LEDTECH ELECTRONICS CORP.

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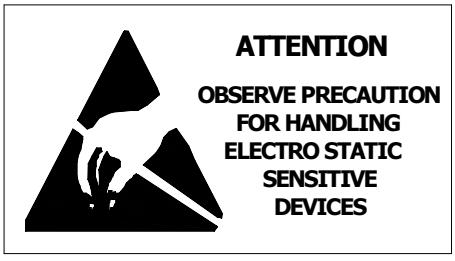
SPECIFICATION

COB 27 x 27mm TYPE

PART NO. : LP30NX-SXXX Series

	5750-6750K	2875-3200K
3W	LP30N3-S037	LP30NR-S043
5W	LP30N3-S038	LP30NR-S044
5W	LP30N3-S018	LP30NR-S019
6W	LP30N3-S039	LP30NR-S045
9W	LP30N3-S040	LP30NR-S046
12W	LP30N3-S041	LP30NR-S047
15W	LP30N3-S042	LP30NR-S048



Approved by	Checked by	Prepared by
Gary	*Chih Liang*	*Eva Chang*

MODIFY RECORD

TAKE EFFECT DATE	MODIFY ISSUES	REMARKS

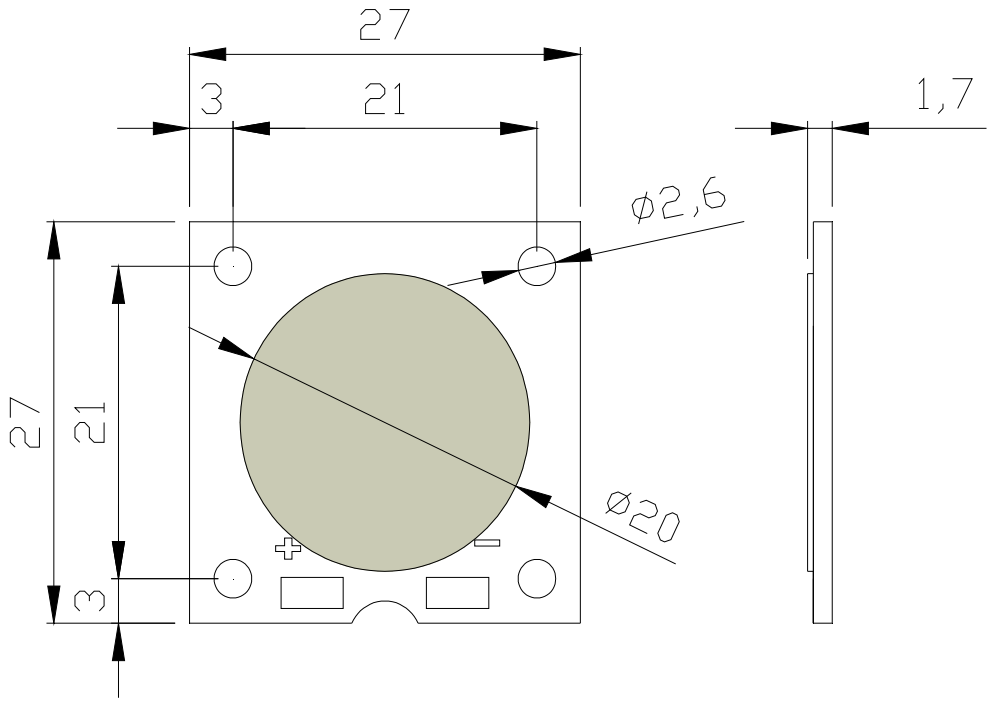
Features

- Pb-Free soldering application
- RoHS compliance
- Multi-Chip package
- High Reliability

Application

- Bay-light module
- Indoor decorative lighting
- Illumination
- Automotive Application
- Architectural Lighting
- Indicator / Decoration

Package Dimensions



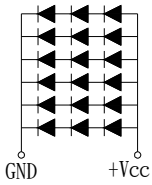
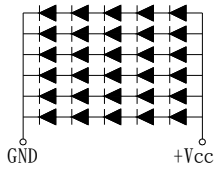
Notes:

1. All dimensions are in mm.
2. Tolerance is ±0.3mm unless otherwise noted

Description

Part NO.	LED Chip		Lens Color
	Material	Emitting Color	
LP30NX-SXXX	InGaN/Sapphire	White	Yellow Diffused
		Warm White	Orange Diffused

