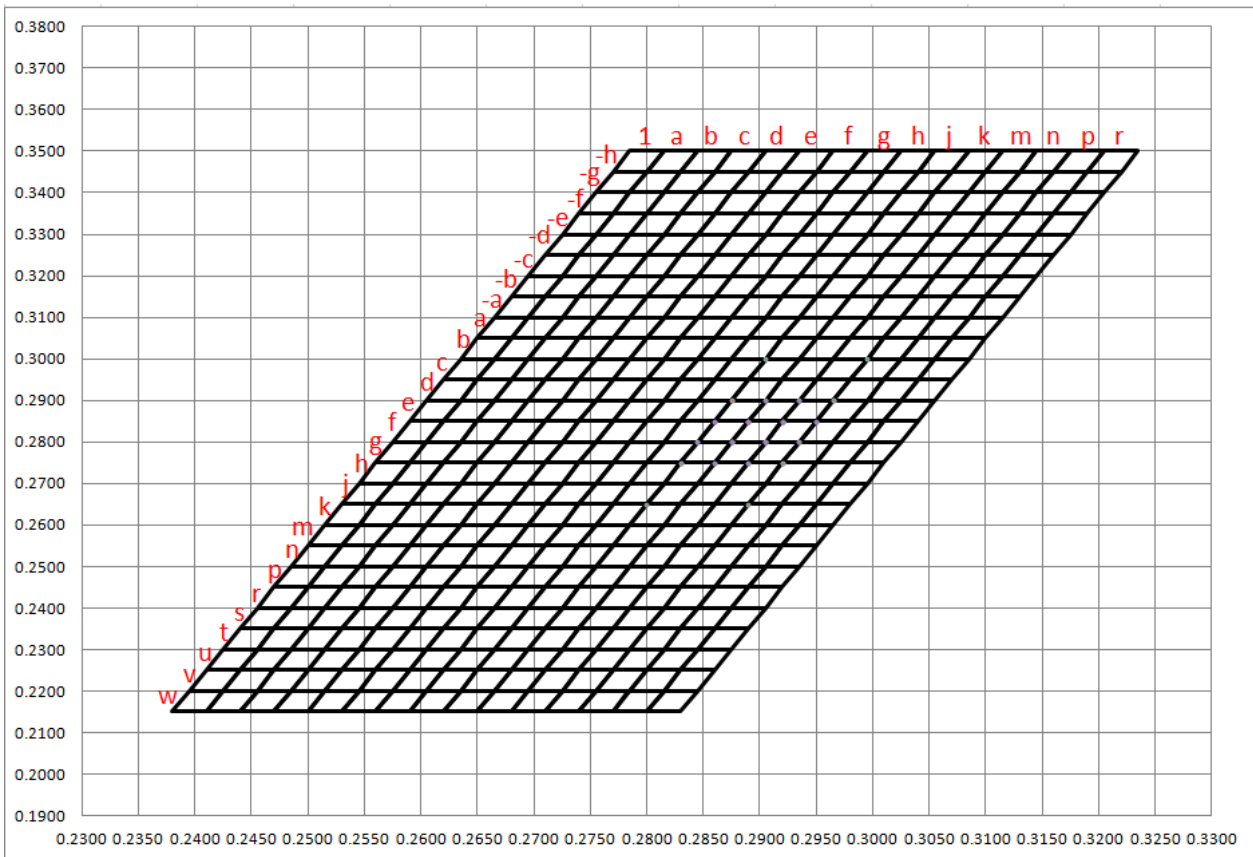
Rank	Condition	VF(V)
A2	Ta=25°C I _F =22mA	5.4 ~ 5.6
A3		5.6 ~ 5.8
A4		5.8 ~ 6.0

Group Definition of Brightness

Rank	Condition	Iv(lm)
NW1500	Ta=25°C I _F =22mA	15.0 ~ 15.5
NW1550		15.5 ~ 16.0
NW1600		16.0 ~ 16.5
NW1650		16.5 ~ 17.0
NW1700		17.0 ~ 17.5
NW1750		17.5 ~ 18.0
NW1800		18.0 ~ 18.5
NW1850		18.5 ~ 19.0

- * A shipment shall consist of LEDs in a combination of above ranks.
- * The percentage of each rank in the shipment shall be determined by AOT.
- *The ranking information of LEDs can be found on the reel label.

Group Definition of Chromaticity Coordinate



Color Rank

CIE	x	y	CIE	x	y	CIE	x	y
w1	0.2380	0.2150	wa	0.2410	0.2150	wb	0.2440	0.2150
	0.2395	0.2200		0.2425	0.2200		0.2455	0.2200
	0.2425	0.2200		0.2455	0.2200		0.2485	0.2200
	0.2410	0.2150		0.2440	0.2150		0.2470	0.2150
v1	0.2395	0.2200	va	0.2425	0.2200	vb	0.2455	0.2200
	0.2410	0.2250		0.2440	0.2250		0.2470	0.2250
	0.2440	0.2250		0.2470	0.2250		0.2500	0.2250
	0.2425	0.2200		0.2455	0.2200		0.2485	0.2200
u1	0.2410	0.2250	ua	0.2440	0.2250	ub	0.2470	0.2250
	0.2425	0.2300		0.2455	0.2300		0.2485	0.2300
	0.2455	0.2300		0.2485	0.2300		0.2515	0.2300
	0.2440	0.2250		0.2470	0.2250		0.2500	0.2250
t1	0.2425	0.2300	ta	0.2455	0.2300	tb	0.2485	0.2300
	0.2440	0.2350		0.2470	0.2350		0.2500	0.2350
	0.2470	0.2350		0.2500	0.2350		0.2530	0.2350
	0.2455	0.2300		0.2485	0.2300		0.2515	0.2300
s1	0.2440	0.2350	sa	0.2470	0.2350	sb	0.2500	0.2350
	0.2455	0.2400		0.2485	0.2400		0.2515	0.2400
	0.2485	0.2400		0.2515	0.2400		0.2545	0.2400
	0.2470	0.2350		0.2500	0.2350		0.2530	0.2350
r1	0.2455	0.2400	ra	0.2485	0.2400	rb	0.2515	0.2400
	0.2470	0.2450		0.2500	0.2450		0.2530	0.2450
	0.2500	0.2450		0.2530	0.2450		0.2560	0.2450
	0.2485	0.2400		0.2515	0.2400		0.2545	0.2400
p1	0.2470	0.2450	pa	0.2500	0.2450	pb	0.2530	0.2450
	0.2485	0.2500		0.2515	0.2500		0.2545	0.2500
	0.2515	0.2500		0.2545	0.2500		0.2575	0.2500
	0.2500	0.2450		0.2530	0.2450		0.2560	0.2450
n1	0.2485	0.2500	na	0.2515	0.2500	nb	0.2545	0.2500
	0.2500	0.2550		0.2530	0.2550		0.2560	0.2550
	0.2530	0.2550		0.2560	0.2550		0.2590	0.2550
	0.2515	0.2500		0.2545	0.2500		0.2575	0.2500
m1	0.2500	0.2550	ma	0.2530	0.2550	mb	0.2560	0.2550
	0.2515	0.2600		0.2545	0.2600		0.2575	0.2600
	0.2545	0.2600		0.2575	0.2600		0.2605	0.2600
	0.2530	0.2550		0.2560	0.2550		0.2590	0.2550

CIE	x	y	CIE	x	y	CIE	x	y
k1	0.2515	0.2600	ka	0.2545	0.2600	kb	0.2575	0.2600
	0.2530	0.2650		0.2560	0.2650		0.2590	0.2650
	0.2560	0.2650		0.2590	0.2650		0.2620	0.2650
	0.2545	0.2600		0.2575	0.2600		0.2605	0.2600
j1	0.2530	0.2650	ja	0.2560	0.2650	jb	0.2590	0.2650
	0.2545	0.2700		0.2575	0.2700		0.2605	0.2700
	0.2575	0.2700		0.2605	0.2700		0.2635	0.2700
	0.2560	0.2650		0.2590	0.2650		0.2620	0.2650
h1	0.2545	0.2700	ha	0.2575	0.2700	hb	0.2605	0.2700
	0.2560	0.2750		0.2590	0.2750		0.2620	0.2750
	0.2590	0.2750		0.2620	0.2750		0.2650	0.2750
	0.2575	0.2700		0.2605	0.2700		0.2635	0.2700
g1	0.2560	0.2750	ga	0.2590	0.2750	gb	0.2620	0.2750
	0.2575	0.2800		0.2605	0.2800		0.2635	0.2800
	0.2605	0.2800		0.2635	0.2800		0.2665	0.2800
	0.2590	0.2750		0.2620	0.2750		0.2650	0.2750
f1	0.2575	0.2800	fa	0.2605	0.2800	fb	0.2635	0.2800
	0.2590	0.2850		0.2620	0.2850		0.2650	0.2850
	0.2620	0.2850		0.2650	0.2850		0.2680	0.2850
	0.2605	0.2800		0.2635	0.2800		0.2665	0.2800
e1	0.2590	0.2850	ea	0.2620	0.2850	eb	0.2650	0.2850
	0.2605	0.2900		0.2635	0.2900		0.2665	0.2900
	0.2635	0.2900		0.2665	0.2900		0.2695	0.2900
	0.2620	0.2850		0.2650	0.2850		0.2680	0.2850
d1	0.2605	0.2900	da	0.2635	0.2900	db	0.2665	0.2900
	0.2620	0.2950		0.2650	0.2950		0.2680	0.2950
	0.2650	0.2950		0.2680	0.2950		0.2710	0.2950
	0.2635	0.2900		0.2665	0.2900		0.2695	0.2900
c1	0.2620	0.2950	ca	0.2650	0.2950	cb	0.2680	0.2950
	0.2635	0.3000		0.2665	0.3000		0.2695	0.3000
	0.2665	0.3000		0.2695	0.3000		0.2725	0.3000
	0.2650	0.2950		0.2680	0.2950		0.2710	0.2950
b1	0.2635	0.3000	ba	0.2665	0.3000	bb	0.2695	0.3000
	0.2650	0.3050		0.2680	0.3050		0.2710	0.3050
	0.2680	0.3050		0.2710	0.3050		0.2740	0.3050
	0.2665	0.3000		0.2695	0.3000		0.2725	0.3000

