

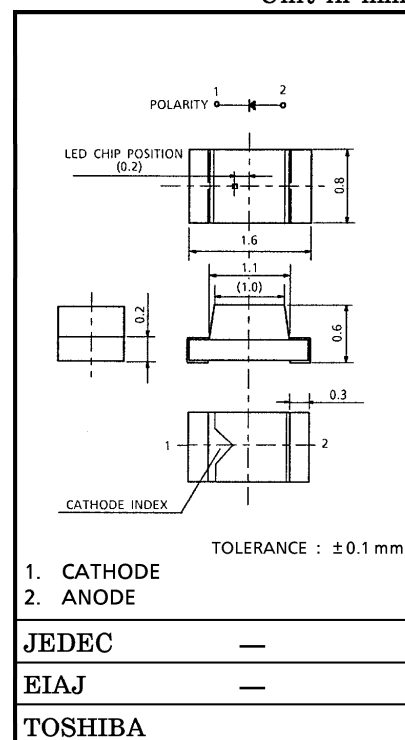
TOSHIBA LED LAMP

TLSU1008 (T04), TLOU1008 (T04), TLAU1008 (T04) TLYU1008 (T04), TLGU1008 (T04), TLPGU1008 (T04)

PANEL CIRCUIT INDICATOR

Unit in mm

- Surface Mount Device
TL□ 1008 (T04) Series
- 1.6 (L) × 0.8 (W) × 0.6 (H) mm Size
Small Package : High Density Mounting is Available
- Milky Diffused Lens
- InGaAlP LED
- High Power Luminous Intensity
- Low Drive Current, High Intensity Light Emission
- Fast Response Time, Capable of Pulse Operation
- Available of Automounting Machine Use
- Reflow Soldering is Applicable
- Standard Embossed Taping
4 mm Pitch : T04 (4000 pcs / Reel)
- Applications : Telephone Cordless / Cellular Portable
Equipment, Backlight, etc.



Weight : 1.3 mg

LINE-UP

PRODUCT NAME	COLOR	MATERIAL
TLSU1008	Red	InGaAlP
TLOU1008	Orange	InGaAlP
TLAU1008	Amber	InGaAlP
TLYU1008	Yellow	InGaAlP
TLGU1008	Green	InGaAlP
TLPGU1008	Pure Green	InGaAlP

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1999-07-14 1/17

MAXIMUM RATINGS (Ta = 25°C)

PRODUCT NAME	FORWARD CURRENT I _F (mA)	REVERSE VOLTAGE V _R (V)	POWER DISSIPATION P _D (mW)	OPERATING TEMPERATURE T _{opr} (°C)	STORAGE TEMPERATURE T _{stg} (°C)
TLSU1008	25	4	60.0	-25~80	-30~85
TLOU1008	25	4	60.0		
TLAU1008	25	4	62.5		
TLYU1008	25	4	62.5		
TLGU1008	25	4	70.0		
TLPGU1008	25	4	70.0		

ELECTRO CHARACTERISTICS (Ta = 25°C)