Circuitry

3W		**5W**	
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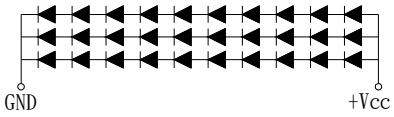
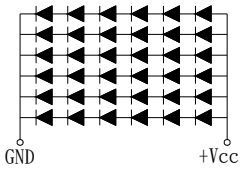
5W		**6W**	
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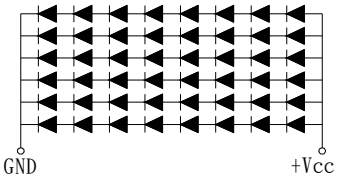
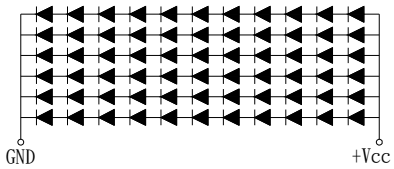
9W		**12W**	
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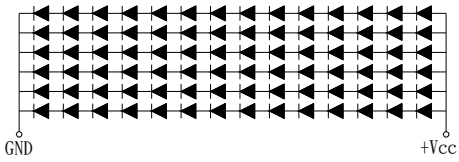
15W			
	LP30N3-S042 LP30N3-S048		

Absolute Maximum Ratings at Ta=25℃ :

Parameter	Symbol	Rating	Unit
LED Junction Temperature	Tj	120	℃
Reverse Voltage ★	V_r	5	V
D.C. Forward Current	If	350	mA
Storage Temperature Range	Tstg.	-40 to +85	℃
Soldering Temperature	Tsld.	Hand Soldering: 350℃ for 5 sec.	
Electric Static Discharge Threshold (HBM) ★	ESD	1000	V

★ The value are based on 1 die performance.

Electrical and Optical Characteristics：

3W LP30N3-S037

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	340	--	lm
	Rank L1			250	--	450	
	Rank L2			450	--	650	
Forward voltage		VF	IF=350mA	--	9.5	--	V
	Rank V1			8	--	10	
	Rank V2			10	--	12	
Correlated Color Temperature		CCT	IF=350mA	5750	--	6750	K
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.3123	--	
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.3282	--	
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

3W LP30NR-S043

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	320	--	lm
	Rank L2			250	--	450	
	Rank L3			450	--	650	
Forward voltage		VF	IF=350mA	--	9.5	--	V
	Rank V1			8	--	10	
	Rank V2			10	--	12	
Correlated Color Temperature		CCT	IF=350mA	2875	--	3200	--
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.4338	--	--
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.4030	--	--
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

Notes：

1. The data tested by IS tester.
2. Customer's special requirements are also welcome

Electrical and Optical Characteristics：

5W LP30N3-S038

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	550	--	lm
	Rank L1			300	--	500	
	Rank L2			500	--	700	
	Rank L3			700	--	900	
Forward voltage		VF	IF=350mA	--	16	--	V
	Rank V1			14	--	16	
	Rank V2			16	--	18	
Correlated Color Temperature		CCT	IF=350mA	5750	--	6750	K
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.3175	--	
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.3283	--	
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

5W LP30NR-S044

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	525	--	lm
	Rank L1			300	--	500	
	Rank L2			500	--	700	
	Rank L3			700	--	900	
Forward voltage		VF	IF=350mA		16		V
	Rank V1			14	--	16	
	Rank V2			16	--	18	
Correlated Color Temperature		CCT	IF=350mA	2875	--	3200	--
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.4338	--	--
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.4030	--	--
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

Notes：

1. The data tested by IS tester.
2. Customer's special requirements are also welcome

Electrical and Optical Characteristics：

5W LP30N3-S018

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=175mA		550		lm
	Rank L1			300	--	500	
	Rank L2			500	--	700	
	Rank L3			700	--	900	
Forward voltage		VF	IF=175mA		32		V
	Rank V1			18	--	27	
	Rank V2			27	--	36	
Correlated Color Temperature		CCT	IF=175mA	5750	--	6750	K
CIE Chromaticity Coordinates: X Axis		X	IF=175mA	--	0.3175	--	
CIE Chromaticity Coordinates: Y Axis		Y	IF=175mA	--	0.3283	--	
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=175mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=175mA	--	120	--	Deg.