CIE	x	y	CIE	x	y	CIE	x	y
11	0.2650	0.3050	aa	0.2680	0.3050	ab	0.2710	0.3050
	0.2665	0.3100		0.2695	0.3100		0.2725	0.3100
	0.2695	0.3100		0.2725	0.3100		0.2755	0.3100
	0.2680	0.3050		0.2710	0.3050		0.2740	0.3050
-a1	0.2665	0.3100	-aa	0.2695	0.3100	-ab	0.2725	0.3100
	0.2680	0.3150		0.2710	0.3150		0.2740	0.3150
	0.2710	0.3150		0.2740	0.3150		0.2770	0.3150
	0.2695	0.3100		0.2725	0.3100		0.2755	0.3100
-b1	0.2680	0.3150	-ba	0.2710	0.3150	-bb	0.2740	0.3150
	0.2695	0.3200		0.2725	0.3200		0.2755	0.3200
	0.2725	0.3200		0.2755	0.3200		0.2785	0.3200
	0.2710	0.3150		0.2740	0.3150		0.2770	0.3150
-c1	0.2695	0.3200	-ca	0.2725	0.3200	-cb	0.2755	0.3200
	0.2710	0.3250		0.2740	0.3250		0.2770	0.3250
	0.2740	0.3250		0.2770	0.3250		0.2800	0.3250
	0.2725	0.3200		0.2755	0.3200		0.2785	0.3200
-d1	0.2710	0.3250	-da	0.2740	0.3250	-db	0.2770	0.3250
	0.2725	0.3300		0.2755	0.3300		0.2785	0.3300
	0.2755	0.3300		0.2785	0.3300		0.2815	0.3300
	0.2740	0.3250		0.2770	0.3250		0.2800	0.3250
-e1	0.2725	0.3300	-ea	0.2755	0.3300	-eb	0.2785	0.3300
	0.2740	0.3350		0.2770	0.3350		0.2800	0.3350
	0.2770	0.3350		0.2800	0.3350		0.2830	0.3350
	0.2755	0.3300		0.2785	0.3300		0.2815	0.3300
-f1	0.2740	0.3350	-fa	0.2770	0.3350	-fb	0.2800	0.3350
	0.2755	0.3400		0.2785	0.3400		0.2815	0.3400
	0.2785	0.3400		0.2815	0.3400		0.2845	0.3400
	0.2770	0.3350		0.2800	0.3350		0.2830	0.3350
-g1	0.2755	0.3400	-ga	0.2785	0.3400	-gb	0.2815	0.3400
	0.2770	0.3450		0.2800	0.3450		0.2830	0.3450
	0.2800	0.3450		0.2830	0.3450		0.2860	0.3450
	0.2785	0.3400		0.2815	0.3400		0.2845	0.3400
-h1	0.2770	0.3450	-ha	0.2800	0.3450	-hb	0.2830	0.3450
	0.2785	0.3500		0.2815	0.3500		0.2845	0.3500
	0.2815	0.3500		0.2845	0.3500		0.2875	0.3500
	0.2800	0.3450		0.2830	0.3450		0.2860	0.3450

CIE	x	y	CIE	x	y	CIE	x	y
wc	0.2470	0.2150	wd	0.2500	0.2150	we	0.2530	0.2150
	0.2485	0.2200		0.2515	0.2200		0.2545	0.2200
	0.2515	0.2200		0.2545	0.2200		0.2575	0.2200
	0.2500	0.2150		0.2530	0.2150		0.2560	0.2150
vc	0.2485	0.2200	vd	0.2515	0.2200	ve	0.2545	0.2200
	0.2500	0.2250		0.2530	0.2250		0.2560	0.2250
	0.2530	0.2250		0.2560	0.2250		0.2590	0.2250
	0.2515	0.2200		0.2545	0.2200		0.2575	0.2200
uc	0.2500	0.2250	ud	0.2530	0.2250	ue	0.2560	0.2250
	0.2515	0.2300		0.2545	0.2300		0.2575	0.2300
	0.2545	0.2300		0.2575	0.2300		0.2605	0.2300
	0.2530	0.2250		0.2560	0.2250		0.2590	0.2250
tc	0.2515	0.2300	td	0.2545	0.2300	te	0.2575	0.2300
	0.2530	0.2350		0.2560	0.2350		0.2590	0.2350
	0.2560	0.2350		0.2590	0.2350		0.2620	0.2350
	0.2545	0.2300		0.2575	0.2300		0.2605	0.2300
sc	0.2530	0.2350	sd	0.2560	0.2350	se	0.2590	0.2350
	0.2545	0.2400		0.2575	0.2400		0.2605	0.2400
	0.2575	0.2400		0.2605	0.2400		0.2635	0.2400
	0.2560	0.2350		0.2590	0.2350		0.2620	0.2350
rc	0.2545	0.2400	rd	0.2575	0.2400	re	0.2605	0.2400
	0.2560	0.2450		0.2590	0.2450		0.2620	0.2450
	0.2590	0.2450		0.2620	0.2450		0.2650	0.2450
	0.2575	0.2400		0.2605	0.2400		0.2635	0.2400
pc	0.2560	0.2450	pd	0.2590	0.2450	pe	0.2620	0.2450
	0.2575	0.2500		0.2605	0.2500		0.2635	0.2500
	0.2605	0.2500		0.2635	0.2500		0.2665	0.2500
	0.2590	0.2450		0.2620	0.2450		0.2650	0.2450
nc	0.2575	0.2500	nd	0.2605	0.2500	ne	0.2635	0.2500
	0.2590	0.2550		0.2620	0.2550		0.2650	0.2550
	0.2620	0.2550		0.2650	0.2550		0.2680	0.2550
	0.2605	0.2500		0.2635	0.2500		0.2665	0.2500
mc	0.2590	0.2550	md	0.2620	0.2550	me	0.2650	0.2550
	0.2605	0.2600		0.2635	0.2600		0.2665	0.2600
	0.2635	0.2600		0.2665	0.2600		0.2695	0.2600
	0.2620	0.2550		0.2650	0.2550		0.2680	0.2550

CIE	x	y	CIE	x	y	CIE	x	y
kc	0.2605	0.2600	kd	0.2635	0.2600	ke	0.2665	0.2600
	0.2620	0.2650		0.2650	0.2650		0.2680	0.2650
	0.2650	0.2650		0.2680	0.2650		0.2710	0.2650
	0.2635	0.2600		0.2665	0.2600		0.2695	0.2600
jc	0.2620	0.2650	jd	0.2650	0.2650	je	0.2680	0.2650
	0.2635	0.2700		0.2665	0.2700		0.2695	0.2700
	0.2665	0.2700		0.2695	0.2700		0.2725	0.2700
	0.2650	0.2650		0.2680	0.2650		0.2710	0.2650
hc	0.2635	0.2700	hd	0.2665	0.2700	he	0.2695	0.2700
	0.2650	0.2750		0.2680	0.2750		0.2710	0.2750
	0.2680	0.2750		0.2710	0.2750		0.2740	0.2750
	0.2665	0.2700		0.2695	0.2700		0.2725	0.2700
gc	0.2650	0.2750	gd	0.2680	0.2750	ge	0.2710	0.2750
	0.2665	0.2800		0.2695	0.2800		0.2725	0.2800
	0.2695	0.2800		0.2725	0.2800		0.2755	0.2800
	0.2680	0.2750		0.2710	0.2750		0.2740	0.2750
fc	0.2665	0.2800	fd	0.2695	0.2800	fe	0.2725	0.2800
	0.2680	0.2850		0.2710	0.2850		0.2740	0.2850
	0.2710	0.2850		0.2740	0.2850		0.2770	0.2850
	0.2695	0.2800		0.2725	0.2800		0.2755	0.2800
ec	0.2680	0.2850	ed	0.2710	0.2850	ee	0.2740	0.2850
	0.2695	0.2900		0.2725	0.2900		0.2755	0.2900
	0.2725	0.2900		0.2755	0.2900		0.2785	0.2900
	0.2710	0.2850		0.2740	0.2850		0.2770	0.2850
dc	0.2695	0.2900	dd	0.2725	0.2900	de	0.2755	0.2900
	0.2710	0.2950		0.2740	0.2950		0.2770	0.2950
	0.2740	0.2950		0.2770	0.2950		0.2800	0.2950
	0.2725	0.2900		0.2755	0.2900		0.2785	0.2900
cc	0.2710	0.2950	cd	0.2740	0.2950	ce	0.2770	0.2950
	0.2725	0.3000		0.2755	0.3000		0.2785	0.3000
	0.2755	0.3000		0.2785	0.3000		0.2815	0.3000
	0.2740	0.2950		0.2770	0.2950		0.2800	0.2950
bc	0.2725	0.3000	bd	0.2755	0.3000	be	0.2785	0.3000
	0.2740	0.3050		0.2770	0.3050		0.2800	0.3050
	0.2770	0.3050		0.2800	0.3050		0.2830	0.3050
	0.2755	0.3000		0.2785	0.3000		0.2815	0.3000