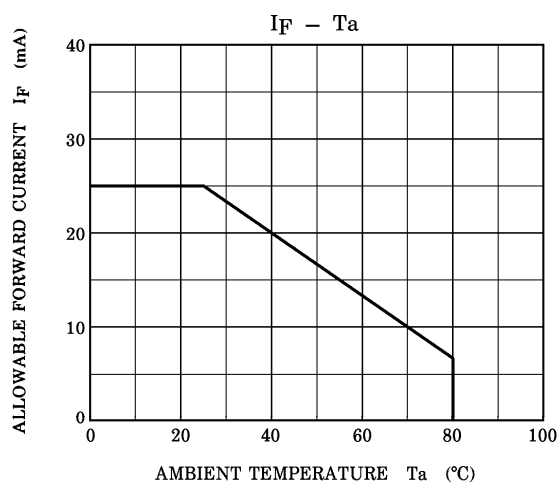
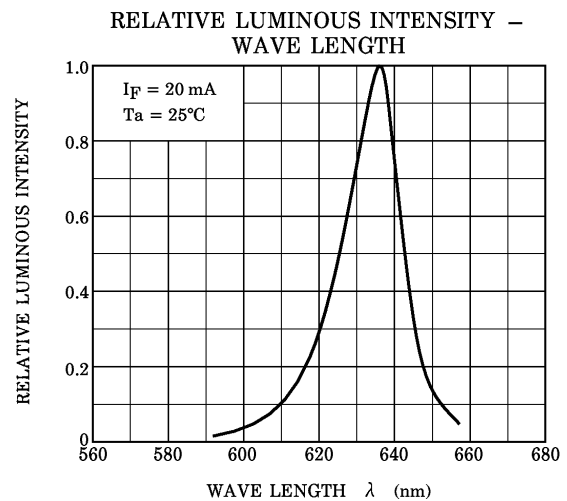
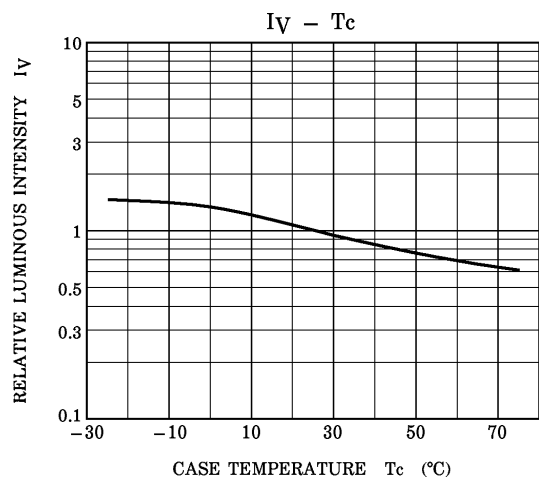
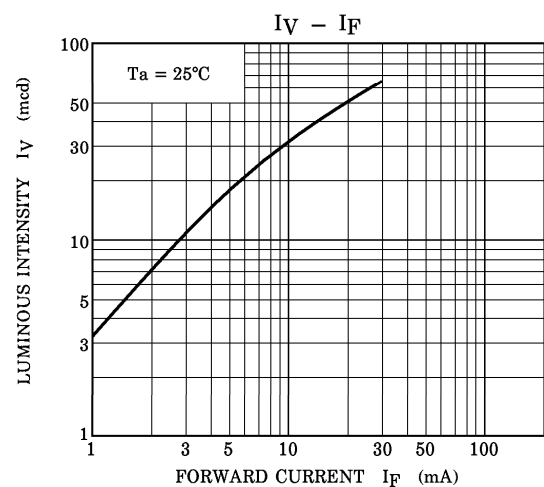
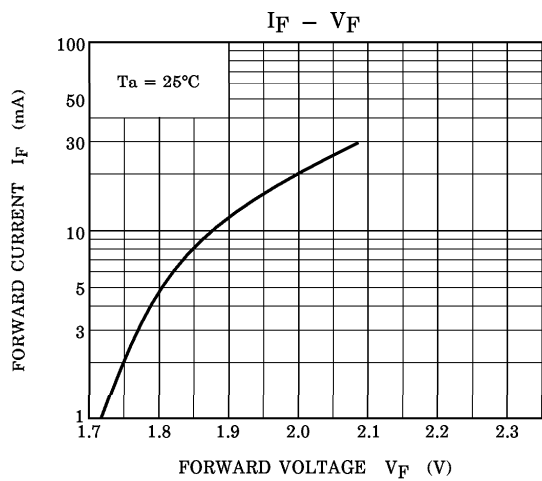
PRODUCT NAME	FORWARD VOLTAGE V _F				REVERSE CURRENT I _R	
	MIN.	TYP.	MAX.	I _F	MAX.	V _R
TLSU1008	—	2.0	2.4	20	50	4
TLOU1008	—	2.0	2.4	20	50	4
TLAU1008	—	2.1	2.5	20	50	4
TLYU1008	—	2.1	2.5	20	50	4
TLGU1008	—	2.4	2.8	20	50	4
TLPGU1008	—	2.3	2.8	20	50	4
Unit	V			mA	μA	V

OPTICAL CHARACTERISTICS (Ta = 25°C)

PRODUCT NAME	LUMINOUS INTENSITY I _v			
	MIN.	TYP.	MAX.	I _F
TLSU1008	15.3	55	—	20
TLOU1008	27.2	78	—	20
TLAU1008	8.50	24	—	20
TLYU1008	8.50	24	—	20
TLGU1008	8.50	29	—	20
TLPGU1008	1.53	6	—	20
Unit	mcd			mA