5W LP30NR-S019

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=175mA		520		lm
	Rank L1			300	--	500	
	Rank L2			500	--	700	
	Rank L3			700	--	900	
Forward voltage		VF	IF=175mA		32		V
	Rank V1			18	--	27	
	Rank V2			27	--	36	
Correlated Color Temperature		CCT	IF=175mA	2875	--	3200	--
CIE Chromaticity Coordinates: X Axis		X	IF=175mA	--	0.4338	--	--
CIE Chromaticity Coordinates: Y Axis		Y	IF=175mA	--	0.4030	--	--
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=175mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=175mA	--	120	--	Deg.

Notes：

1. The data tested by IS tester.
2. Customer's special requirements are also welcome

Electrical and Optical Characteristics：

6W LP30N3-S039

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA		740		lm
	Rank L1			500	--	700	
	Rank L2			700	--	900	
	Rank L3			900	--	1100	
Forward voltage		VF	IF=350mA		18.9		V
	Rank V1			16	--	19	
	Rank V2			19	--	22	
Correlated Color Temperature		CCT	IF=350mA	5750	--	6750	K
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.3175	--	
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.3283	--	
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

6W LP30NR-S045

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA		680		lm
	Rank L1			400	--	600	
	Rank L2			600	--	800	
	Rank L3			800	--	1000	
Forward voltage		VF	IF=350mA		18.9		V
	Rank V1			16	--	19	
	Rank V2			19	--	22	
Correlated Color Temperature		CCT	IF=350mA	2875	--	3200	--
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.4338	--	--
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.4030	--	--
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

Notes：

1. The data tested by IS tester.
2. Customer's special requirements are also welcome

Electrical and Optical Characteristics：

9W LP30N3-S040

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	850	--	lm
	Rank L1			400	--	700	
	Rank L2			700	--	1000	
	Rank L3			1000	--	1300	
Forward voltage		VF	IF=350mA		25.2		V
	Rank V1			22	--	25	
	Rank V2			25	--	28	
Correlated Color Temperature		CCT	IF=350mA	5750	--	6750	K
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.3175	--	
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.3283	--	
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

9W LP30NR-S046

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	800	--	lm
	Rank L1			400	--	700	
	Rank L2			700	--	1000	
	Rank L3			1000	--	1300	
Forward voltage		VF	IF=350mA		25.2		V
	Rank V1			22	--	25	
	Rank V2			25	--	28	
Correlated Color Temperature		CCT	IF=350mA	2875	--	3200	--
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.4338	--	--
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.4030	--	--
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

Notes：

1. The data tested by IS tester.
2. Customer's special requirements are also welcome

Electrical and Optical Characteristics：

12W LP30N3-S041

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	1150	--	lm
	Rank L1			700	--	1000	
	Rank L2			1000	--	1300	
	Rank L3			1300	--	1600	
Forward voltage		VF	IF=350mA		35		V
	Rank V1			30	--	35	
	Rank V2			35	--	40	
Correlated Color Temperature		CCT	IF=350mA	5750	--	6750	K
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.3175	--	
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.3283	--	
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

12W LP30NR-S047

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	1050	--	lm
	Rank L1			600	--	900	
	Rank L2			900	--	1200	
	Rank L3			1200	--	1500	
Forward voltage		VF	IF=350mA		35		V
	Rank V1			30	--	35	
	Rank V2			35	--	40	
Correlated Color Temperature		CCT	IF=350mA	2875	--	3200	--
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.4338	--	--
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.4030	--	--
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

Notes：

1. The data tested by IS tester.
2. Customer's special requirements are also welcome

Electrical and Optical Characteristics：

15W LP30N3-S042

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	1350	--	lm
	Rank L1			800	--	1100	
	Rank L2			1100	--	1400	
	Rank L3			1400	--	1700	
Forward voltage		VF	IF=350mA	--	44.4	--	V
	Rank V1			39	--	44	
	Rank V2			44	--	49	
Correlated Color Temperature		CCT	IF=350mA	5750	--	6750	K
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.3175	--	
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.3283	--	
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