CIE	x	y	CIE	x	y	CIE	x	y
ac	0.2740	0.3050	ad	0.2770	0.3050	ae	0.2800	0.3050
	0.2755	0.3100		0.2785	0.3100		0.2815	0.3100
	0.2785	0.3100		0.2815	0.3100		0.2845	0.3100
	0.2770	0.3050		0.2800	0.3050		0.2830	0.3050
-ac	0.2755	0.3100	-ad	0.2785	0.3100	-ae	0.2815	0.3100
	0.2770	0.3150		0.2800	0.3150		0.2830	0.3150
	0.2800	0.3150		0.2830	0.3150		0.2860	0.3150
	0.2785	0.3100		0.2815	0.3100		0.2845	0.3100
-bc	0.2770	0.3150	-bd	0.2800	0.3150	-be	0.2830	0.3150
	0.2785	0.3200		0.2815	0.3200		0.2845	0.3200
	0.2815	0.3200		0.2845	0.3200		0.2875	0.3200
	0.2800	0.3150		0.2830	0.3150		0.2860	0.3150
-cc	0.2785	0.3200	-cd	0.2815	0.3200	-ce	0.2845	0.3200
	0.2800	0.3250		0.2830	0.3250		0.2860	0.3250
	0.2830	0.3250		0.2860	0.3250		0.2890	0.3250
	0.2815	0.3200		0.2845	0.3200		0.2875	0.3200
-dc	0.2800	0.3250	-dd	0.2830	0.3250	-de	0.2860	0.3250
	0.2815	0.3300		0.2845	0.3300		0.2875	0.3300
	0.2845	0.3300		0.2875	0.3300		0.2905	0.3300
	0.2830	0.3250		0.2860	0.3250		0.2890	0.3250
-ec	0.2815	0.3300	-ed	0.2845	0.3300	-ee	0.2875	0.3300
	0.2830	0.3350		0.2860	0.3350		0.2890	0.3350
	0.2860	0.3350		0.2890	0.3350		0.2920	0.3350
	0.2845	0.3300		0.2875	0.3300		0.2905	0.3300
-fc	0.2830	0.3350	-fd	0.2860	0.3350	-fe	0.2890	0.3350
	0.2845	0.3400		0.2875	0.3400		0.2905	0.3400
	0.2875	0.3400		0.2905	0.3400		0.2935	0.3400
	0.2860	0.3350		0.2890	0.3350		0.2920	0.3350
-gc	0.2845	0.3400	-gd	0.2875	0.3400	-ge	0.2905	0.3400
	0.2860	0.3450		0.2890	0.3450		0.2920	0.3450
	0.2890	0.3450		0.2920	0.3450		0.2950	0.3450
	0.2875	0.3400		0.2905	0.3400		0.2935	0.3400
-hc	0.2860	0.3450	-hd	0.2890	0.3450	-he	0.2920	0.3450
	0.2875	0.3500		0.2905	0.3500		0.2935	0.3500
	0.2905	0.3500		0.2935	0.3500		0.2965	0.3500
	0.2890	0.3450		0.2920	0.3450		0.2950	0.3450

CIE	x	y	CIE	x	y	CIE	x	y
wf	0.2560	0.2150	wg	0.2590	0.2150	wh	0.2620	0.2150
	0.2575	0.2200		0.2605	0.2200		0.2635	0.2200
	0.2605	0.2200		0.2635	0.2200		0.2665	0.2200
	0.2590	0.2150		0.2620	0.2150		0.2650	0.2150
vf	0.2575	0.2200	vg	0.2605	0.2200	vh	0.2635	0.2200
	0.2590	0.2250		0.2620	0.2250		0.2650	0.2250
	0.2620	0.2250		0.2650	0.2250		0.2680	0.2250
	0.2605	0.2200		0.2635	0.2200		0.2665	0.2200
uf	0.2590	0.2250	ug	0.2620	0.2250	uh	0.2650	0.2250
	0.2605	0.2300		0.2635	0.2300		0.2665	0.2300
	0.2635	0.2300		0.2665	0.2300		0.2695	0.2300
	0.2620	0.2250		0.2650	0.2250		0.2680	0.2250
tf	0.2605	0.2300	tg	0.2635	0.2300	th	0.2665	0.2300
	0.2620	0.2350		0.2650	0.2350		0.2680	0.2350
	0.2650	0.2350		0.2680	0.2350		0.2710	0.2350
	0.2635	0.2300		0.2665	0.2300		0.2695	0.2300
sf	0.2620	0.2350	sg	0.2650	0.2350	sh	0.2680	0.2350
	0.2635	0.2400		0.2665	0.2400		0.2695	0.2400
	0.2665	0.2400		0.2695	0.2400		0.2725	0.2400
	0.2650	0.2350		0.2680	0.2350		0.2710	0.2350
rf	0.2635	0.2400	rg	0.2665	0.2400	rh	0.2695	0.2400
	0.2650	0.2450		0.2680	0.2450		0.2710	0.2450
	0.2680	0.2450		0.2710	0.2450		0.2740	0.2450
	0.2665	0.2400		0.2695	0.2400		0.2725	0.2400
pf	0.2650	0.2450	pg	0.2680	0.2450	ph	0.2710	0.2450
	0.2665	0.2500		0.2695	0.2500		0.2725	0.2500
	0.2695	0.2500		0.2725	0.2500		0.2755	0.2500
	0.2680	0.2450		0.2710	0.2450		0.2740	0.2450
nf	0.2665	0.2500	ng	0.2695	0.2500	nh	0.2725	0.2500
	0.2680	0.2550		0.2710	0.2550		0.2740	0.2550
	0.2710	0.2550		0.2740	0.2550		0.2770	0.2550
	0.2695	0.2500		0.2725	0.2500		0.2755	0.2500
mf	0.2680	0.2550	mg	0.2710	0.2550	mh	0.2740	0.2550
	0.2695	0.2600		0.2725	0.2600		0.2755	0.2600
	0.2725	0.2600		0.2755	0.2600		0.2785	0.2600
	0.2710	0.2550		0.2740	0.2550		0.2770	0.2550

CIE	x	y	CIE	x	y	CIE	x	y
kf	0.2695	0.2600	kg	0.2725	0.2600	kh	0.2755	0.2600
	0.2710	0.2650		0.2740	0.2650		0.2770	0.2650
	0.2740	0.2650		0.2770	0.2650		0.2800	0.2650
	0.2725	0.2600		0.2755	0.2600		0.2785	0.2600
jf	0.2710	0.2650	jg	0.2740	0.2650	jh	0.2770	0.2650
	0.2725	0.2700		0.2755	0.2700		0.2785	0.2700
	0.2755	0.2700		0.2785	0.2700		0.2815	0.2700
	0.2740	0.2650		0.2770	0.2650		0.2800	0.2650
hf	0.2725	0.2700	hg	0.2755	0.2700	hh	0.2785	0.2700
	0.2740	0.2750		0.2770	0.2750		0.2800	0.2750
	0.2770	0.2750		0.2800	0.2750		0.2830	0.2750
	0.2755	0.2700		0.2785	0.2700		0.2815	0.2700
gf	0.2740	0.2750	gg	0.2770	0.2750	gh	0.2800	0.2750
	0.2755	0.2800		0.2785	0.2800		0.2815	0.2800
	0.2785	0.2800		0.2815	0.2800		0.2845	0.2800
	0.2770	0.2750		0.2800	0.2750		0.2830	0.2750
ff	0.2755	0.2800	fg	0.2785	0.2800	fh	0.2815	0.2800
	0.2770	0.2850		0.2800	0.2850		0.2830	0.2850
	0.2800	0.2850		0.2830	0.2850		0.2860	0.2850
	0.2785	0.2800		0.2815	0.2800		0.2845	0.2800
ef	0.2770	0.2850	eg	0.2800	0.2850	eh	0.2830	0.2850
	0.2785	0.2900		0.2815	0.2900		0.2845	0.2900
	0.2815	0.2900		0.2845	0.2900		0.2875	0.2900
	0.2800	0.2850		0.2830	0.2850		0.2860	0.2850
df	0.2785	0.2900	dg	0.2815	0.2900	dh	0.2845	0.2900
	0.2800	0.2950		0.2830	0.2950		0.2860	0.2950
	0.2830	0.2950		0.2860	0.2950		0.2890	0.2950
	0.2815	0.2900		0.2845	0.2900		0.2875	0.2900
cf	0.2800	0.2950	cg	0.2830	0.2950	ch	0.2860	0.2950
	0.2815	0.3000		0.2845	0.3000		0.2875	0.3000
	0.2845	0.3000		0.2875	0.3000		0.2905	0.3000
	0.2830	0.2950		0.2860	0.2950		0.2890	0.2950
bf	0.2815	0.3000	bg	0.2845	0.3000	bh	0.2875	0.3000
	0.2830	0.3050		0.2860	0.3050		0.2890	0.3050
	0.2860	0.3050		0.2890	0.3050		0.2920	0.3050
	0.2845	0.3000		0.2875	0.3000		0.2905	0.3000