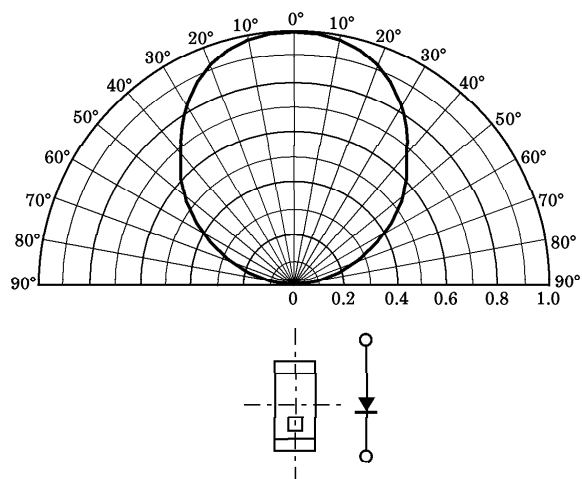
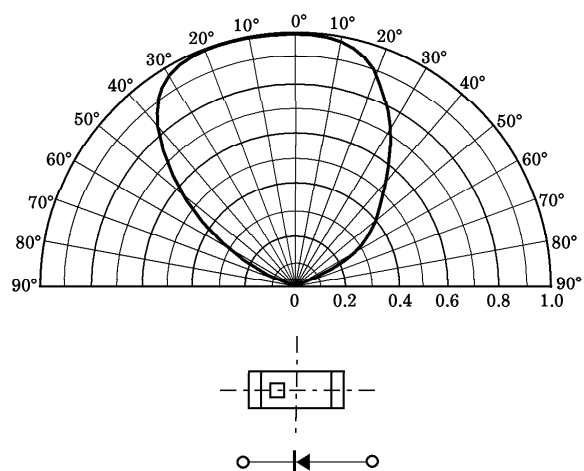
PRODUCT NAME	EMISSION SPECTRUM							
	Peak Emission Wavelength λ _p			Δλ TYP.	Dominant Wavelength λ _d			I _F
	MIN.	TYP.	MAX.		MIN.	TYP.	MAX.	
TLSU1008	—	636	—	17	—	623	—	20
TLOU1008	—	612	—	15	—	605	—	20
TLAU1008	—	596	—	13	—	592	—	20
TLYU1008	—	590	—	13	—	587	—	20
TLGU1008	—	574	—	11	—	571	—	20
TLPGU1008	—	562	—	11	—	558	—	20
UNIT	nm			nm	nm			mA

TLSU1008-1

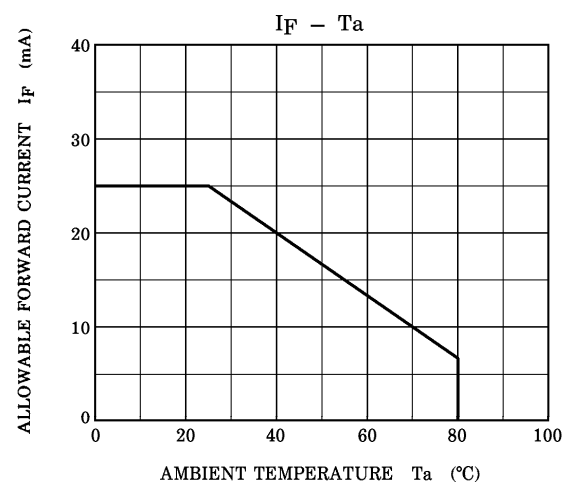
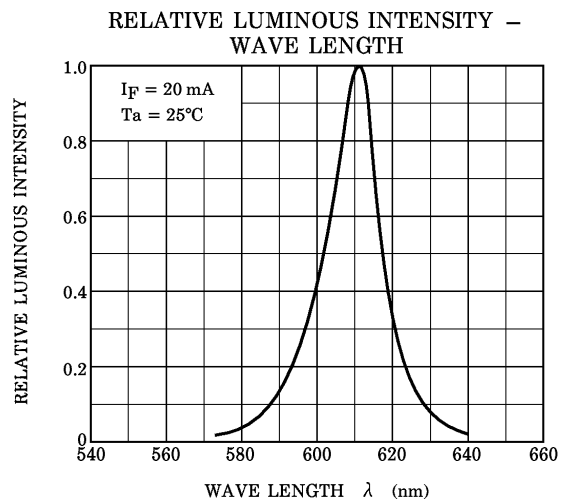
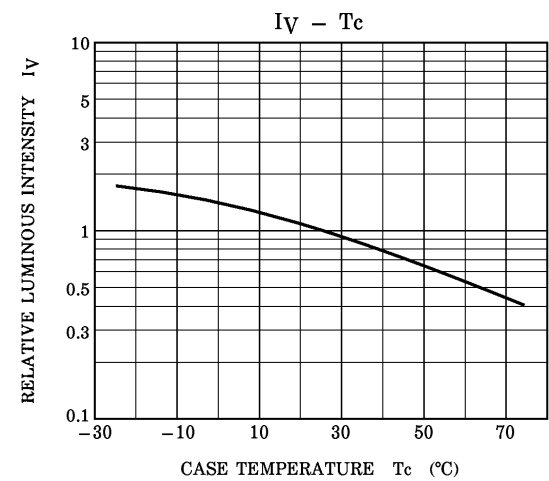
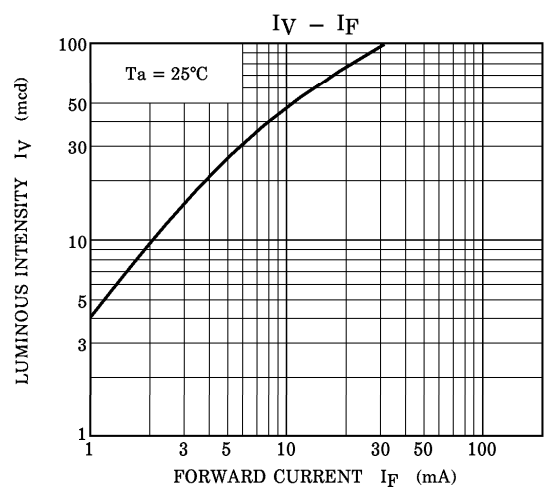
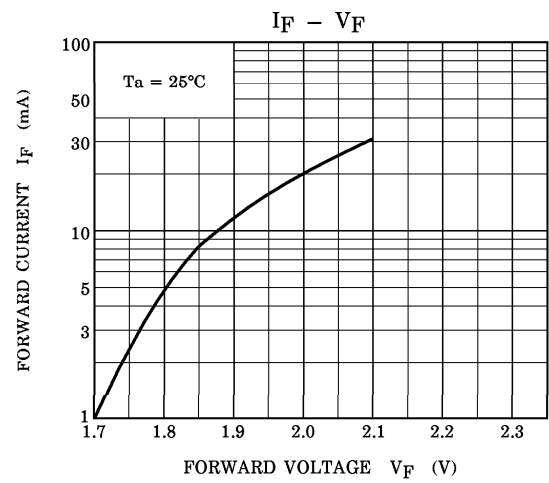


