LEDTECH ELECTRONICS CORP.

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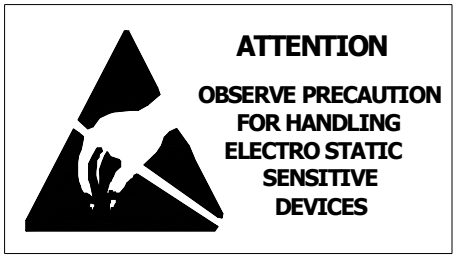
SPECIFICATION

PART NO. : LP2F63-ST-RGB-B1648

3W RGB HIGH POWER LED



Approved by	Checked by	Prepared by
王方波	蘇智良	陳祥銘

< Features >

*Super high flux output and high luminance
*Designed for high current operation
*Low thermal resistance
*No UV

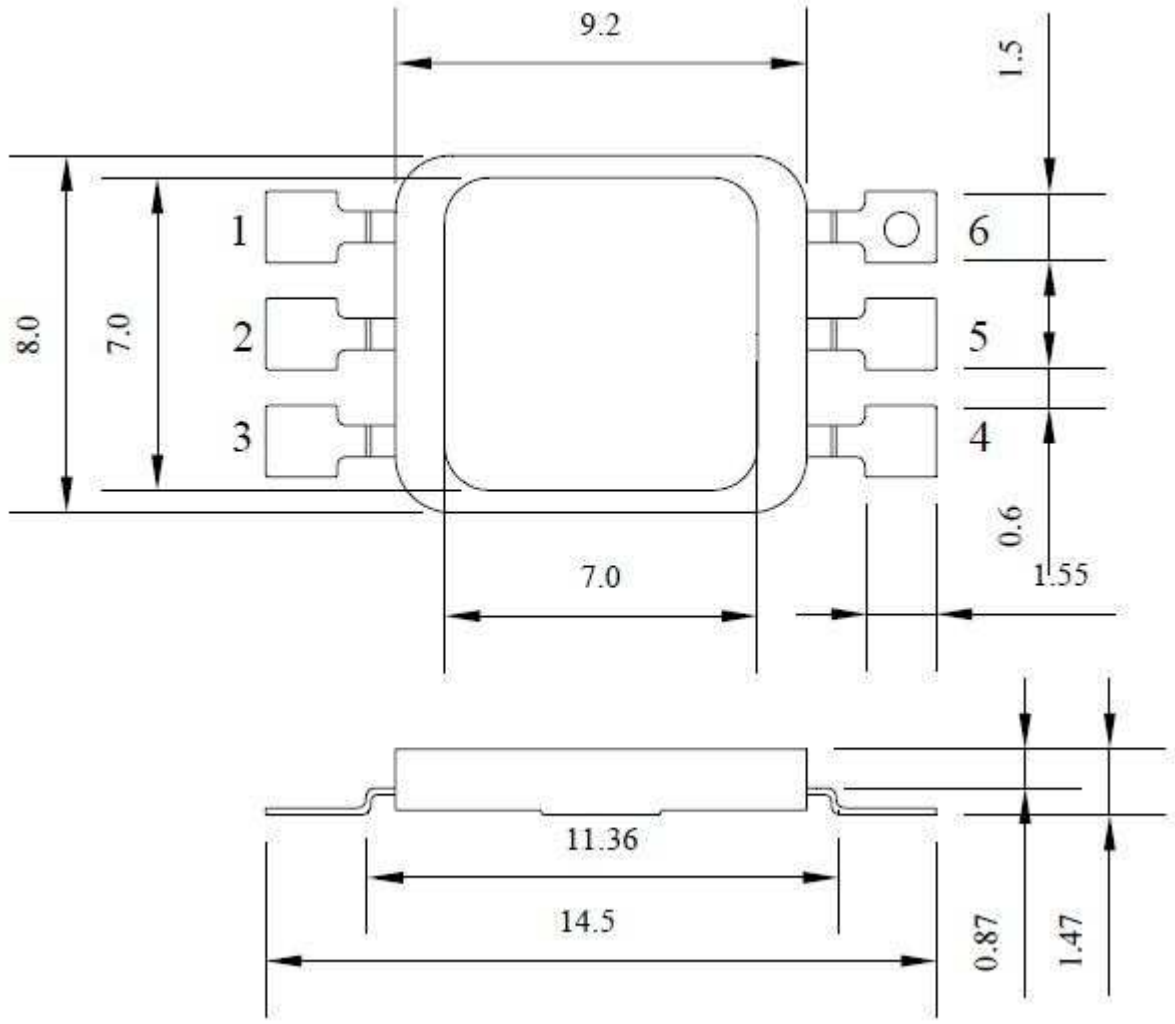
< Typical Applications >

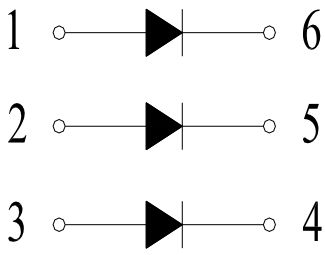
*Reading Lights
*Portable Flashlight
*Uplighters and Downlighters
*Torch Lighting
*LCD Backlights/Light Guides
*Decorative Lighting

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
LP1H63-ST-RGB-B1648	AlGaInP/Si	Red	Water Clear
	InGaN/ Al_2O_3	True Green	
	InGaN/Al_2O_3	Blue	

Package Dimensions





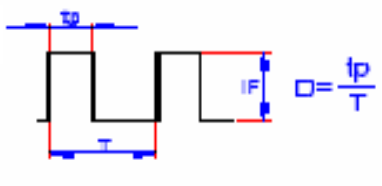
* All dimensions are in mm. *Tolerance：+/-0.25mm.

Absolute Maximum Ratings at Ta=25℃ ：

Parameter		Rating	Unit
Power Dissipation★	R	0.8	W
	G & B	1.2	
LED Junction Temperature★		120	℃
Reverse Voltage★		5	V
D.C. Forward Current★		350	mA
Pulsed Forward Current；tp≦100μs,Duty cycle=0.005)*1★		700	mA
Operating Temperature Range		-40 to +75	℃
Storage Temperature Range		-40 to +105	℃
Soldering Temperature	Tsld.	Reflow Soldering: 260℃ for 10 sec. Hand Soldering: 350℃ for 3 sec.	
Electric Static Discharge Threshold (HBM) ★	ESD	2000	V

★ The value are based on 1 die performance.

Duty Cycle：



Notes:

1、Proper current derating must be observed to maintain junction temperature below the maximum .

2、All products not sensitive to ESD damage(6000 Volts by HBM condition).