CIE	x	y	CIE	x	y	CIE	x	y
af	0.2830	0.3050	ag	0.2860	0.3050	ah	0.2890	0.3050
	0.2845	0.3100		0.2875	0.3100		0.2905	0.3100
	0.2875	0.3100		0.2905	0.3100		0.2935	0.3100
	0.2860	0.3050		0.2890	0.3050		0.2920	0.3050
-af	0.2845	0.3100	-ag	0.2875	0.3100	-ah	0.2905	0.3100
	0.2860	0.3150		0.2890	0.3150		0.2920	0.3150
	0.2890	0.3150		0.2920	0.3150		0.2950	0.3150
	0.2875	0.3100		0.2905	0.3100		0.2935	0.3100
-bf	0.2860	0.3150	-bg	0.2890	0.3150	-bh	0.2920	0.3150
	0.2875	0.3200		0.2905	0.3200		0.2935	0.3200
	0.2905	0.3200		0.2935	0.3200		0.2965	0.3200
	0.2890	0.3150		0.2920	0.3150		0.2950	0.3150
-cf	0.2875	0.3200	-cg	0.2905	0.3200	-ch	0.2935	0.3200
	0.2890	0.3250		0.2920	0.3250		0.2950	0.3250
	0.2920	0.3250		0.2950	0.3250		0.2980	0.3250
	0.2905	0.3200		0.2935	0.3200		0.2965	0.3200
-df	0.2890	0.3250	-dg	0.2920	0.3250	-dh	0.2950	0.3250
	0.2905	0.3300		0.2935	0.3300		0.2965	0.3300
	0.2935	0.3300		0.2965	0.3300		0.2995	0.3300
	0.2920	0.3250		0.2950	0.3250		0.2980	0.3250
-ef	0.2905	0.3300	-eg	0.2935	0.3300	-eh	0.2965	0.3300
	0.2920	0.3350		0.2950	0.3350		0.2980	0.3350
	0.2950	0.3350		0.2980	0.3350		0.3010	0.3350
	0.2935	0.3300		0.2965	0.3300		0.2995	0.3300
-ff	0.2920	0.3350	-fg	0.2950	0.3350	-fh	0.2980	0.3350
	0.2935	0.3400		0.2965	0.3400		0.2995	0.3400
	0.2965	0.3400		0.2995	0.3400		0.3025	0.3400
	0.2950	0.3350		0.2980	0.3350		0.3010	0.3350
-gf	0.2935	0.3400	-gg	0.2965	0.3400	-gh	0.2995	0.3400
	0.2950	0.3450		0.2980	0.3450		0.3010	0.3450
	0.2980	0.3450		0.3010	0.3450		0.3040	0.3450
	0.2965	0.3400		0.2995	0.3400		0.3025	0.3400
-hf	0.2950	0.3450	-hg	0.2980	0.3450	-hh	0.3010	0.3450
	0.2965	0.3500		0.2995	0.3500		0.3025	0.3500
	0.2995	0.3500		0.3025	0.3500		0.3055	0.3500
	0.2980	0.3450		0.3010	0.3450		0.3040	0.3450

CIE	x	y	CIE	x	y	CIE	x	y
wj	0.2650	0.2150	wk	0.2680	0.2150	wm	0.2710	0.2150
	0.2665	0.2200		0.2695	0.2200		0.2725	0.2200
	0.2695	0.2200		0.2725	0.2200		0.2755	0.2200
	0.2680	0.2150		0.2710	0.2150		0.2740	0.2150
vj	0.2665	0.2200	vk	0.2695	0.2200	vm	0.2725	0.2200
	0.2680	0.2250		0.2710	0.2250		0.2740	0.2250
	0.2710	0.2250		0.2740	0.2250		0.2770	0.2250
	0.2695	0.2200		0.2725	0.2200		0.2755	0.2200
uj	0.2680	0.2250	uk	0.2710	0.2250	um	0.2740	0.2250
	0.2695	0.2300		0.2725	0.2300		0.2755	0.2300
	0.2725	0.2300		0.2755	0.2300		0.2785	0.2300
	0.2710	0.2250		0.2740	0.2250		0.2770	0.2250
tj	0.2695	0.2300	tk	0.2725	0.2300	tm	0.2755	0.2300
	0.2710	0.2350		0.2740	0.2350		0.2770	0.2350
	0.2740	0.2350		0.2770	0.2350		0.2800	0.2350
	0.2725	0.2300		0.2755	0.2300		0.2785	0.2300
sj	0.2710	0.2350	sk	0.2740	0.2350	sm	0.2770	0.2350
	0.2725	0.2400		0.2755	0.2400		0.2785	0.2400
	0.2755	0.2400		0.2785	0.2400		0.2815	0.2400
	0.2740	0.2350		0.2770	0.2350		0.2800	0.2350
rj	0.2725	0.2400	rk	0.2755	0.2400	rm	0.2785	0.2400
	0.2740	0.2450		0.2770	0.2450		0.2800	0.2450
	0.2770	0.2450		0.2800	0.2450		0.2830	0.2450
	0.2755	0.2400		0.2785	0.2400		0.2815	0.2400
pj	0.2740	0.2450	pk	0.2770	0.2450	pm	0.2800	0.2450
	0.2755	0.2500		0.2785	0.2500		0.2815	0.2500
	0.2785	0.2500		0.2815	0.2500		0.2845	0.2500
	0.2770	0.2450		0.2800	0.2450		0.2830	0.2450
nj	0.2755	0.2500	nk	0.2785	0.2500	nm	0.2815	0.2500
	0.2770	0.2550		0.2800	0.2550		0.2830	0.2550
	0.2800	0.2550		0.2830	0.2550		0.2860	0.2550
	0.2785	0.2500		0.2815	0.2500		0.2845	0.2500
mj	0.2770	0.2550	mk	0.2800	0.2550	mm	0.2830	0.2550
	0.2785	0.2600		0.2815	0.2600		0.2845	0.2600
	0.2815	0.2600		0.2845	0.2600		0.2875	0.2600
	0.2800	0.2550		0.2830	0.2550		0.2860	0.2550

CIE	x	y	CIE	x	y	CIE	x	y
kj	0.2785	0.2600	kk	0.2815	0.2600	km	0.2845	0.2600
	0.2800	0.2650		0.2830	0.2650		0.2860	0.2650
	0.2830	0.2650		0.2860	0.2650		0.2890	0.2650
	0.2815	0.2600		0.2845	0.2600		0.2875	0.2600
jj	0.2800	0.2650	jk	0.2830	0.2650	jm	0.2860	0.2650
	0.2815	0.2700		0.2845	0.2700		0.2875	0.2700
	0.2845	0.2700		0.2875	0.2700		0.2905	0.2700
	0.2830	0.2650		0.2860	0.2650		0.2890	0.2650
hj	0.2815	0.2700	hk	0.2845	0.2700	hm	0.2875	0.2700
	0.2830	0.2750		0.2860	0.2750		0.2890	0.2750
	0.2860	0.2750		0.2890	0.2750		0.2920	0.2750
	0.2845	0.2700		0.2875	0.2700		0.2905	0.2700
gj	0.2830	0.2750	gk	0.2860	0.2750	gm	0.2890	0.2750
	0.2845	0.2800		0.2875	0.2800		0.2905	0.2800
	0.2875	0.2800		0.2905	0.2800		0.2935	0.2800
	0.2860	0.2750		0.2890	0.2750		0.2920	0.2750
fj	0.2845	0.2800	fk	0.2875	0.2800	fm	0.2905	0.2800
	0.2860	0.2850		0.2890	0.2850		0.2920	0.2850
	0.2890	0.2850		0.2920	0.2850		0.2950	0.2850
	0.2875	0.2800		0.2905	0.2800		0.2935	0.2800
ej	0.2860	0.2850	ek	0.2890	0.2850	em	0.2920	0.2850
	0.2875	0.2900		0.2905	0.2900		0.2935	0.2900
	0.2905	0.2900		0.2935	0.2900		0.2965	0.2900
	0.2890	0.2850		0.2920	0.2850		0.2950	0.2850
dj	0.2875	0.2900	dk	0.2905	0.2900	dm	0.2935	0.2900
	0.2890	0.2950		0.2920	0.2950		0.2950	0.2950
	0.2920	0.2950		0.2950	0.2950		0.2980	0.2950
	0.2905	0.2900		0.2935	0.2900		0.2965	0.2900
cj	0.2890	0.2950	ck	0.2920	0.2950	cm	0.2950	0.2950
	0.2905	0.3000		0.2935	0.3000		0.2965	0.3000
	0.2935	0.3000		0.2965	0.3000		0.2995	0.3000
	0.2920	0.2950		0.2950	0.2950		0.2980	0.2950
bj	0.2905	0.3000	bk	0.2935	0.3000	bm	0.2965	0.3000
	0.2920	0.3050		0.2950	0.3050		0.2980	0.3050
	0.2950	0.3050		0.2980	0.3050		0.3010	0.3050
	0.2935	0.3000		0.2965	0.3000		0.2995	0.3000