15W LP30NR-S048

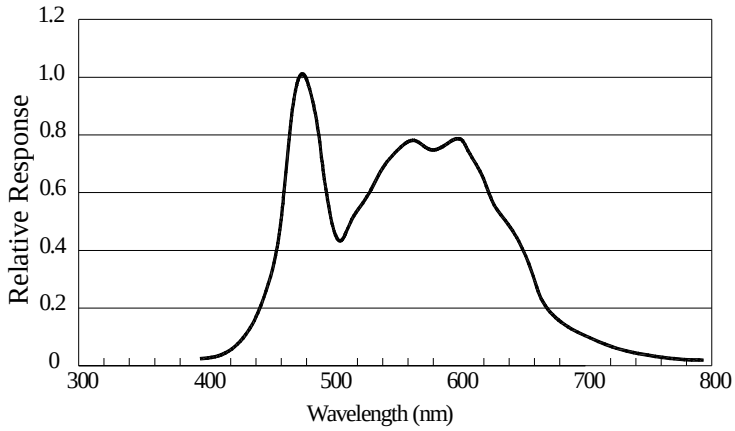
Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux		Φv	IF=350mA	--	1250	--	lm
	Rank L1			800	--	1100	
	Rank L2			1100	--	1400	
	Rank L3			1400	--	1700	
Forward voltage		VF	IF=350mA	--	44.4	--	V
	Rank V1			39	--	44	
	Rank V2			44	--	49	
Correlated Color Temperature		CCT	IF=350mA	2875	--	3200	--
CIE Chromaticity Coordinates: X Axis		X	IF=350mA	--	0.4338	--	--
CIE Chromaticity Coordinates: Y Axis		Y	IF=350mA	--	0.4030	--	--
Reverse Current		I_R	Vr=5V	--	--	50	μA
Color Rendering Index		CRI	IF=350mA	70	--	--	Ra
Viewing angle at 50% IV		2θ1/2	IF=350mA	--	120	--	Deg.

Notes：

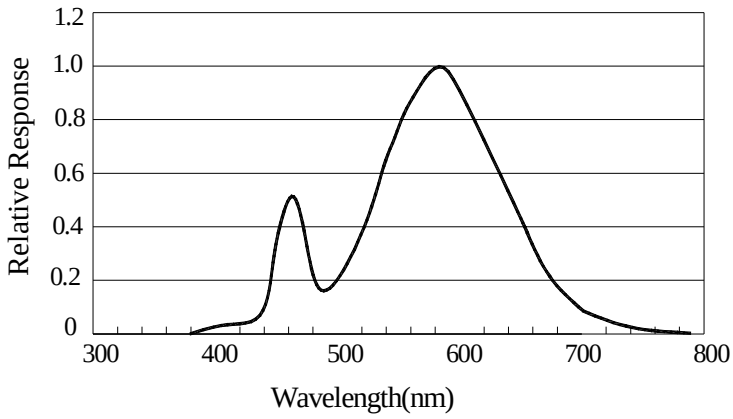
1. The data tested by IS tester.
2. Customer's special requirements are also welcome

Typical Electrical/Optical Characteristic Curves

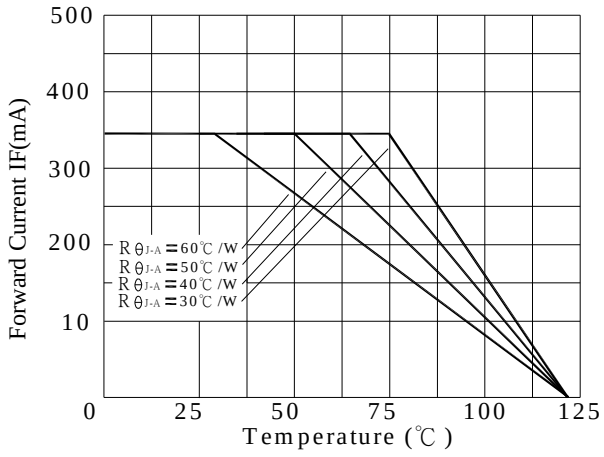
(25℃ Ambient Temperature Unless Otherwise Noted)