3、Be careful with a powered up current limited power supply, because of current spikes during power up and/or connection. Best practice is to connect the LED then turn up the voltage gradually People building their own power supplies should design for minimum current spikes during power up and connection.

4、For best results the customer needs to provide proper control of the thermal path ,protect against electrical overstress conditions, and ensure that Ledtech emitters are properly attached to the mcpcb/heat sink.

Red Characteristics at If=350mA (Ta=25°C)：

Parameter	symbol	value			Units
		Min.	Typ.	Max.	
Luminous Flux	Φv[1]		38		lm
Dominant Wavelength	λd	620	625	630	nm
Forward Voltage	Vf	2.0	2.5	3.0	V
View Angle	2θ1/2		120		deg
Thermal Resistance Junction to Case	$R\theta_{J-c}$		13		℃/W

Green Characteristics at If=350mA (Ta=25°C)：

Parameter	symbol	value			Units
		Min.	Typ.	Max.	
Luminous Flux	Φv[1]		71		lm
Dominant Wavelength	λd	520	525	535	nm
Forward Voltage	Vf	3	3.5	4	V
View Angle	2θ1/2		120		deg
Thermal Resistance Junction to Case	$R\theta_{J-c}$		10		℃/W

Blue Characteristics at If=350mA (Ta=25°C)：

Parameter	symbol	value			Units
		Min.	Typ.	Max.	
Luminous Flux	Φv[1]		21		lm
Dominant Wavelength	λd	460	465	475	nm
Forward Voltage	Vf	3	3.4	4	V
View Angle	2θ1/2		120		deg
Thermal Resistance Junction to Case	$R\theta_{J-c}$		10		℃/W

Electrical & Optical Bin Group @If=350mA

Flux Ranks

Color	Group	Flux(lm)
Red & Green& Blue	L	10.7~13.9
	M	13.9~18
	N	18~23.5
	P	23.5~30.5
	Q	30.5~39.6
	R	39.6~51.5
	S	51.5~67
	T	67~87
	U	87~113