CIE	x	y	CIE	x	y	CIE	x	y
aj	0.2920	0.3050	ak	0.2950	0.3050	am	0.2980	0.3050
	0.2935	0.3100		0.2965	0.3100		0.2995	0.3100
	0.2965	0.3100		0.2995	0.3100		0.3025	0.3100
	0.2950	0.3050		0.2980	0.3050		0.3010	0.3050
-aj	0.2935	0.3100	-ak	0.2965	0.3100	-am	0.2995	0.3100
	0.2950	0.3150		0.2980	0.3150		0.3010	0.3150
	0.2980	0.3150		0.3010	0.3150		0.3040	0.3150
	0.2965	0.3100		0.2995	0.3100		0.3025	0.3100
-bj	0.2950	0.3150	-bk	0.2980	0.3150	-bm	0.3010	0.3150
	0.2965	0.3200		0.2995	0.3200		0.3025	0.3200
	0.2995	0.3200		0.3025	0.3200		0.3055	0.3200
	0.2980	0.3150		0.3010	0.3150		0.3040	0.3150
-cj	0.2965	0.3200	-ck	0.2995	0.3200	-cm	0.3025	0.3200
	0.2980	0.3250		0.3010	0.3250		0.3040	0.3250
	0.3010	0.3250		0.3040	0.3250		0.3070	0.3250
	0.2995	0.3200		0.3025	0.3200		0.3055	0.3200
-dj	0.2980	0.3250	-dk	0.3010	0.3250	-dm	0.3040	0.3250
	0.2995	0.3300		0.3025	0.3300		0.3055	0.3300
	0.3025	0.3300		0.3055	0.3300		0.3085	0.3300
	0.3010	0.3250		0.3040	0.3250		0.3070	0.3250
-ej	0.2995	0.3300	-ek	0.3025	0.3300	-em	0.3055	0.3300
	0.3010	0.3350		0.3040	0.3350		0.3070	0.3350
	0.3040	0.3350		0.3070	0.3350		0.3100	0.3350
	0.3025	0.3300		0.3055	0.3300		0.3085	0.3300
-fj	0.3010	0.3350	-fk	0.3040	0.3350	-fm	0.3070	0.3350
	0.3025	0.3400		0.3055	0.3400		0.3085	0.3400
	0.3055	0.3400		0.3085	0.3400		0.3115	0.3400
	0.3040	0.3350		0.3070	0.3350		0.3100	0.3350
-gj	0.3025	0.3400	-gk	0.3055	0.3400	-gm	0.3085	0.3400
	0.3040	0.3450		0.3070	0.3450		0.3100	0.3450
	0.3070	0.3450		0.3100	0.3450		0.3130	0.3450
	0.3055	0.3400		0.3085	0.3400		0.3115	0.3400
-hj	0.3040	0.3450	-hk	0.3070	0.3450	-hm	0.3100	0.3450
	0.3055	0.3500		0.3085	0.3500		0.3115	0.3500
	0.3085	0.3500		0.3115	0.3500		0.3145	0.3500
	0.3070	0.3450		0.3100	0.3450		0.3130	0.3450

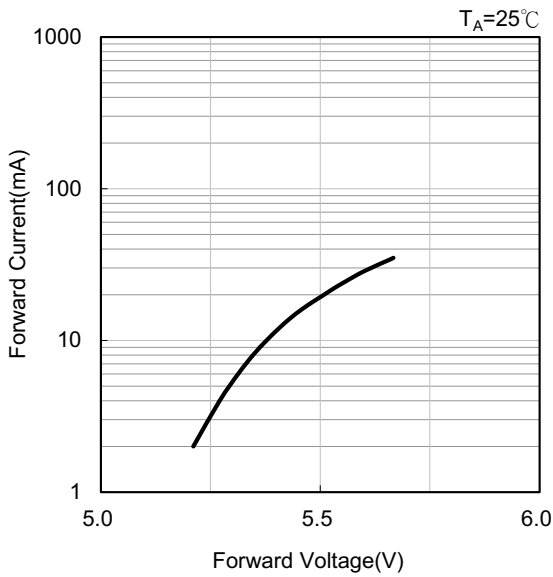
CIE	x	y	CIE	x	y	CIE	x	y
wn	0.2740	0.2150	wp	0.2770	0.2150	wr	0.2800	0.2150
	0.2755	0.2200		0.2785	0.2200		0.2815	0.2200
	0.2784	0.2200		0.2815	0.2200		0.2845	0.2200
	0.2770	0.2150		0.2800	0.2150		0.2830	0.2150
vn	0.2755	0.2200	vp	0.2785	0.2200	vr	0.2815	0.2200
	0.2770	0.2250		0.2800	0.2250		0.2830	0.2250
	0.2800	0.2250		0.2830	0.2250		0.2860	0.2250
	0.2785	0.2200		0.2815	0.2200		0.2845	0.2200
un	0.2770	0.2250	up	0.2800	0.2250	ur	0.2830	0.2250
	0.2785	0.2300		0.2815	0.2300		0.2845	0.2300
	0.2815	0.2300		0.2845	0.2300		0.2875	0.2300
	0.2800	0.2250		0.2830	0.2250		0.2860	0.2250
tn	0.2785	0.2300	tp	0.2815	0.2300	tr	0.2845	0.2300
	0.2800	0.2350		0.2830	0.2350		0.2860	0.2350
	0.2830	0.2350		0.2860	0.2350		0.2890	0.2350
	0.2815	0.2300		0.2845	0.2300		0.2875	0.2300
sn	0.2800	0.2350	sp	0.2830	0.2350	sr	0.2860	0.2350
	0.2815	0.2400		0.2845	0.2400		0.2875	0.2400
	0.2845	0.2400		0.2875	0.2400		0.2905	0.2400
	0.2830	0.2350		0.2860	0.2350		0.2890	0.2350
rn	0.2815	0.2400	rp	0.2845	0.2400	rr	0.2875	0.2400
	0.2830	0.2450		0.2860	0.2450		0.2890	0.2450
	0.2860	0.2450		0.2890	0.2450		0.2920	0.2450
	0.2845	0.2400		0.2875	0.2400		0.2905	0.2400
pn	0.2830	0.2450	pp	0.2860	0.2450	pr	0.2890	0.2450
	0.2845	0.2500		0.2875	0.2500		0.2905	0.2500
	0.2875	0.2500		0.2905	0.2500		0.2935	0.2500
	0.2860	0.2450		0.2890	0.2450		0.2920	0.2450
nn	0.2845	0.2500	np	0.2875	0.2500	nr	0.2905	0.2500
	0.2860	0.2550		0.2890	0.2550		0.2920	0.2550
	0.2890	0.2550		0.2920	0.2550		0.2950	0.2550
	0.2875	0.2500		0.2905	0.2500		0.2935	0.2500
mn	0.2860	0.2550	mp	0.2890	0.2550	mr	0.2920	0.2550
	0.2875	0.2600		0.2905	0.2600		0.2935	0.2600
	0.2905	0.2600		0.2935	0.2600		0.2965	0.2600
	0.2890	0.2550		0.2920	0.2550		0.2950	0.2550

CIE	x	y	CIE	x	y	CIE	x	y
kn	0.2875	0.2600	kp	0.2905	0.2600	kr	0.2935	0.2600
	0.2890	0.2650		0.2920	0.2650		0.2950	0.2650
	0.2920	0.2650		0.2950	0.2650		0.2980	0.2650
	0.2905	0.2600		0.2935	0.2600		0.2965	0.2600
jn	0.2890	0.2650	jp	0.2920	0.2650	jr	0.2950	0.2650
	0.2905	0.2700		0.2935	0.2700		0.2965	0.2700
	0.2935	0.2700		0.2965	0.2700		0.2995	0.2700
	0.2920	0.2650		0.2950	0.2650		0.2980	0.2650
hn	0.2905	0.2700	hp	0.2935	0.2700	hr	0.2965	0.2700
	0.2920	0.2750		0.2950	0.2750		0.2980	0.2750
	0.2950	0.2750		0.2980	0.2750		0.3010	0.2750
	0.2935	0.2700		0.2965	0.2700		0.2995	0.2700
gn	0.2920	0.2750	gp	0.2950	0.2750	gr	0.2980	0.2750
	0.2935	0.2800		0.2965	0.2800		0.2995	0.2800
	0.2965	0.2800		0.2995	0.2800		0.3025	0.2800
	0.2950	0.2750		0.2980	0.2750		0.3010	0.2750
fn	0.2935	0.2800	fp	0.2965	0.2800	fr	0.2995	0.2800
	0.2950	0.2850		0.2980	0.2850		0.3010	0.2850
	0.2980	0.2850		0.3010	0.2850		0.3040	0.2850
	0.2965	0.2800		0.2995	0.2800		0.3025	0.2800
en	0.2950	0.2850	ep	0.2980	0.2850	er	0.3010	0.2850
	0.2965	0.2900		0.2995	0.2900		0.3025	0.2900
	0.2995	0.2900		0.3025	0.2900		0.3055	0.2900
	0.2980	0.2850		0.3010	0.2850		0.3040	0.2850
dn	0.2965	0.2900	dp	0.2995	0.2900	dr	0.3025	0.2900
	0.2980	0.2950		0.3010	0.2950		0.3040	0.2950
	0.3010	0.2950		0.3040	0.2950		0.3070	0.2950
	0.2995	0.2900		0.3025	0.2900		0.3055	0.2900
cn	0.2980	0.2950	cp	0.3010	0.2950	cr	0.3040	0.2950
	0.2995	0.3000		0.3025	0.3000		0.3055	0.3000
	0.3025	0.3000		0.3055	0.3000		0.3085	0.3000
	0.3010	0.2950		0.3040	0.2950		0.3070	0.2950
bn	0.2995	0.3000	bp	0.3025	0.3000	br	0.3055	0.3000
	0.3010	0.3050		0.3040	0.3050		0.3070	0.3050
	0.3040	0.3050		0.3070	0.3050		0.3100	0.3050
	0.3025	0.3000		0.3055	0.3000		0.3085	0.3000