TLSU1008-2
[RADIATION PATTERN]

T_a = 25°C

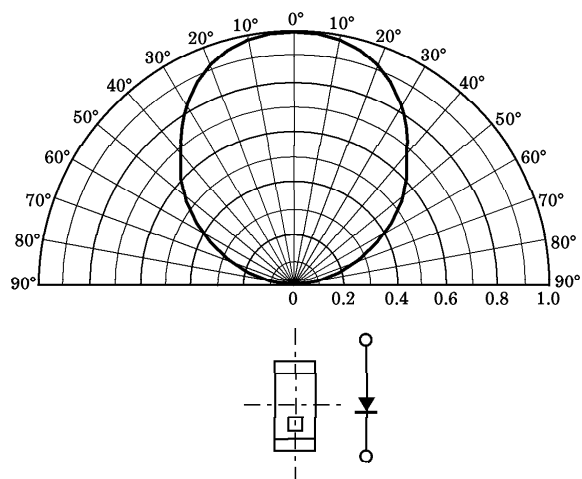
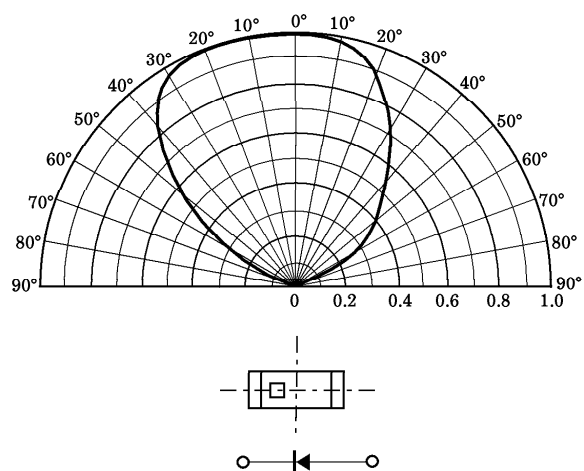