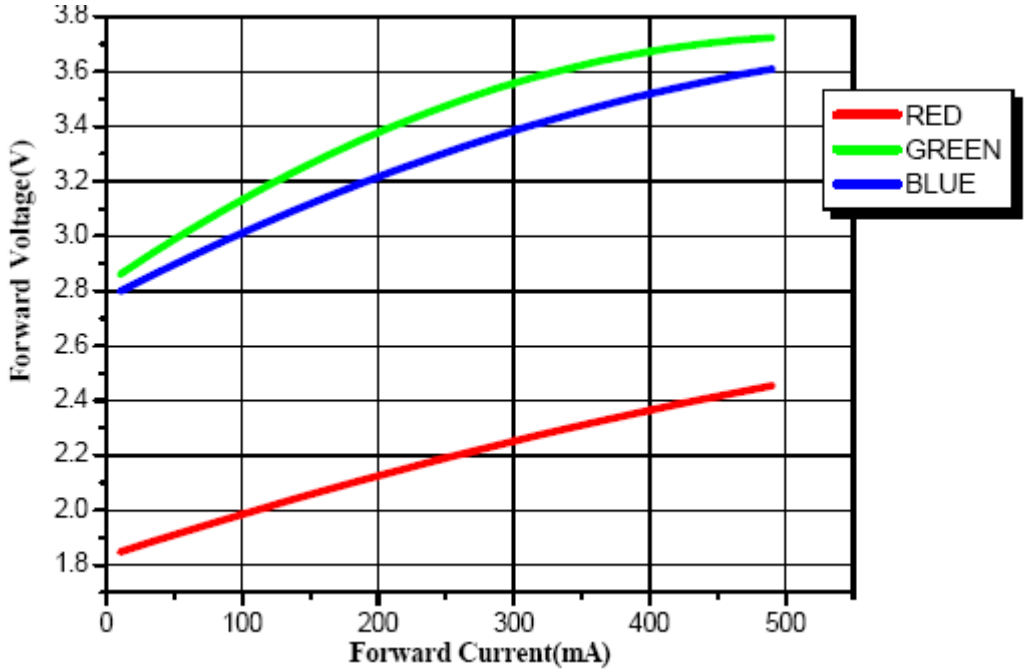
Wavelength Ranks

Color	Group	WD(nm)
RED	W	620~630
Green	15	520~525
	16	525~530
	17	530~535
Blue	3	460~465
	4	465~470
	5	470~475

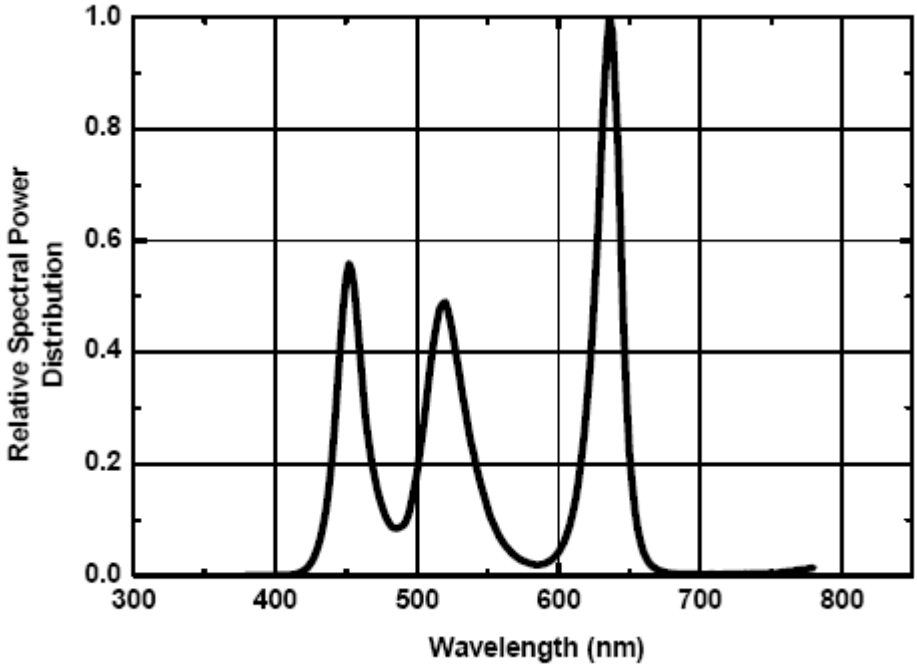
Forward Voltage Ranks

Color	Group	Vf(V)
RED	V01	1.8~2.0
	V02	2.0~2.2
	V03	2.2~2.4
	V04	2.4~2.6
	V05	2.6~2.8
Green	V01	3.0~3.2
	V02	3.2~3.4
	V03	3.4~3.6
	V04	3.6~3.8
	V05	3.8~4.0
Blue	V01	3.0~3.2
	V02	3.2~3.4
	V03	3.4~3.6
	V04	3.6~3.8
	V05	3.8~4.0

