LEDTECH ELECTRONICS CORP.

(Zone 22) North Guiyuan Rd, West Jixi Rd,
Duanzhou District, Zhaoqing City, Guangdong
Province, P. R. China
TEL:86-758-2875541,2870651,2877464,2876185,2877017
FAX:86-758-2878014
Http://www.ledtech.com.tw

SPECIFICATION

PART NO. : LP30N3-S613

190W COB 50 x 50mm TYPE

ATTENTION

OBSERVE PRECAUTION FOR HANDLING ELECTRO STATIC SENSITIVE DEVICES

Approved by	Checked by	Prepared by
Yue	*Lian*	*Hui*

Ledtech	LP30N3-S613	50 x 50mm TYPE

Features

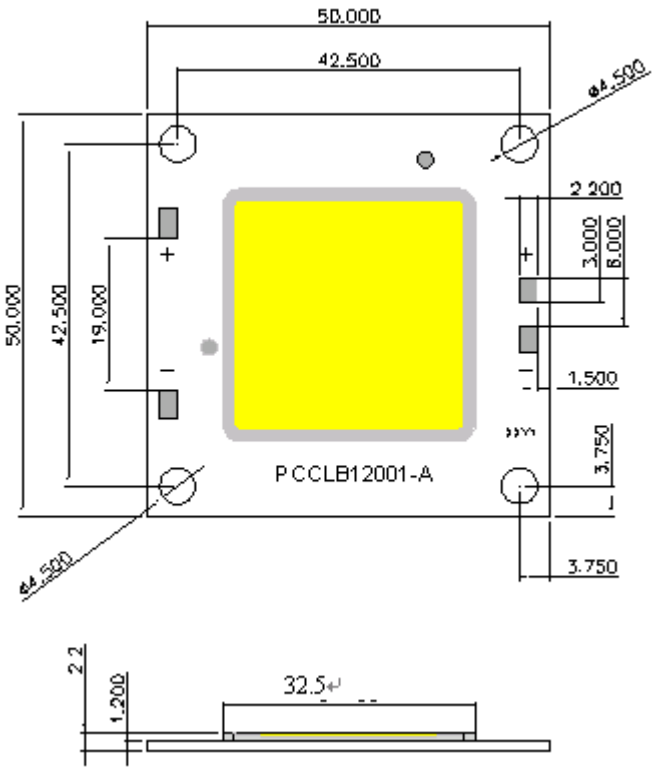
- Pb Free & RoHS Compliant
- Multi-Chip package
- Good Thermal Conductivity
- LED lighting engine
- Lambertian Distrubution Pattern
- No UV Emission
- Easy Optical System Module
- Long Operating Life

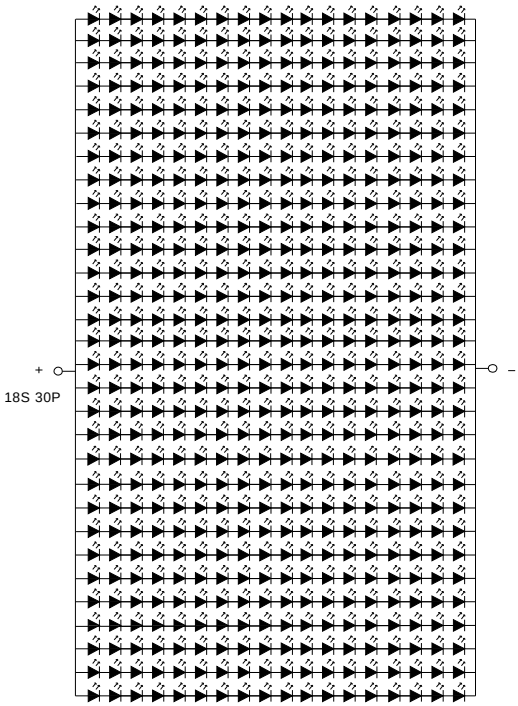
Application

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

Ledtech	LP30N3-S613	50 x 50mm TYPE

Package Dimensions :





Notes:

1. All dimensions are in mm.
2. Tolerance is ±0.5mm unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.

Description :

Part NO.	LED Chip		Lens Color
	Material	Color Coordinates	
LP30N3-S613	InGaN/Sapphire	Cool White	Yellow Diffused