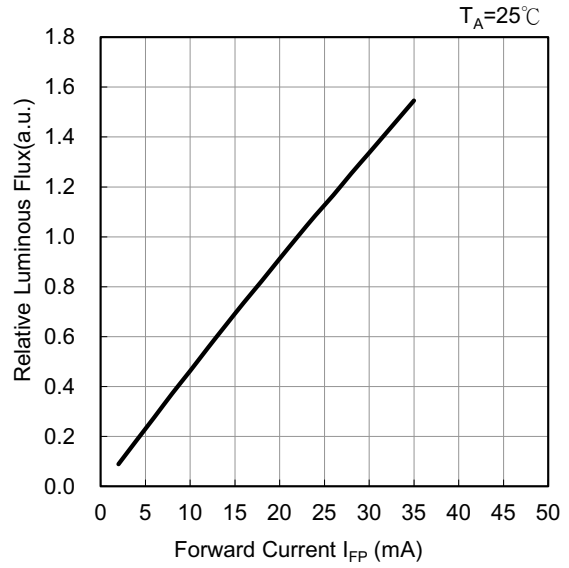
CIE	x	y	CIE	x	y	CIE	x	y
an	0.3010	0.3050	ap	0.3040	0.3050	ar	0.3070	0.3050
	0.3025	0.3100		0.3055	0.3100		0.3085	0.3100
	0.3055	0.3100		0.3085	0.3100		0.3115	0.3100
	0.3040	0.3050		0.3070	0.3050		0.3100	0.3050
-an	0.3025	0.3100	-ap	0.3055	0.3100	-ar	0.3085	0.3100
	0.3040	0.3150		0.3070	0.3150		0.3100	0.3150
	0.3070	0.3150		0.3100	0.3150		0.3130	0.3150
	0.3055	0.3100		0.3085	0.3100		0.3115	0.3100
-bn	0.3040	0.3150	-bp	0.3070	0.3150	-br	0.3100	0.3150
	0.3055	0.3200		0.3085	0.3200		0.3115	0.3200
	0.3085	0.3200		0.3115	0.3200		0.3145	0.3200
	0.3070	0.3150		0.3100	0.3150		0.3130	0.3150
-cn	0.3055	0.3200	-cp	0.3085	0.3200	-cr	0.3115	0.3200
	0.3070	0.3250		0.3100	0.3250		0.3130	0.3250
	0.3100	0.3250		0.3130	0.3250		0.3160	0.3250
	0.3085	0.3200		0.3115	0.3200		0.3145	0.3200
-dn	0.3070	0.3250	-dp	0.3100	0.3250	-dr	0.3130	0.3250
	0.3085	0.3300		0.3115	0.3300		0.3145	0.3300
	0.3115	0.3300		0.3145	0.3300		0.3175	0.3300
	0.3100	0.3250		0.3130	0.3250		0.3160	0.3250
-en	0.3085	0.3300	-ep	0.3115	0.3300	-er	0.3145	0.3300
	0.3100	0.3350		0.3130	0.3350		0.3160	0.3350
	0.3130	0.3350		0.3160	0.3350		0.3190	0.3350
	0.3115	0.3300		0.3145	0.3300		0.3175	0.3300
-fn	0.3100	0.3350	-fp	0.3130	0.3350	-fr	0.3160	0.3350
	0.3115	0.3400		0.3145	0.3400		0.3175	0.3400
	0.3145	0.3400		0.3175	0.3400		0.3205	0.3400
	0.3130	0.3350		0.3160	0.3350		0.3190	0.3350
-gn	0.3115	0.3400	-gp	0.3145	0.3400	-gr	0.3175	0.3400
	0.3130	0.3450		0.3160	0.3450		0.3190	0.3450
	0.3160	0.3450		0.3190	0.3450		0.3220	0.3450
	0.3145	0.3400		0.3175	0.3400		0.3205	0.3400
-hn	0.3130	0.3450	-hp	0.3160	0.3450	-hr	0.3190	0.3450
	0.3145	0.3500		0.3175	0.3500		0.3205	0.3500
	0.3175	0.3500		0.3205	0.3500		0.3235	0.3500
	0.3160	0.3450		0.3190	0.3450		0.3220	0.3450

Optical and electrical characteristics

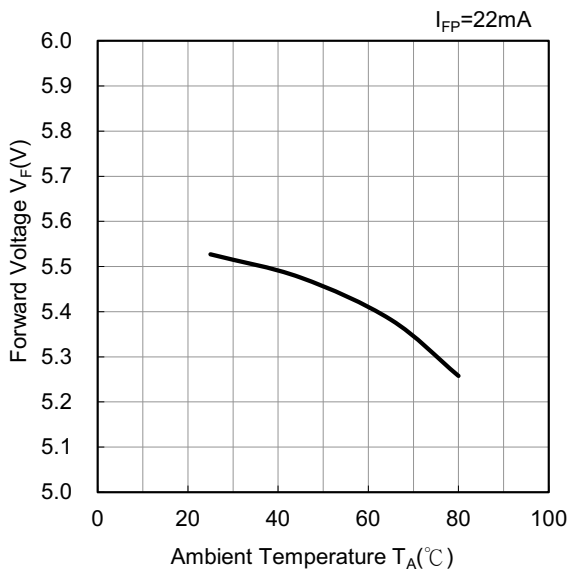
Forward Voltage vs. Forward Current



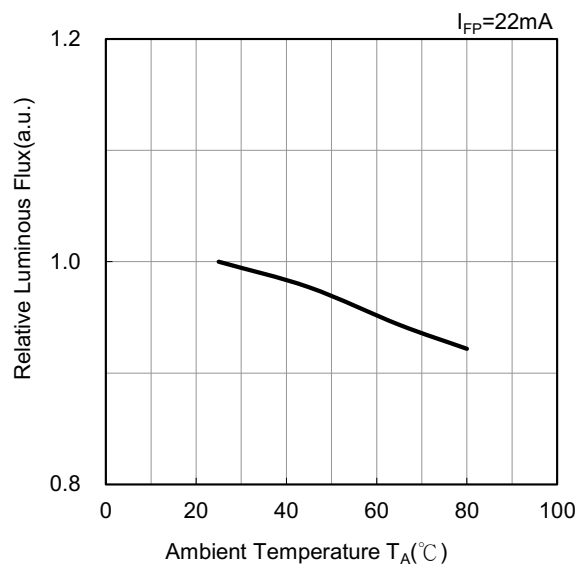
Forward Current vs. Relative Luminous Flux



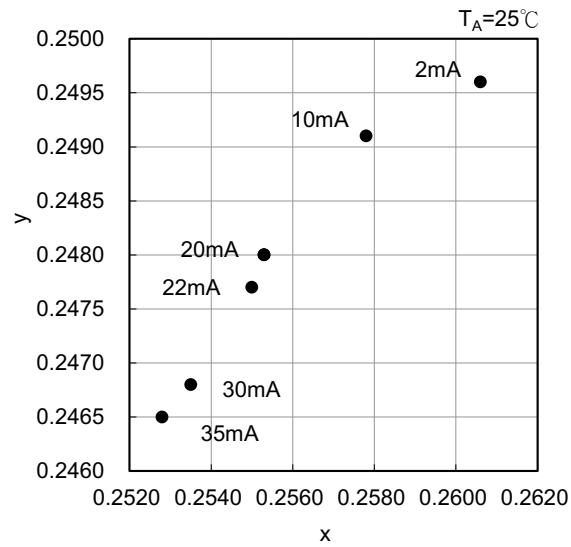
Ambient Temperature vs. Forward Voltage



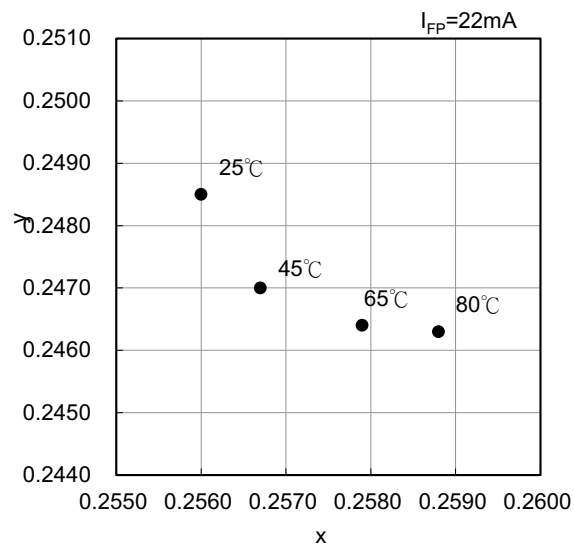
Ambient Temperature vs. Relative Luminous



