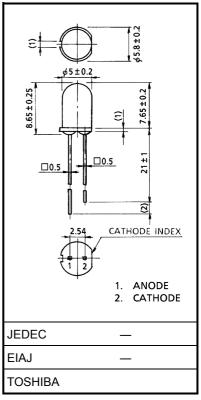
# TENTATIVE TOSHIBA InGaA(P LED TLOU114P,TLSU114P,TLYU114P

#### Panel Circuit Indicator

- InGaAℓP LED
- Without stand-offs

TOSHIBA

- All plastic mold type
- Colored lusterless lens
- Lineup: 3 colors (red, orange, yellow)
- Suitable for high-brightness and less electricity consumption.
- All plastic molded lens, provides an excellent on-off contrast ratio.
- Applications: Backlight, light for decoration, switches, various indicator, personal equipment



Weight: 0.31g

#### Lineup

Product	Color	Material		
TLOU114P	Orange	InGaAlP		
TLSU114P	Red	InGaAtP		
TLYU114P	Yellow	InGaAtP		

## Maximum Ratings (Ta = 25°C)

Product	Forward Current I <sub>F</sub> (mA)	Reverse Voltage V <sub>R</sub> (V)	Power Dissipation P <sub>D</sub> (mW)	Operating Temperature T <sub>op</sub> (°C)	Storage Temperature T <sub>stq</sub> (°C)
TLOU114P	30	4	72	-20~75	-30~100
TLSU114P	30	4	72	-20~75	-30~100
TLYU114P	30	4	75	-20~75	-30~100

### Unit in mm

#### **Electrical And Optical characteristics (Ta = 25°C)**

Prodact	Typ.Emission Wevelength		Luminous Intensity Iv		Forward Voltage VF			Reverse Current I <sub>R</sub>			
	λ <sub>p</sub>	Δλ	١ <sub>F</sub>	Min	Тур.	١ <sub>F</sub>	Тур.	Max	١ <sub>F</sub>	Max	V <sub>R</sub>
TLOU114P	612	15	20	47.6	250	20	2.0	2.4	20	50	4
TLSU114P	636	17	20	47.6	250	20	2.0	2.4	20	50	4
TLYU114P	590	13	20	47.6	130	20	2.1	2.5	20	50	4
Unit	n	m	mA	m	cd	mA	١	V	mA	μA	V

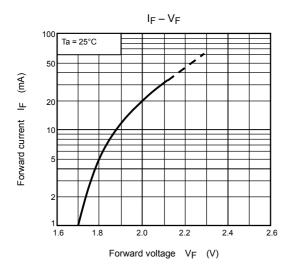
#### Precaution

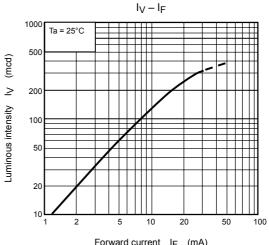
Please be careful of the followings

- • Soldering temperature: 260°C max Soldering time: 3<br/>s max
- (Soldering portion of lead: up to 2mm from the body of the device)
- If the lead is formed, the lead should be formed up to 5mm from the body of the device without forming stress to the resin. Soldering should be performed after lead forming.
- This visible LED lamp also emits some IR light. If a photodetector is located near the LED lamp, please ensure that it will not be affected by this IR light.