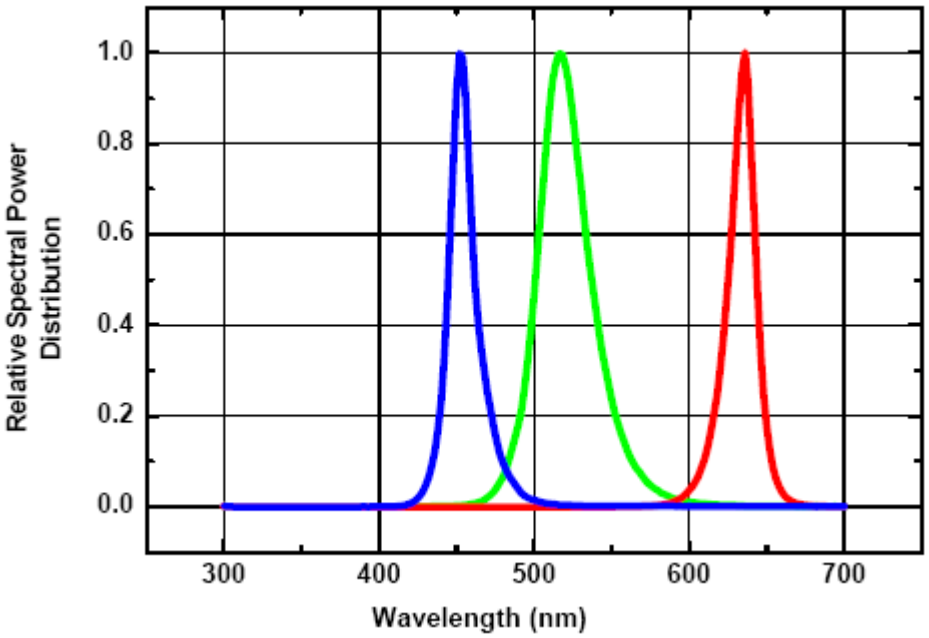
Forward Voltage Vs Forward Current(Ta=25°C)



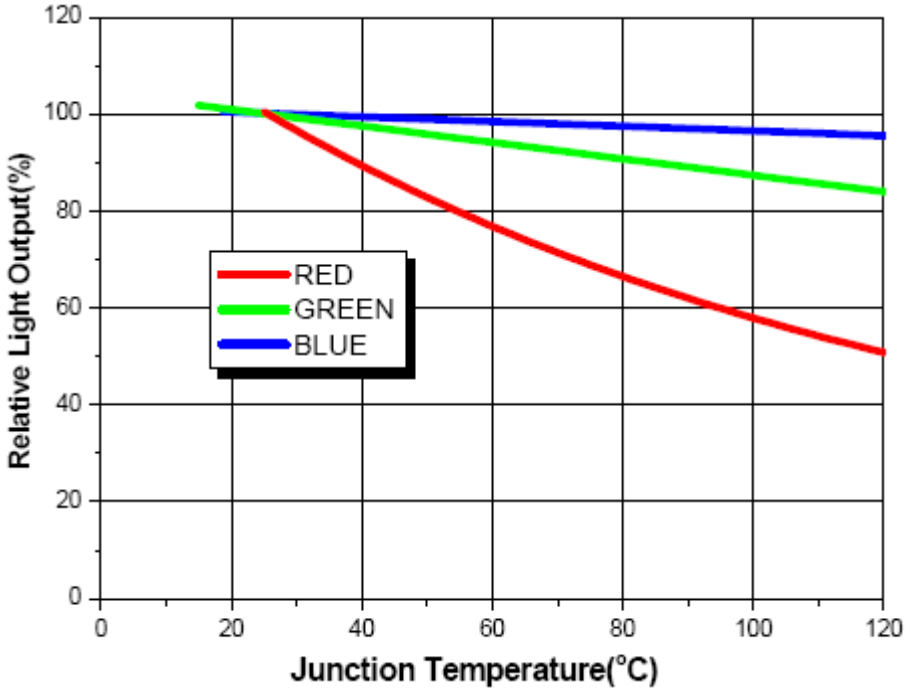
Wavelength Curve for white(Ta=25°C)