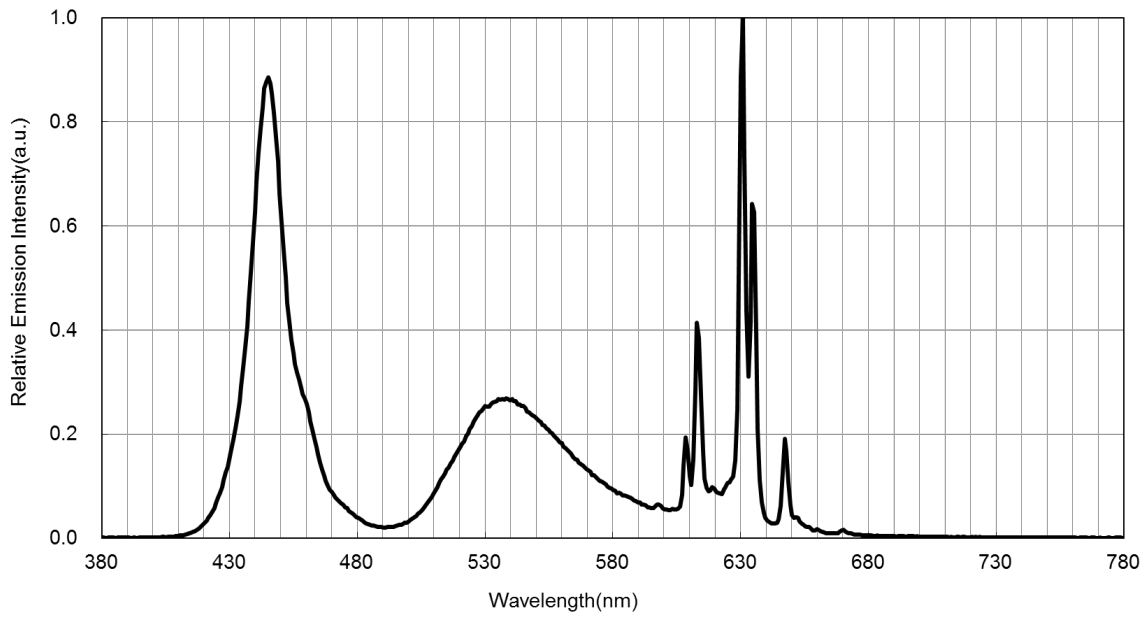
Forward Current vs. Chromaticity Coordinate



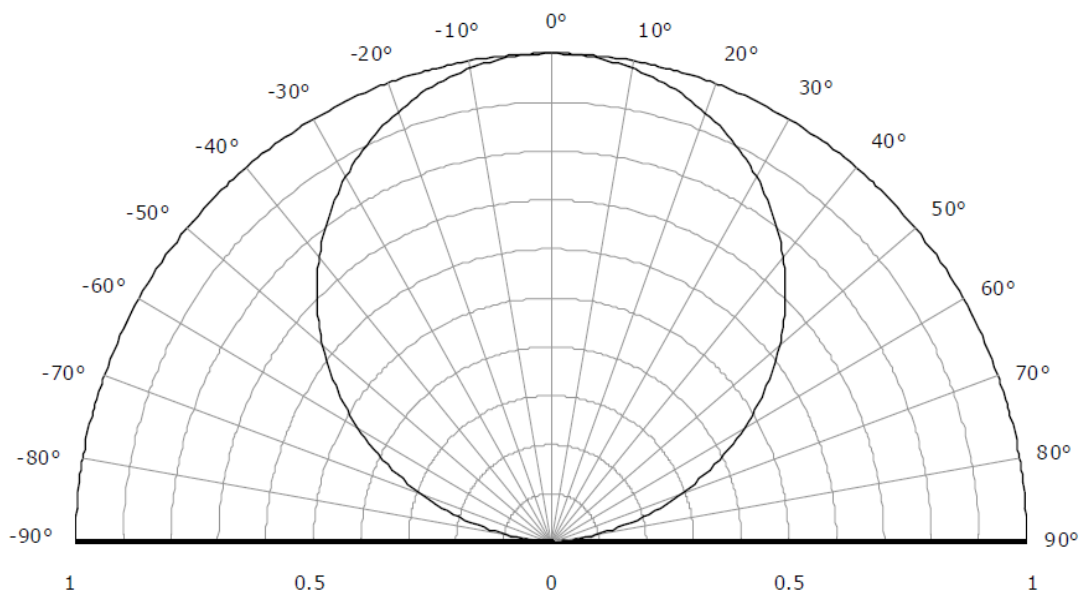
Ambient Temperature vs. Chromaticity Coordinate



Spectrum($T_A=25^\circ\text{C}$, $I_{FP}=22\text{mA}$)



Radiation Pattern($T_A=25^\circ\text{C}$, $I_{FP}=22\text{mA}$)



Recommended Reflow Soldering Conditions

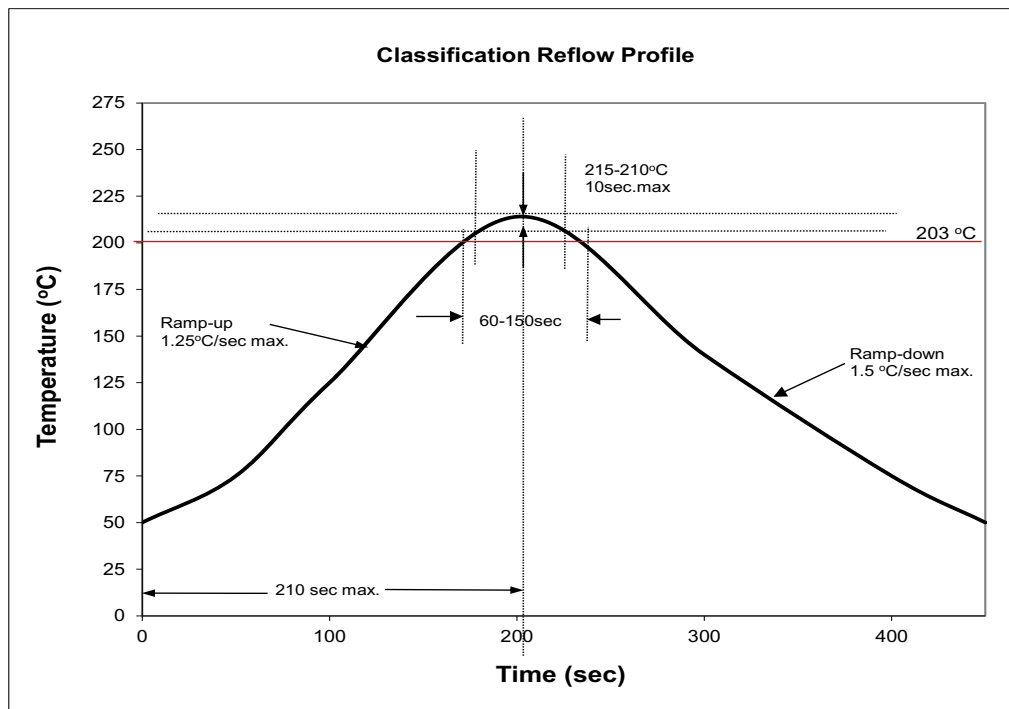
Surface Mounting Condition

In automatic mounting of the SMD LEDs on Printed circuit boards, any bending, expanding and pulling forces or Shock against the SMD LEDs Should be kept min. to Prevent them from electrical failures and mechanical damages of the devices.

Soldering Reflow

- Soldering of the SMD LEDs Should conform to the Soldering condition in the individual specifications.
- SMD LEDs are designed for Reflow Soldering.
- In the reflow soldering, too high temperature and too large temperature gradient such as rapid heating/cooling may cause electrical & optical failures and damages of the devices.
- AOT cannot guarantee the LEDs after they have been assembled using the solder dipping method.