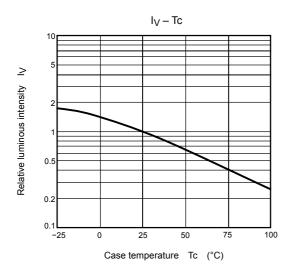
# TOSHIBA

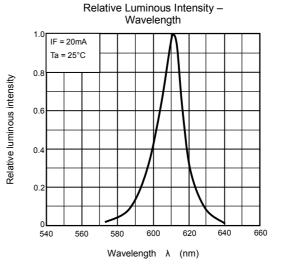
TLOU114P





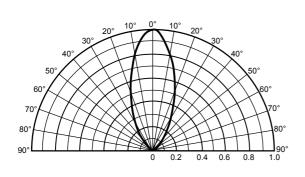


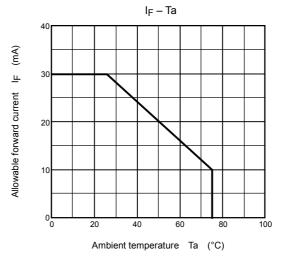




Radiation Pattern

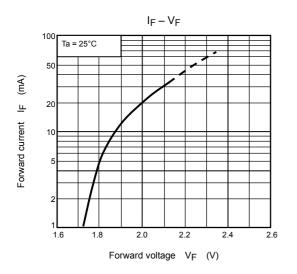
Ta = 25°C

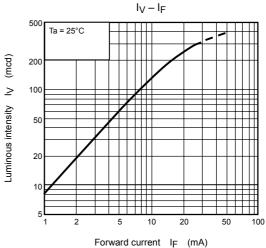


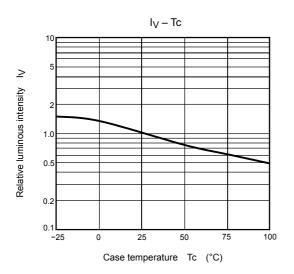


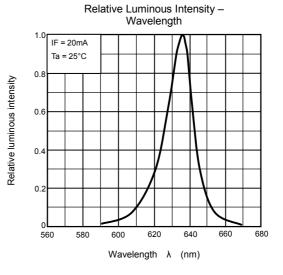
# TOSHIBA

TLSU114P



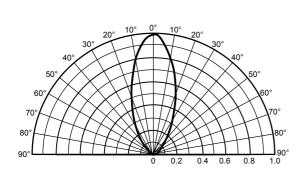


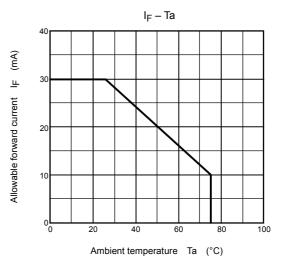




Radiation Pattern

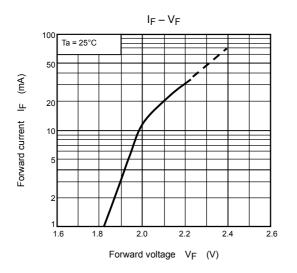
Ta = 25°C

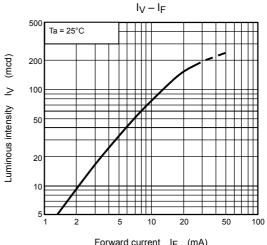




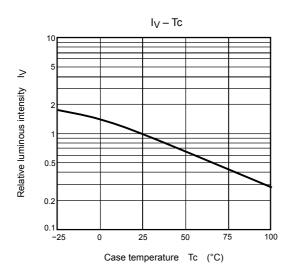
# TOSHIBA

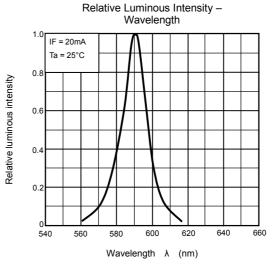
TLYU114P





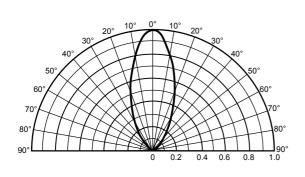
Forward current IF (mA)

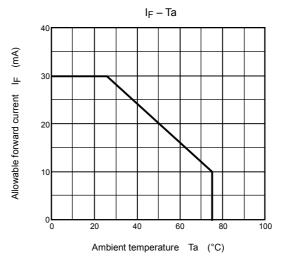




Radiation Pattern

Ta = 25°C





#### **RESTRICTIONS ON PRODUCT USE**

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  In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..
- The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.
- Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.
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