Wavelength Curve for Red,Green,Blue(Ta=25°C)

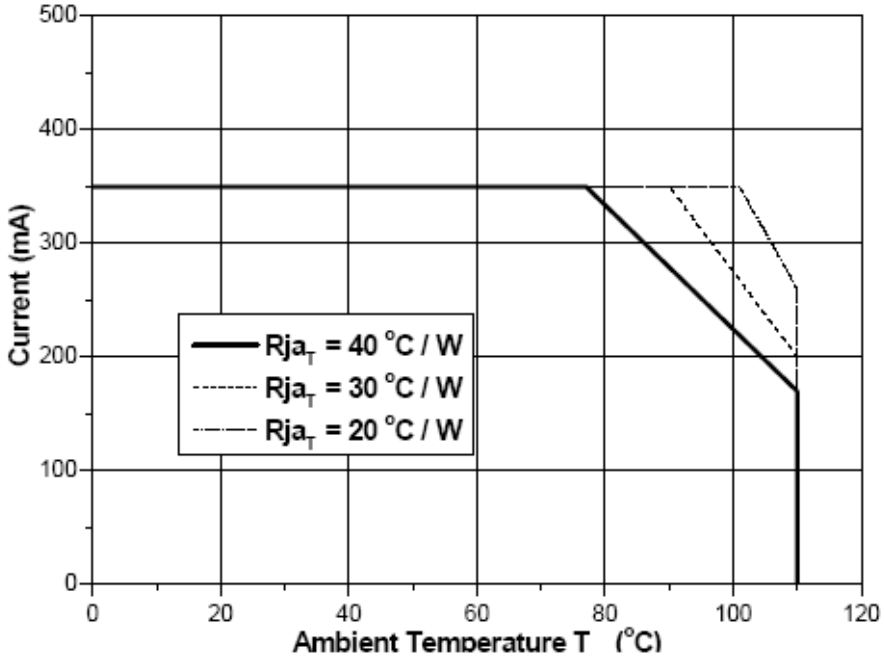


Temperature of Junction vs. Relative Light Output for Blue,Green,Red(Ta=25°C)