(1) SMT Profile

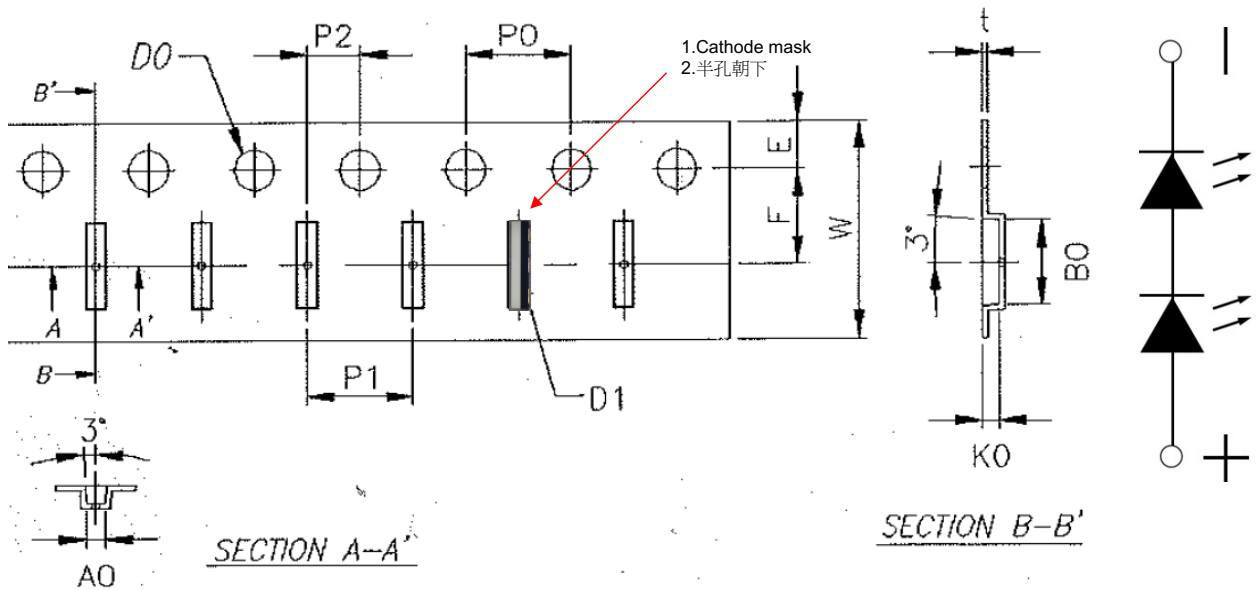


(2) Manual Soldering Conditions

Use Low Temperature, 215°C for max. 3sec, and only one time

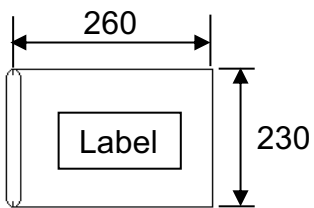
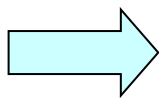
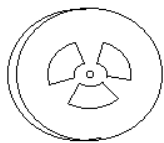
- There is Possibility that the brightness of LEDs is decreased, which is influenced by heat or ambient atmosphere during reflow. It is recommended to use the nitrogen reflow method.
- After LEDs have been soldered, repair should not be done. As repair is unavoidable, a double-head soldering iron should be used. It Should be confirmed beforehand whether the characteristics of the LEDs will be damaged by repairing or not.
- Reflow soldering should not be done more than two times.

Taping and Orientation



Item	Spec.	Tolerance(mm)	Item	Spec.	Tolerance(mm)
W	8.0	±0.20	P2	2.0	±0.05
E	1.75	±0.10	P0x10	40.00	±0.20
F	3.50	±0.05	t	0.20	±0.05
D0	1.50	+0.10/-0.00	A0	0.72	±0.05
D1	0.30	±0.10	B0	3.22	±0.05
P0	4.0	±0.10	K0	0.58	±0.03
P1	4.0	±0.10			

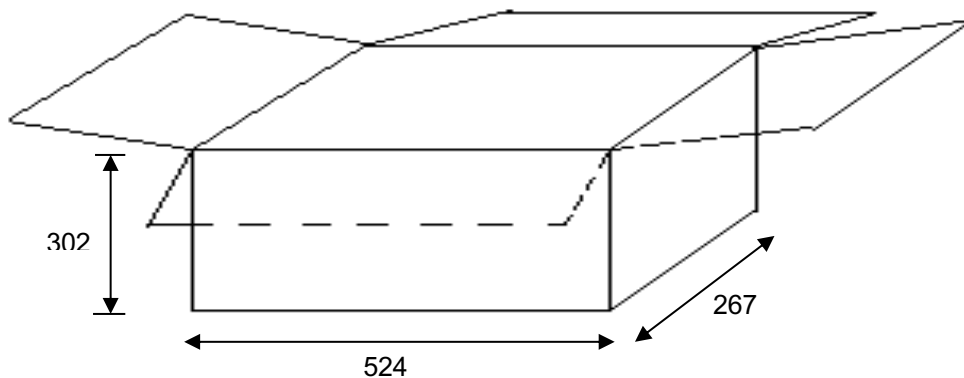
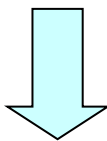
Packing Formation



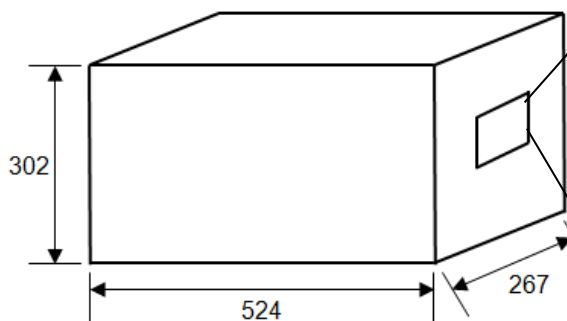
Diameter : 178 mm
 Width : 8 mm
 3,500 pcs/Reel
 Antistatic Reel




MBB Bag
 +5g drying agent
 +Humidity card
 1 Reel / Bag

50 Bags / 1 Carton
 ⇒ 175,000 pcs/ 1Carton






Package Outlook



 Solid-State Light. Done Right. Advanced Optoelectronic Technology Inc.	
Customer	
PO No.	
Part No.	
Quantity	
Packing Date	
Carton No.	
Ship No.	
QC Check	 
備註	

Reel Label Definition

SMD LED	SAP. No.
Part Number : XXXXX-XXXX	
Brightness : A	
CIE : B	
VF : C	
Quantity : nn ea	
Serial No : SM0yymmddxxxx	
	
Cust. PN. : XXXXX-XXXX	

A : Iv value.

B : CIE value noted

C : Vf value.

nn : Quantity of LED

SM0yymmddxxx : yy : year, mm : month, dd : day, xxxx : reel no.

*Reel Label to fill in practice data of all LED characteristic

Reliability Test

No.	Test Item	Standard Test Method	Test Conditions	Note	Number of Damaged
1	Room Temp. Life Test	Internal Ref.	$T_A=25\text{ }^\circ\text{C}, I_F=22\text{mA}$	1000 hr	0/20
2	High Temp. Operation	JESD22-A108	$T_A=85\text{ }^\circ\text{C}, I_F=10\text{mA}$	1000 hr	0/20
3	Low Temp. Operation	JESD22-A108	$T_A=-40\text{ }^\circ\text{C}, I_F=22\text{mA}$	1000 hr	0/20
4	Thermal Shock Test	JESD22-A106	$-40\text{ }^\circ\text{C}\sim 100\text{ }^\circ\text{C}$ (30min ~ 30min)	300 cycles	0/20
5	High Temp. Storage	JESD22-A103	$T_A=100\text{ }^\circ\text{C}$	1000 hr	0/20
6	High Temp. and High Humidity Operation	JESD22-A119	$60\text{ }^\circ\text{C } 90\%\text{RH}, I_F=22\text{mA}$	1000 hr	0/20
7	Reflow Test	Internal Ref.	Reflow $260\text{ }^\circ\text{C}$ → HTOL $140\text{ }^\circ\text{C } 2\text{min}$	2 cycles	0/500

Criteria for Judging Damage

Item	Symbol	Test Conditions	Criteria for Judgement	
			Min.	Max.
Forward Voltage	V_F	$I_F = 22\text{mA}$	-	*U.S.L×1.1
Luminous Flux	φ_V	$I_F = 22\text{mA}$	*L.S.L×0.9	-

* U.S.L: Upper Standard Level

* L.S.L: Lower Standard Level

CAUTIONS

(1) Moisture Proof Package

The moisture proof package should be used to prevent moisture in the package as the moisture may cause damage to optical characteristics of the LEDs.

The aluminum bag with zipper is used for moisture proof package. And, the moisture absorbent material, Silica gel, is inserted into aluminum bag.

(2) Storage:

Storage Conditions

Before opening the package:

The LEDs should be kept at 30°C or less than 90%RH or less. The LEDs should be used within a year.

When storing the LEDs, moisture proof packaging with absorbent material is recommended.

After opening the package:

After open the package, the LED should be kept at 30°C, 60%RH or less. The LED should be soldered within 168 hours (7 days) after opening the package. If unused LEDs remain, it should be stored in moisture proof condition.

(3) Heat Generation

Thermal design of the end products is of paramount importance. The heat generation must be taken into design consideration when using the LED. The coefficient of the temperature increase per input electric power is affected by the thermal resistance of the circuit board and density of LED placement on the board, as well as other components.

(4) Static Electricity

Static electricity or surge voltage damages the LEDs. All equipment and machinery must be properly grounded. It is recommended to use a wristband or anti-electrostatic glove when handling the LEDs. When inspecting the final products in which LEDs were assembled, it is recommended to check whether the assembled LEDs are damaged by static electricity or not. It is easy to find static-damaged LEDs by a light-on test or a Vf test at a lower current. (Below 1mA is recommended).

Criteria: Vf > 1.9V at If = 1 μ A

(5) Cleaning

Use isopropyl alcohol as a solvent for cleaning the LEDs. The other solvent may dissolve the LEDs package and the epoxy.

Ultrasonic cleaning should not be done.

(6) Electrostatic Discharge (ESD)

The products are sensitive to static electricity or surge voltage, An ESD event may damage its die or reduce its reliability performance. When handling the products, measures against electro static discharge, including the followings, are strongly recommended.

Eliminating the charge;

Wrist strap, ESD footwear and garments, ESD floors

Grounding the equipment and tools at workstation

ESD table / shelf mat (conductive materials)

Proper grounding techniques are required for all devices, equipment and machinery used in the assembly



Solid-State Light. Done Right.

of the products, Also note that surge protection should be considered in the design of customer products.

If tools or equipment contain insulating materials, such as glass or plastic, proper measures against electro static discharge, including the followings are strongly recommended.

Dissipating the charge with conductive materials

Preventing the charge generation with moisture

Neutralizing the charge with ionizer

(7) Others

When using the LEDs, it must care that the reverse voltage will not exceed the absolute maximum rating.

The LED light is enough to injure human eyes, so it should avoid looking at LED light directly.

NOTE.

All the information published is considered to be reliable. However, AOT does not assume any liability arising out of the application or use of any product described herein.

AOT reserves the right to make changes at any time without notice to any products in order to improve reliability, function or design.

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