Ledtech	LP30N3-S613	50 x 50mm TYPE

Absolute Maximum Ratings at Ta=25℃：

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	200.1	W
LED Junction Temperature	Tj	150	℃
D.C. Forward Current	If	3.45	A
Operating Temperature Range	Topr.	-40 to +110	℃
Storage Temperature Range	Tstg.	-40 to +120	℃
Solder Heat Resistance	SHR	Hand Soldering:260±5℃ for 10 sec.	
Electric Static Discharge Threshold (HBM)	ESD	1000	V

Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Flux	-	If=3.45A	-	23370	-	lm
	L1		20000	-	23000	
	L2		23000	-	26000	
	L3		26000	-	29000	
Forward Voltage	-	If=3.45A	-	54.5	-	V
	V1		50	-	54	
	V2		54	-	58	
Efficiency	η	If=3.45A	-	124	-	lm/W
CIE Chromaticity Coordinates : X Axis	X	If=3.45A	-	0.3175	-	
CIE Chromaticity Coordinates : Y Axis	Y	If=3.45A	-	0.3283	-	
Correlated Colour Temperature	CCT	If=3.45A	5750	-	6750	K
Color Rendering Index	CRI	If=3.45A	70	-	-	*Ra*
Viewing Angle	2θ1/2	If=3.45A	-	120	-	deg

Notes :

1. The datas tested by IS tester.
2. Customer’s special requirements are also welcome.

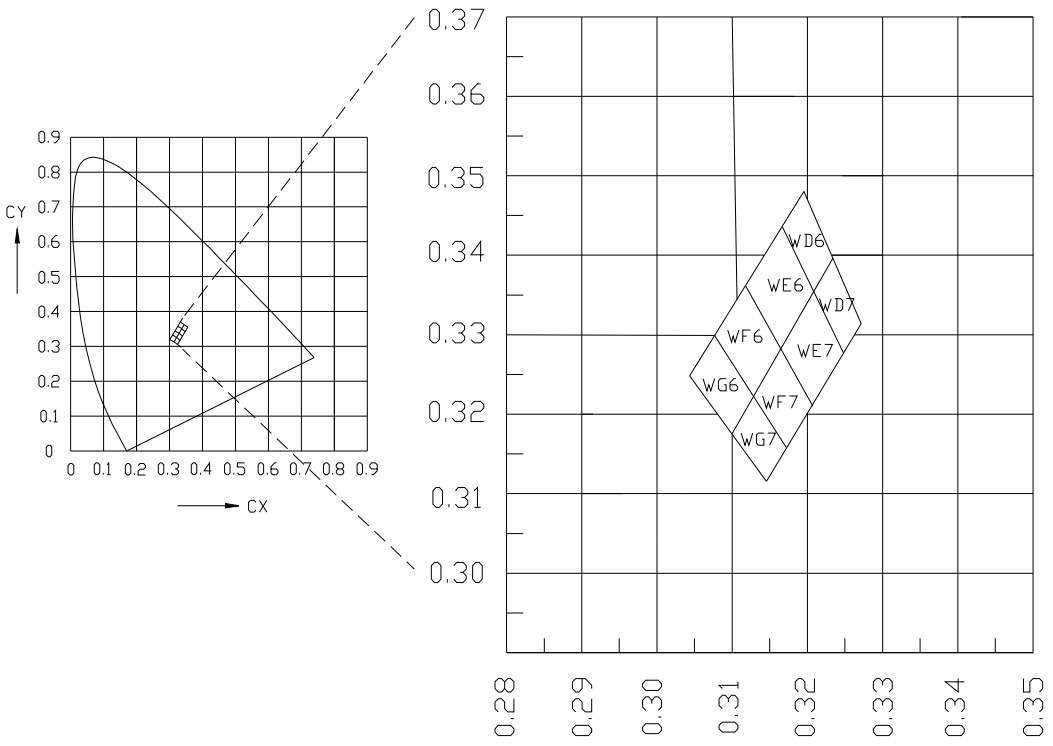
Chromaticity Coordinates Specifications for Bin Grading :

Color Ranks (IF=3.45A.Ta=25℃)

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	0.310	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.