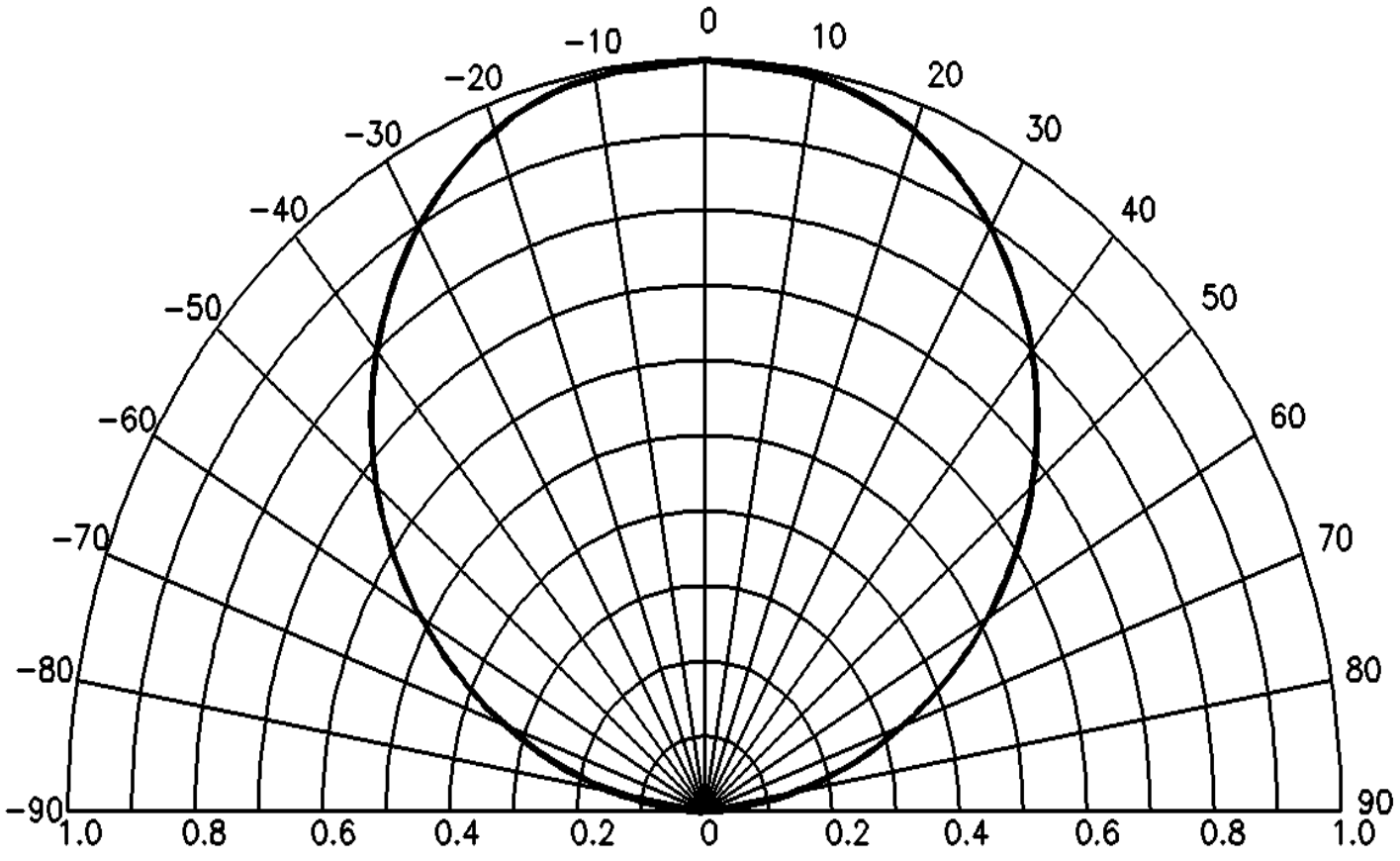


Ambient Temperature vs. Allowable Forward Current for 1 chip

,White, Blue,Green,Red(Ta=25°C)



Typical Radiation Pattern for Non Lens(2θ1/2：120±10°)



PRECAUTION IN USE

Storage

Recommended storage environment

Temperature: **5℃ ~30℃ (41℉~86℉)**

Humidity: **60% RH Max.**

Moisture measures: Please refer to Moisture-sensitive label on reels package bags.

If unused LEDs remain, they should be stored in moisture proof packages, such as sealed container with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

Fold the opened bag firmly and keep in dry environment.

Soldering

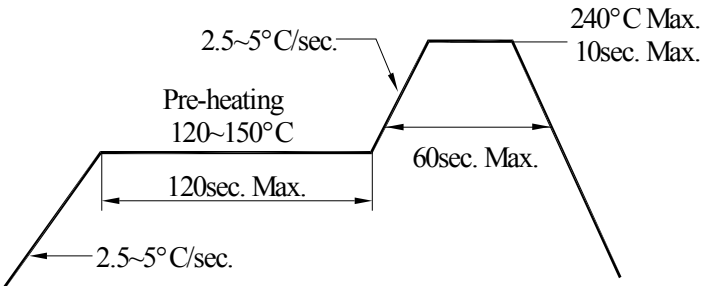
Reflow Soldering			Hand Soldering	
	Lead Solder	Lead – free Solder		
Pre-heat	120~150℃	180~200℃	Temperature	350℃ Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	240℃ Max.	260℃ Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to Temperature-profile 1	refer to Temperature-profile 2		

***After reflow soldering rapid cooling should be avoided.**

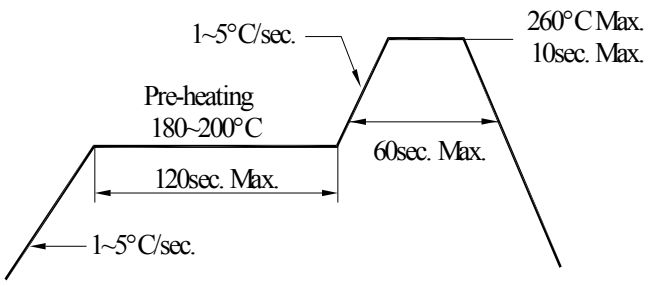
[Temperature-profile (Surface of circuit board)]

Use the conditions shown to the under figure.