TLOU1008-1

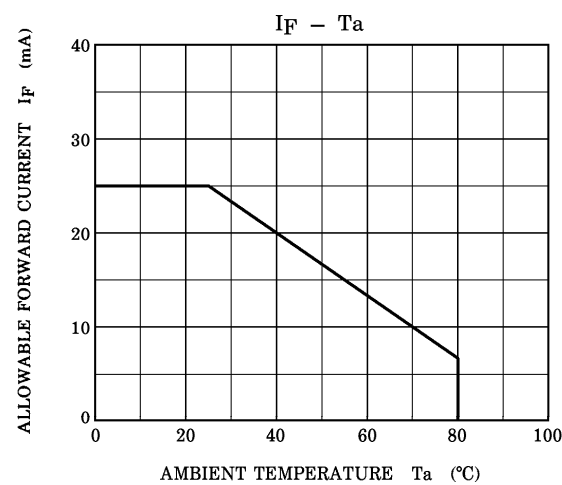
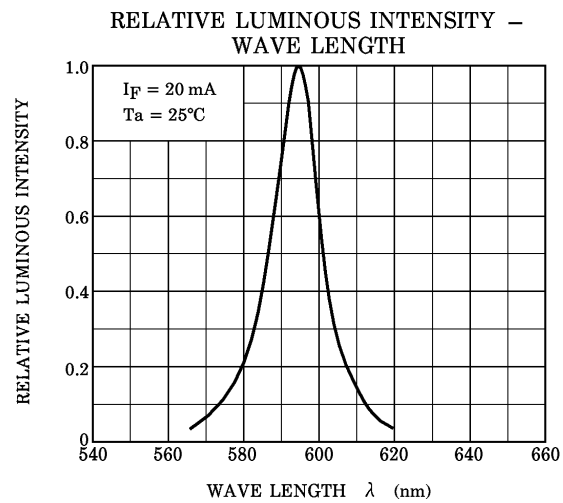
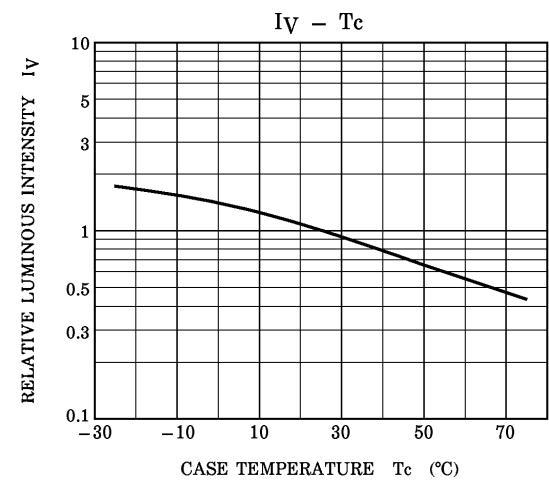
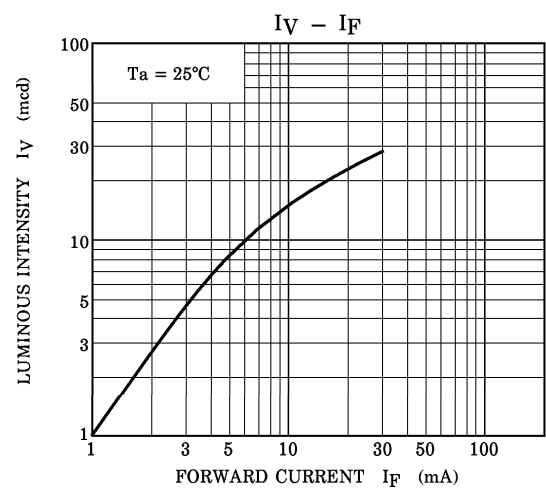
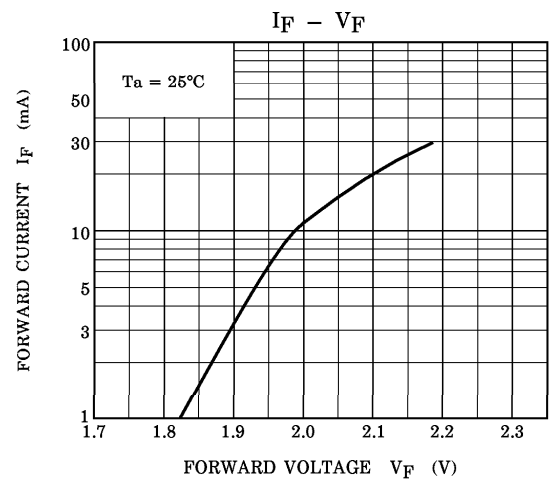


TLOU1008-2
[RADIATION PATTERN]

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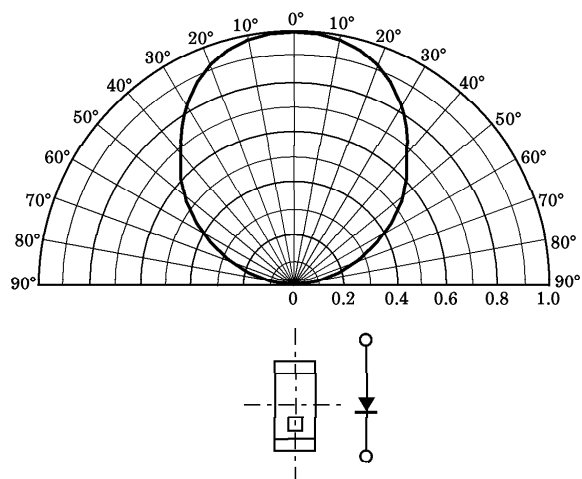
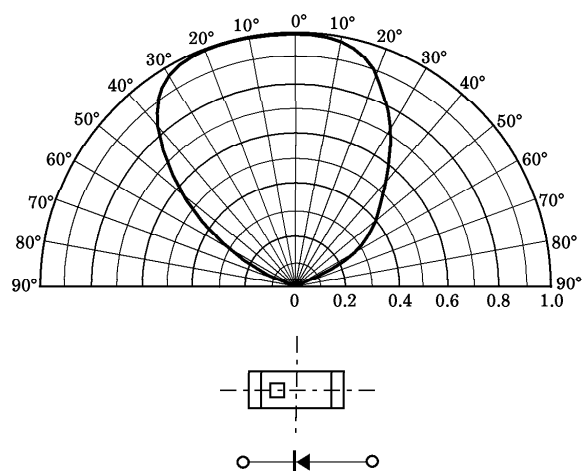