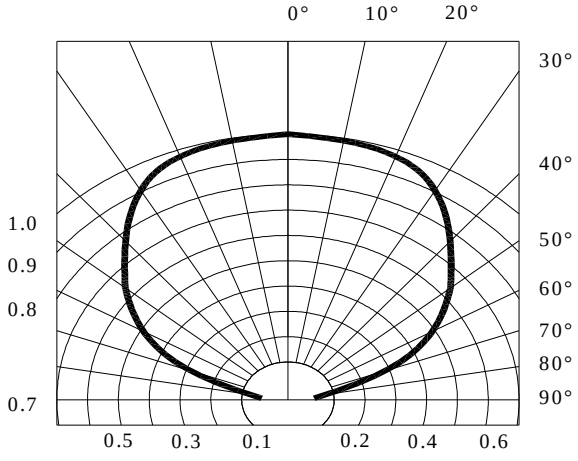
WHITE LED Spectrum VS. WAVELENGTH



WARM WHITE LED Spectrum VS. WAVELENGTH



Ambient Temperature VS. Forward Current



Radiation Diagram

Chromaticity Coordinates Specifications for Bin Grading:

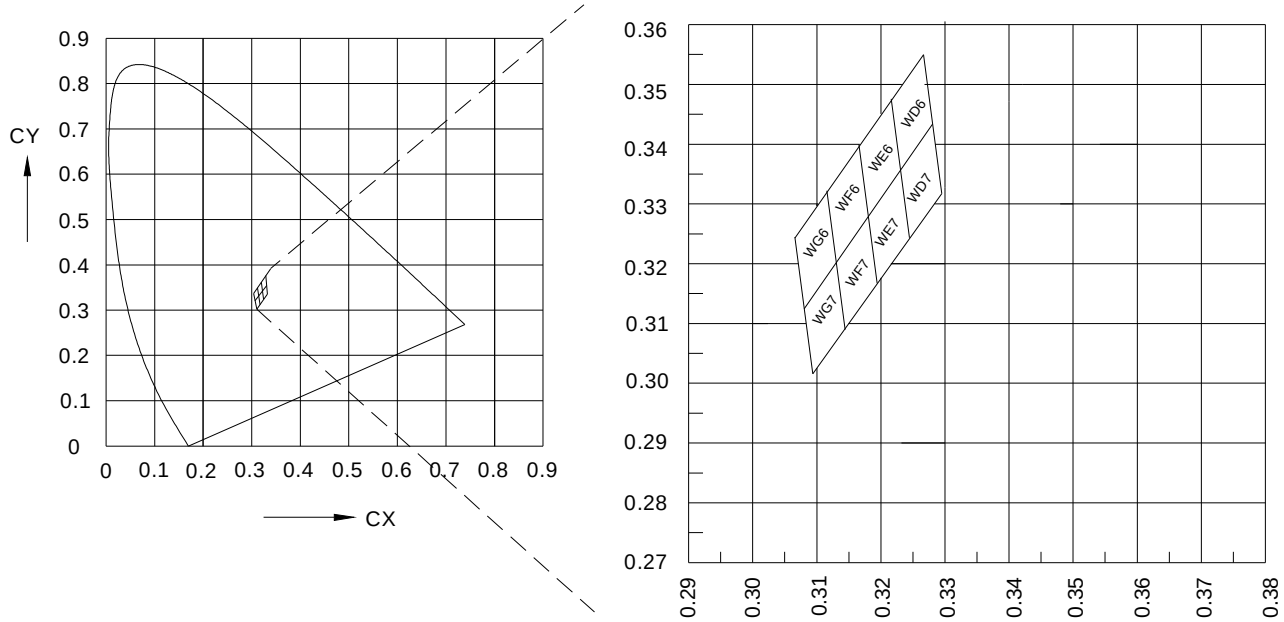
COLOR RANKS (.Ta=25℃)

WHITE

BIN	RANK					BIN	RANK				
WD6	X	0.3210	0.3264	0.3268	0.3218	WD7	X	0.3218	0.3268	0.3272	0.3227
	Y	0.3468	0.3551	0.3430	0.3353		Y	0.3353	0.3430	0.3305	0.3233
WE6	X	0.3164	0.3210	0.3218	0.3175	WE7	X	0.3175	0.3218	0.3227	0.3186
	Y	0.3395	0.3468	0.3353	0.3283		Y	0.3283	0.3353	0.3233	0.3169
WF6	X	0.3122	0.3164	0.3175	0.3136	WF7	X	0.3136	0.3175	0.3186	0.3151
	Y	0.3331	0.3395	0.3283	0.3223		Y	0.3223	0.3283	0.3169	0.3114
WG6	X	0.3085	0.3122	0.3136	0.3100	WG7	X	0.3103	0.3136	0.3151	0.3120
	Y	0.3273	0.3331	0.3223	0.3170		Y	0.3170	0.3223	0.3114	0.3064

Note: X.Y Tolerance each Bin limit is±0.01.