＜1 : Lead Solder＞

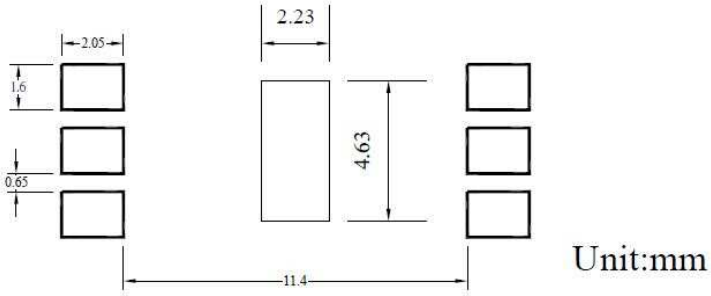


＜2 : Lead-free Solder＞



[Recommended soldering pad design]

Use the following conditions shown in the figure.



Handling of Silicone Resin LEDs

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

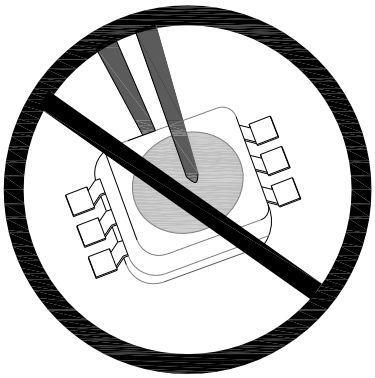


Figure 1

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.

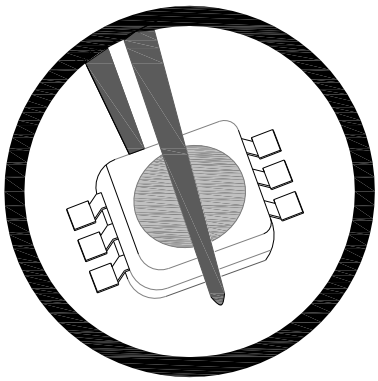
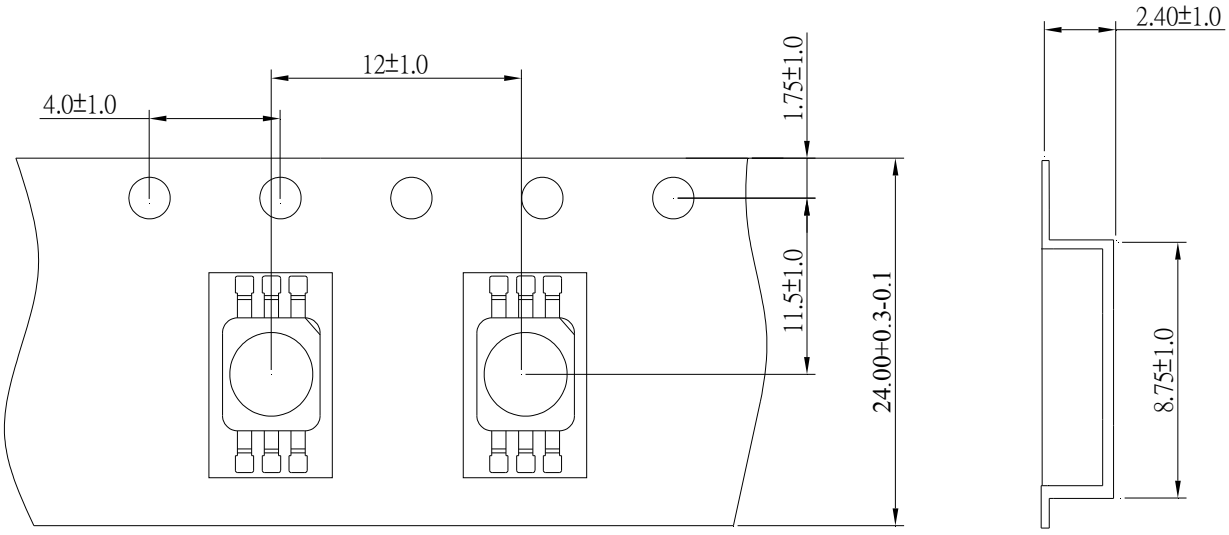