TLAU1008-1

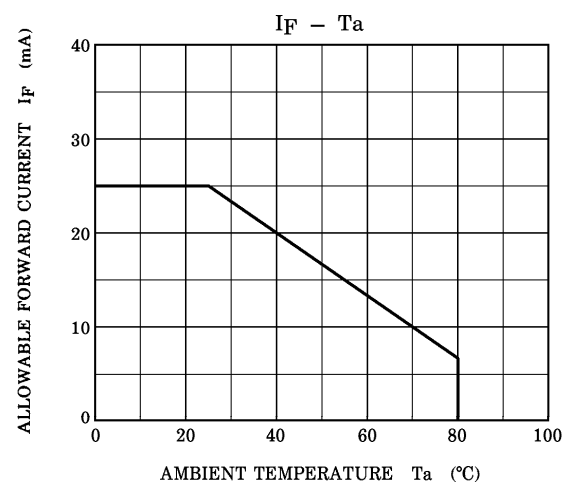
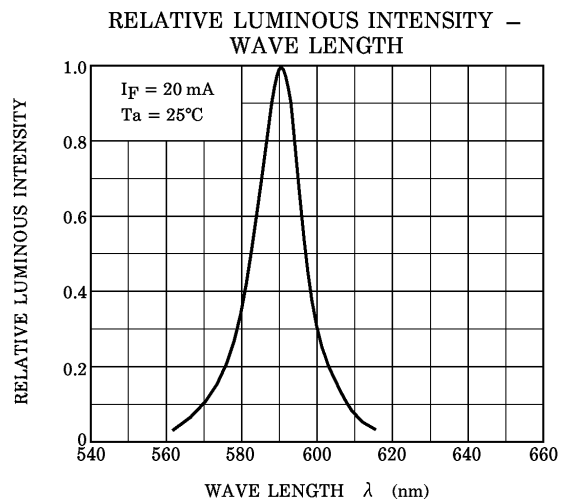
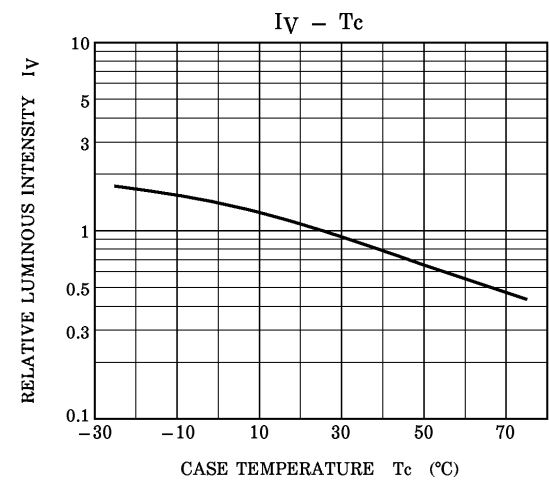
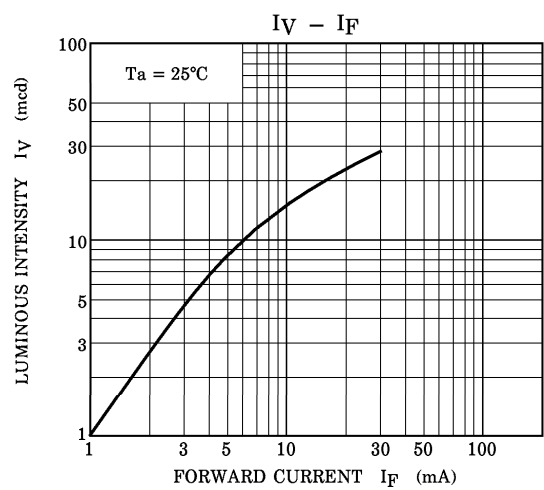
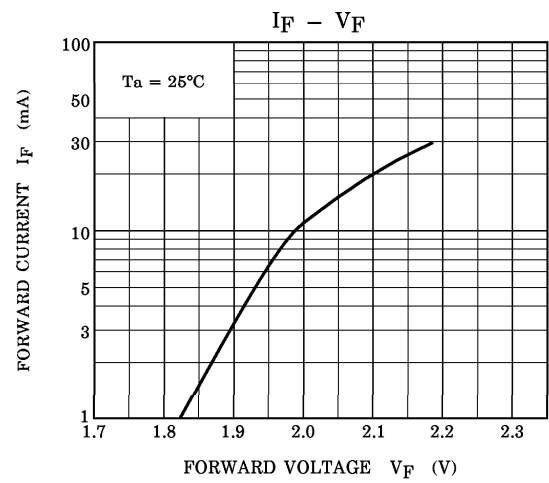