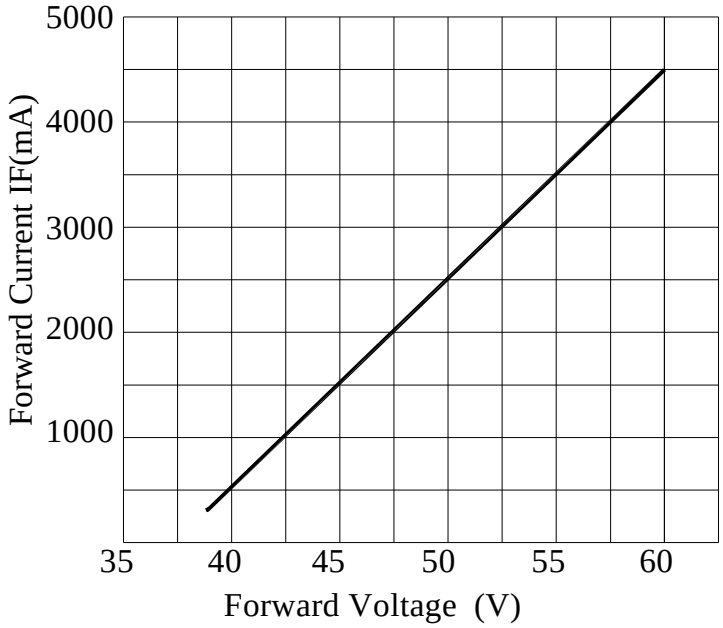
Chromaticity Coordinates & Bin Grading Diagram :



Typical Electrical Characteristic Curves :