Chromaticity Coordinates & Bin grading diagram:



Chromaticity Coordinates Specifications for Bin Grading:

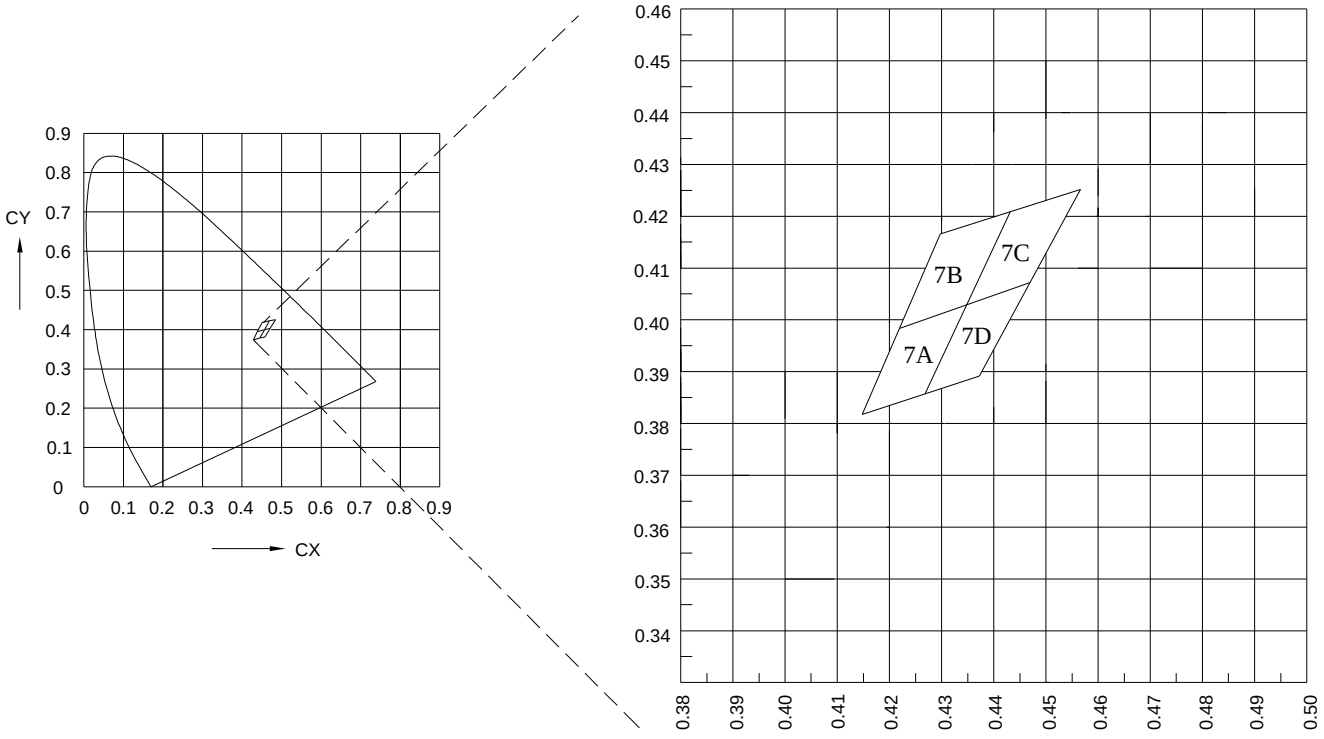
COLOR RANKS (.Ta=25℃)

WARM WHITE

BIN	RANK				
7A	X	0.4147	0.4221	0.4342	0.4259
	Y	0.3814	0.3984	0.4028	0.3853
7B	X	0.4221	0.4299	0.4430	0.4342
	Y	0.3984	0.4165	0.4212	0.4028
7C	X	0.4342	0.4430	0.4562	0.4465
	Y	0.4028	0.4212	0.4260	0.4071
7D	X	0.4259	0.4342	0.4465	0.4373
	Y	0.3853	0.4028	0.4071	0.3893

Note: X.Y Tolerance each Bin limit is±0.01.