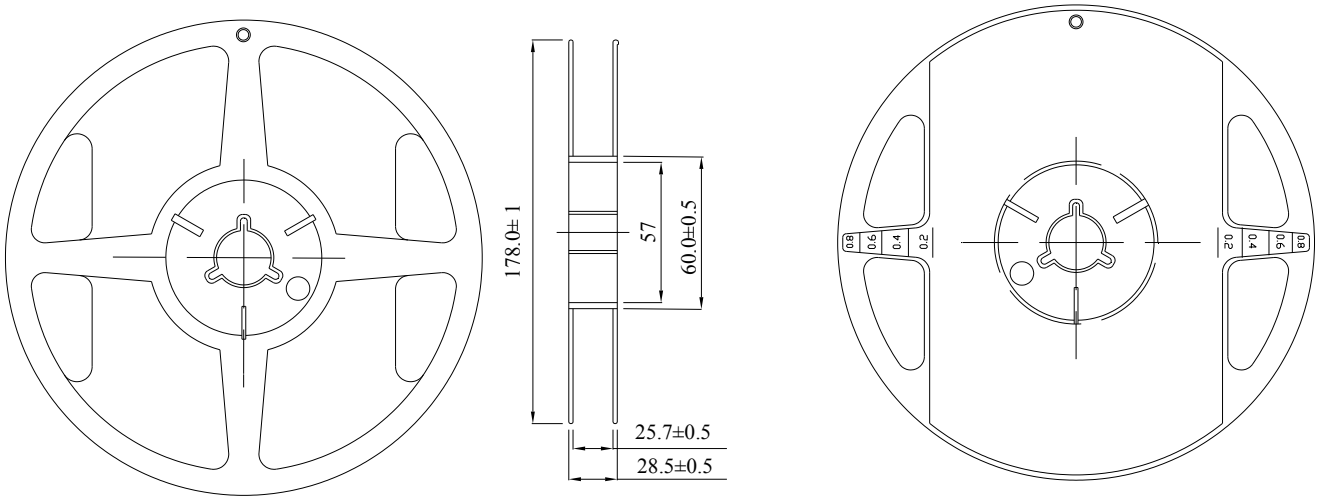
Figure 2

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.

Dimensions for Tape



Dimensions for Reel



Notes:

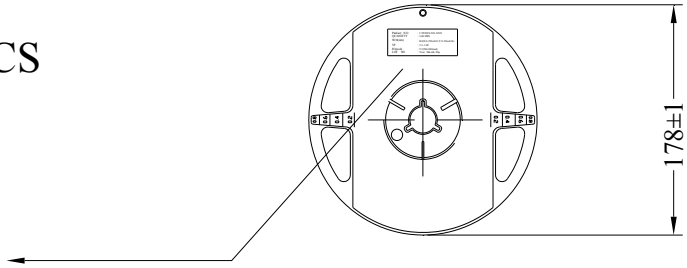
1.All dimensions are in mm, tolerance is±2.0mm unless otherwise noted.

2.Specifications are subject to change without notice.

Packing

REEL
QUANTITY: 450 PCS

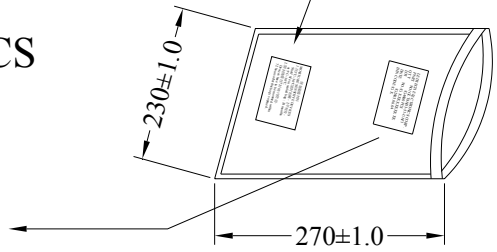
LEDTECH ELECTRONICS CORP.
PART NO :LTXXXX-XX
Q'TY : PCS
LOT NO :XXXXXXXXX
DATE :
BIN CODE:



濕氣敏感材料
MOISTURE SENSITIVE DEVICES
1. 在5°C~30°C密封貯藏，1年有效。
Shelf life in sealed bag : 12 months at 5°C~30°C .
2. 開封後需在168小時內使用。
Devices have to be mounted within 168 hours after this bag is opened .

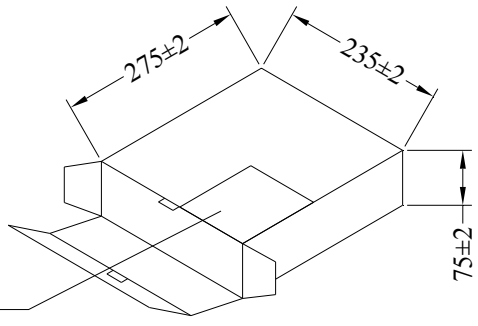
BAG
QUANTITY: 450 PCS

LEDTECH ELECTRONICS CORP.
PART NO :LTXXXX-XX
Q'TY : PCS
LOT NO :XXXXXXXXX
DATE :
BIN CODE:



INSIDE BOX
QUANTITY: 2 BAGS
TOTAL: 900 PCS

LEDTECH ELECTRONICS CORP.
PART NO :LTXXXX-XX
Q'TY : PCS
LOT NO :XXXXXXXXX
DATE :
BIN CODE:



Notes:

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