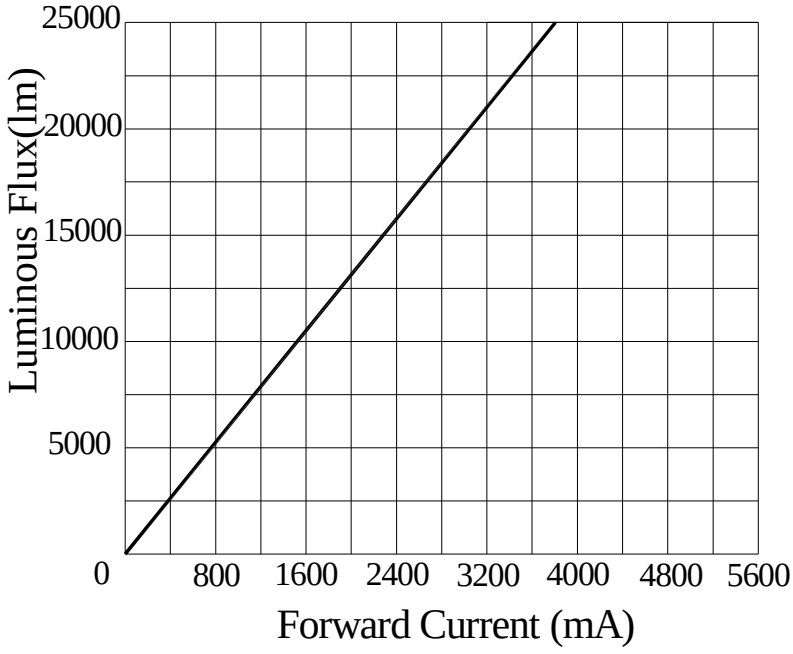
Forward Current VS. Forward Voltage

For Cool White @ Thermal Pad Temperature = 25℃



Forward Current VS. Relative Luminous Flux

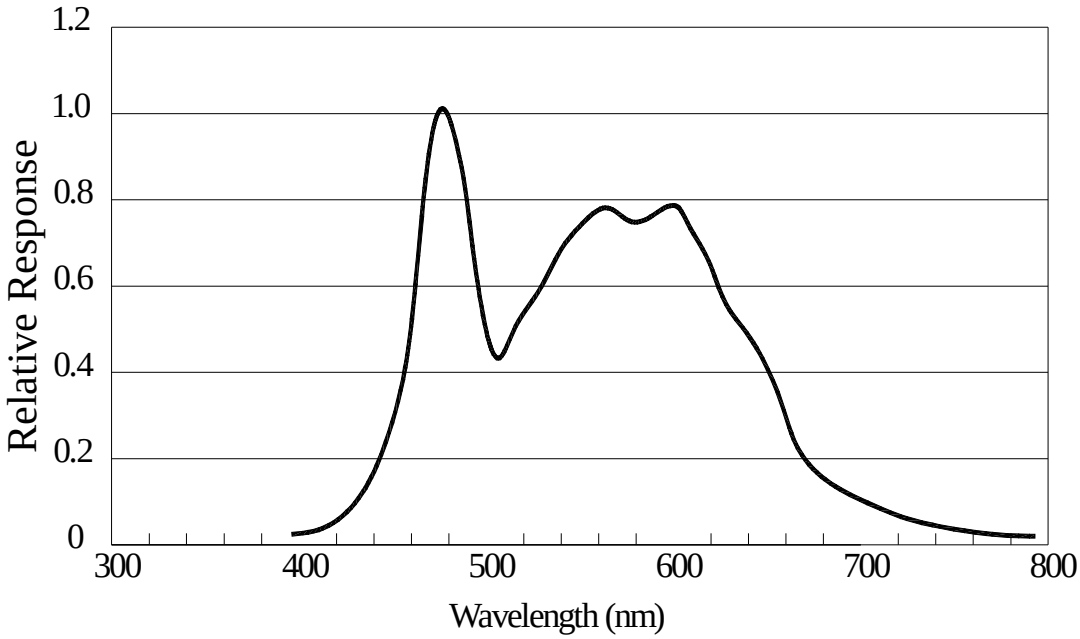
For Cool White @ Thermal Pad Temperature = 25℃



Typical Optical Characteristic Curves :