TLAU1008-2
[RADIATION PATTERN]

$T_a = 25^\circ\text{C}$

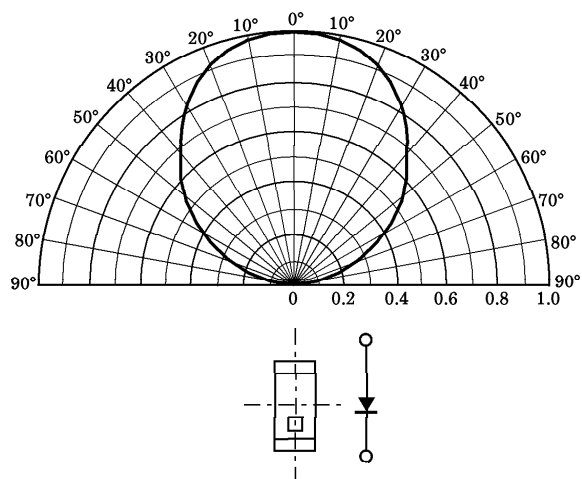
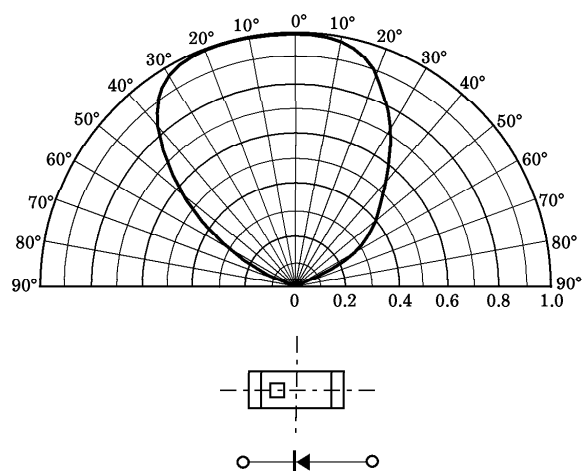


TLYU1008-1

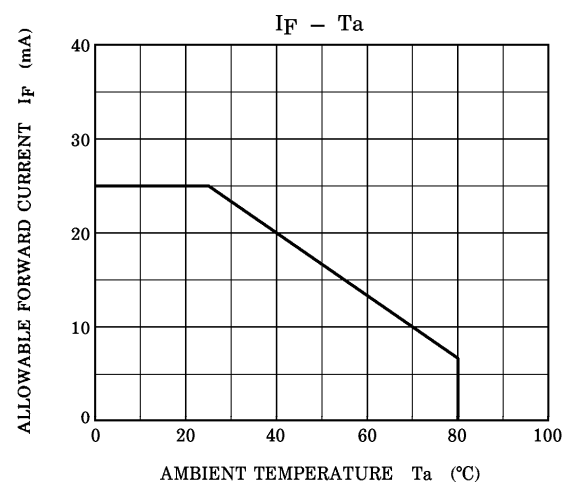
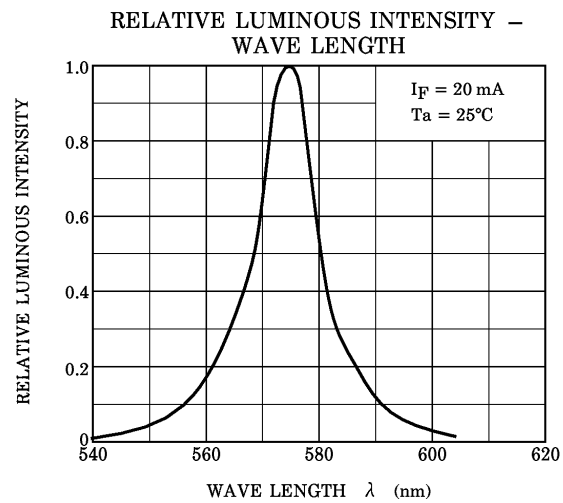
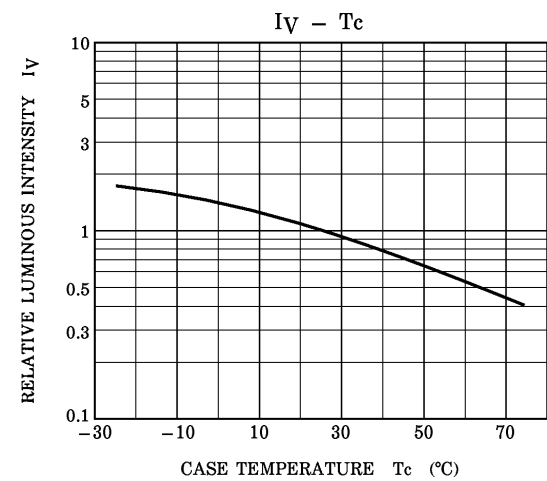
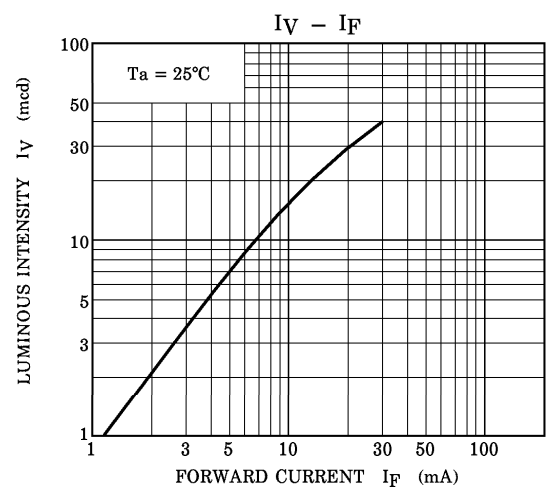
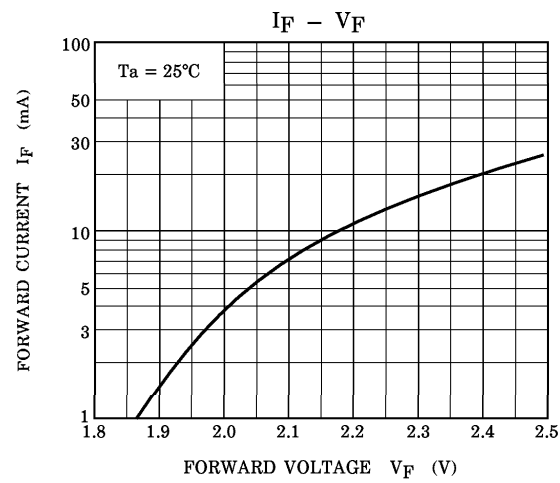


