

Room 1610, Hong Kong Plaza, 188 Connaught Road West, Hong Kong.

Tel: (852) 2540 7288 Fax: (852) 2517 1797 http://www.toyo-led.com E-mail: sales@toyo-led.com



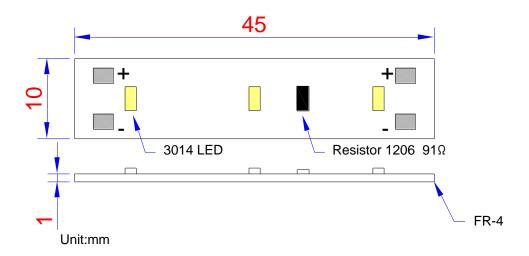
P/N: TY-4510FR-3014PW

Assemble

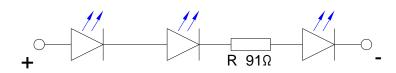




♦ Physical Dimensions



♦ Circuit Diagram





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♦ Maximum Ratings(Ta=25°C)

Item	Symbol	Maximum	Unit
Input Voltage	Vin	13.5	V
Power Dissipation	PD	0.48	W
Forward Current	${ m I}_{ m Fmax}$	35	mA
Peak Forward Current(1/10 Duty Cycle 0.1ms Pulse Width)	I_{FP}	100	mA
Operating Temperature Range	$T_{ m opr}$	-30 to +80	${\mathbb C}$
Storage	$\mathrm{T}_{\mathrm{stg}}$	-40 to +100	${\mathbb C}$
Handmade Soldering Temperature	Tsol	Max. 350°C for 5sec Max.	
Electrostatic discharge (HBM)	ESD	2000V	

♦ Electrical/Optical Characteristics(Ta=25°C)

Item	Symbol	Condition	Min.	Тур.	Max.	Unit
Forward Current	IF	VF=12Vdc		30		mA
Luminous Flux	Φ	V _F =12Vdc		31		lm
Color Temperature	ССТ	V _F =12Vdc	5000		7000	K
Color Rendering Index	CRI	V _F =12Vdc		70		
Viewing Angle	201/2	V _F =12Vdc		120		Deg

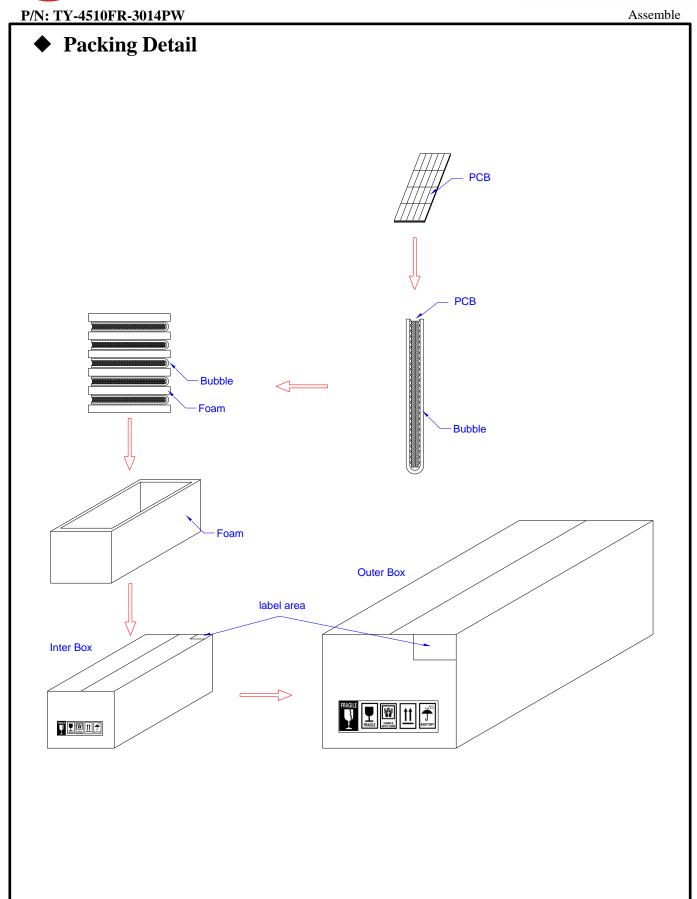
NOTES:

- 1.All dimensions are in millimeter;
- 2. Tolerance is ± 0.25 mm unless other specified;
- 3.Luminous intensity testing tolerance is ±10%;
- 4.Dominant Emission Wavelength testing tolerance is $\pm 5\%$;
- 5. Specifications are subject to change without notice



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Precautions

1. Cautions of use

- •Products run off at high voltage.
- •Long time exposure to sunlight or UV may discolor the lens.
- •Do not use adhesives to attach the LED that outgas organic vapor.
- •Do not use together with the materials containing Sulfur.
- •Soldering to board so as not to create a short between different trace pat-terns.
- •Do not assemble in conditions of high moisture and/or oxidizing gas such as Cl, H2S,NH3,SO2,NOX,etc.

2. Handing of silicone resin for LEDs

- •Do not touch the silicone resin area with sharp objects such as pincette (tweezers).
- •Finger prints on silicone resin area may affect the performance.
- •Store LEDs in covered containers to prevent dust accumulation as this may affect perform-ance.
- •Excessive force more than 3000PA to the silicone lens can result in fatal or permanent damage to LEDs.
- •Do not cover the silicone resin area with any other resins such as epoxy, urethane, etc

3. Storage

- •Do not impact or place pressure on this product because even a small amount of pressure can damage the product. The product should not be placed in high temperatures, high humidity or direct to sunlight.
- •The devices should be stored in the anti-static bag.
- •If the anti-static bag has been opened, re-seal preventing air and moisture from being present in the bag.

TOYO LED ELECTRONICS LIMITED