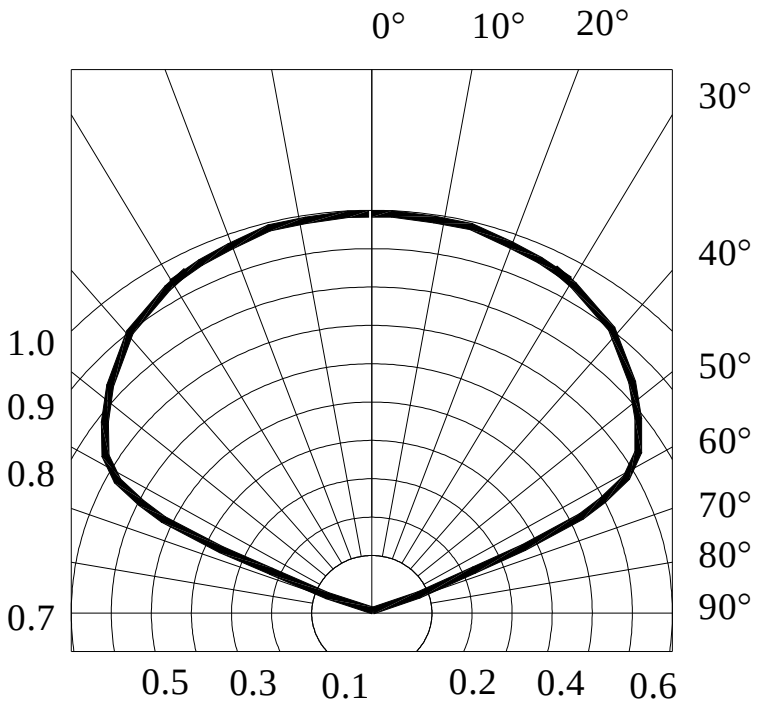
Relative Spectral Power Distribution

For Cool White @ Forward Current = 3.45A



Radiation Diagram

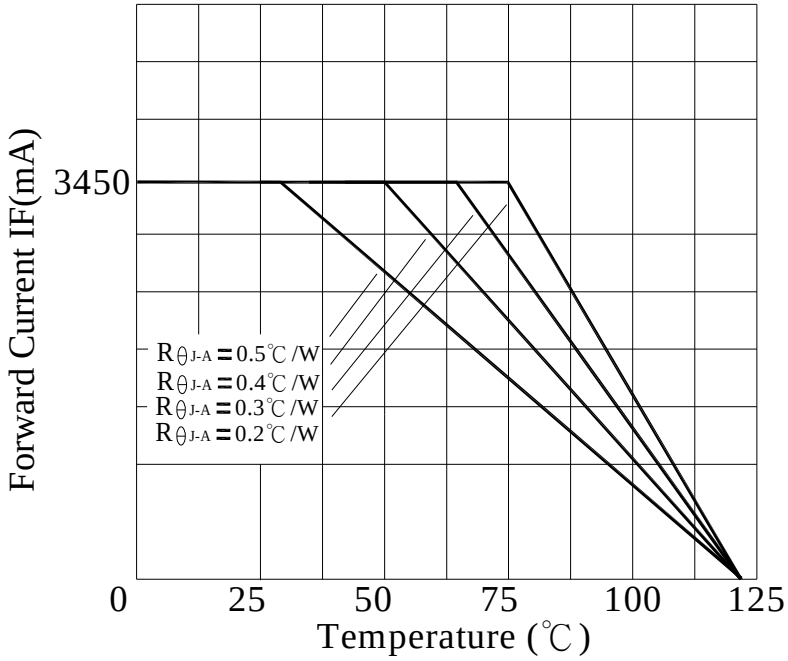
For Cool White @ Forward Current = 3.45A



Thermal Design :

Junction Temperature VS. Forward Current

For Cool White @ Forward Current = 3.45A



Note :

The junction temperature can be correlated to the thermal resistance between the junction and ambient (Rθj-a) by the following equation.

Tj=Ta + Rθj-a*W

Tj: LED junction temperature

Ta: Ambient temperature

Rθj-a: Thermal resistance between the junction and ambient

W: Inputting power (IF*VF)

Sulfur-sensitive

- **There is silver-plated metal part on the inner/outer side of the outer package. If exposed to the condition with corrosive gas, the silver plating surface may go bad, which will affect soldering strength and optical properties. Therefore, after opening it must be kept in a sealed container, etc.**
- **Materials contain sulfur component (gasket, adhesive, etc.) may have bad effects on the surface of the coating, so please do not use such materials in the product.**
- **In cardboard boxes and rubber, even in the atmosphere may contain minute amount of corrosive gases; In addition, the resin material may also contain halogen which has a bad effect on the surface of the coating.**
- **Even if the soldering installation and product assembly finished, by the effect of corrosive gas generated by relative materials of LED and external injected, the coating surface may go bad, so it is necessary to design the product taking into account the above factors.**
- **If requires, it is best to use a silicone washer, but be aware that low molecular silicone may cause the product poor contact.**
- **Keep the product in location where has less temperature change, because moisture condensation would be generated under a condition of strong temperature change.**

DISCLAIMER

1. **Our department reserves the right(s) on the adjustment of product material mix for the specification.**
2. **The product meets our department published specification for a period of twelve (12) months from date of shipment.**
3. **The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.**
4. **When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Our department 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.**
5. **These specification sheets include materials protected under copyright of our department. Reproduction in any form is prohibited without obtaining our department's prior consent.**
6. **This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized our department sales agent for special application request.**

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

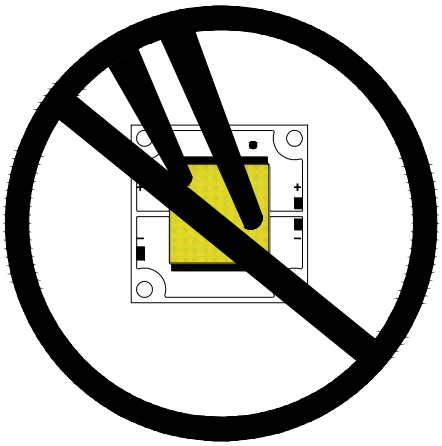


Figure 1

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.