Chromaticity Coordinates & Bin grading diagram:



Handling Indications

During processing, mechanical stress on the surface should be minimized as much as possible. Sharp objects of all types should not be used to pierce the sealing compound

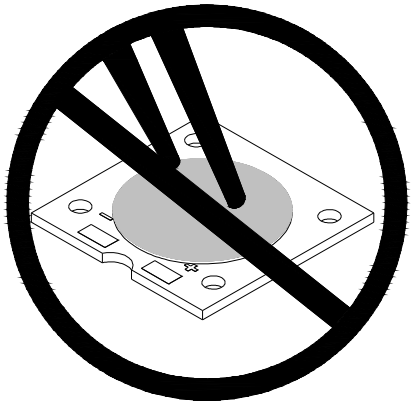


Figure 1

In general, LEDs should only be handled from the side. By the way, this also applies to LEDs without a silicone sealant, since the surface can also become scratched.

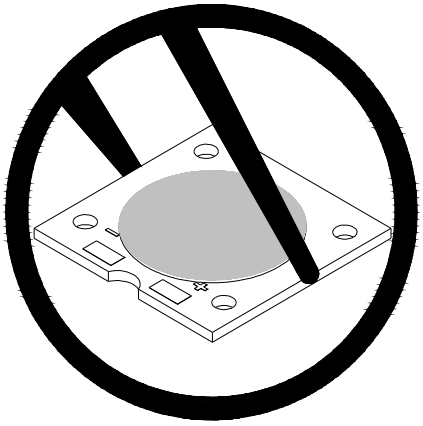
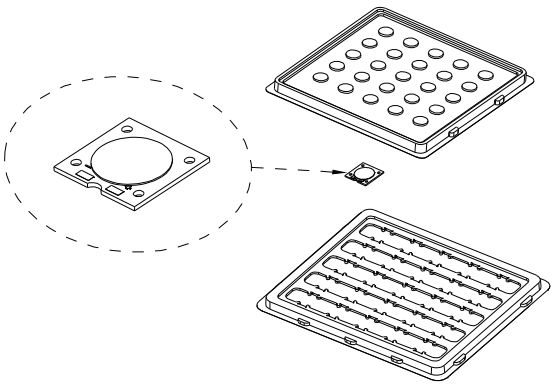


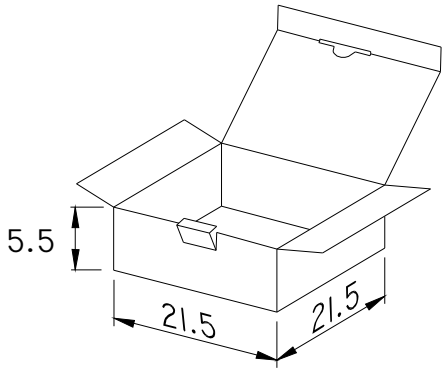
Figure 2

When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the surface of the resin must be prevented.
This is assured by choosing a pick and place nozzle which is larger than the LED's reflector area.

Tray packaging

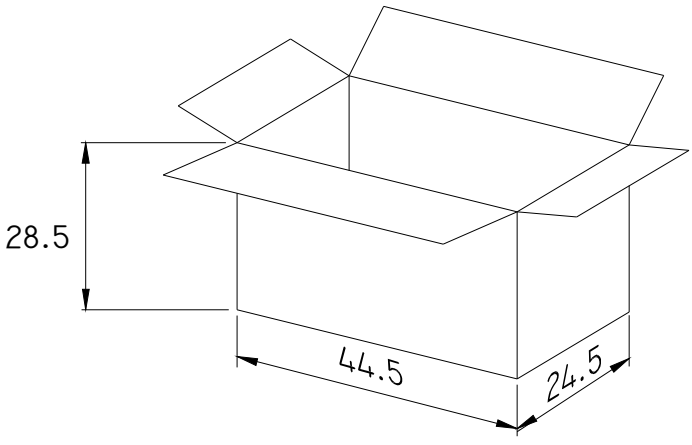


25 PCS LED / 1 TRAY



4 PCS TRAY / 1 INNER BOX

10 PCS INNER BOX / 1 OUTER BOX



UNIT：cm