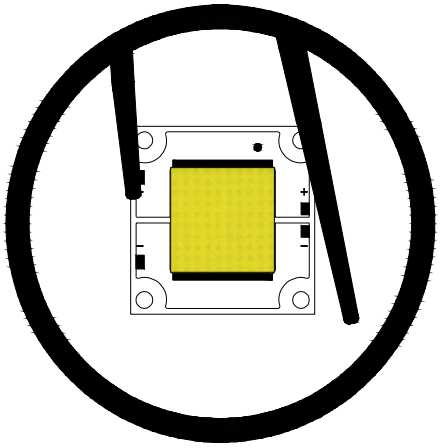
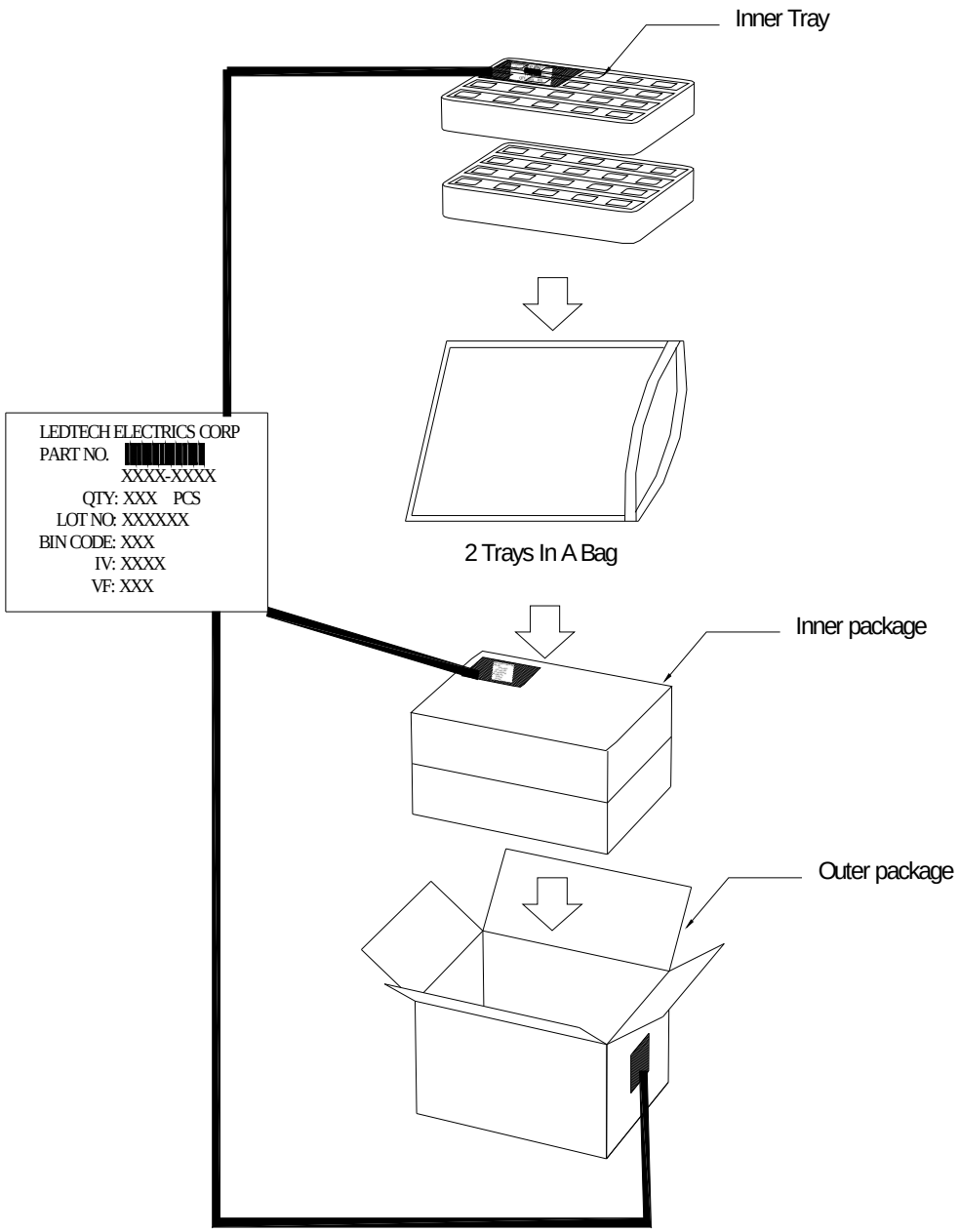


Figure 2

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.

Packaging :



Notes :

1. All dimensions are in mm.
2. There are 20pcs in a tray.
3. There are 2 trays in an inner box.
4. There are 3 inner boxes in an outer box.