TLYU1008-2
[RADIATION PATTERN]

T_a = 25°C

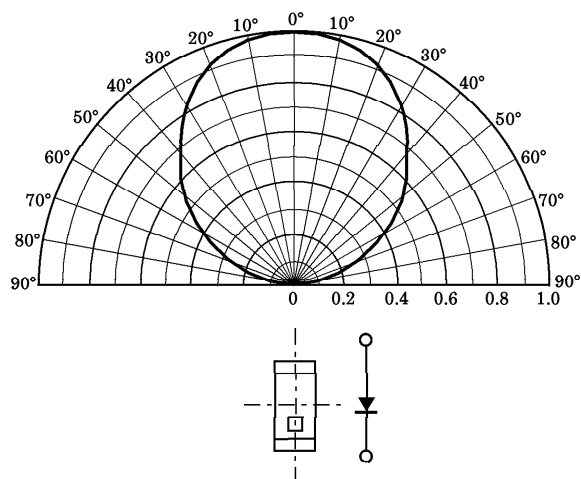
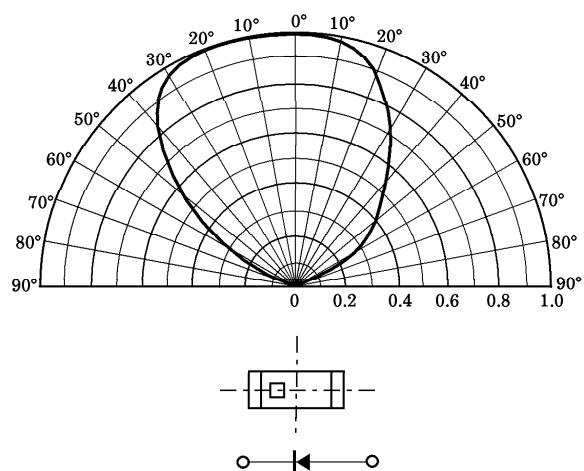


TLGU1008-1

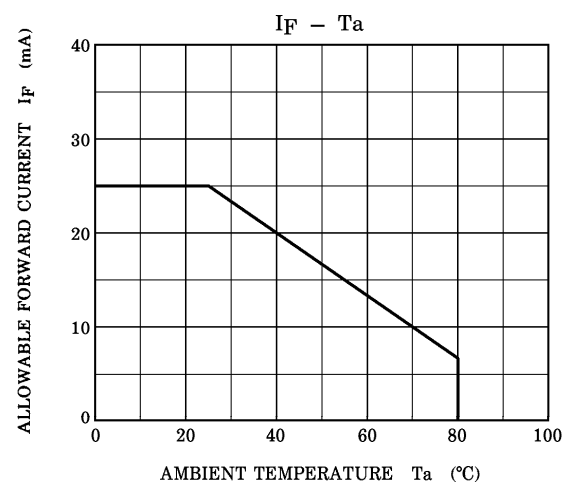
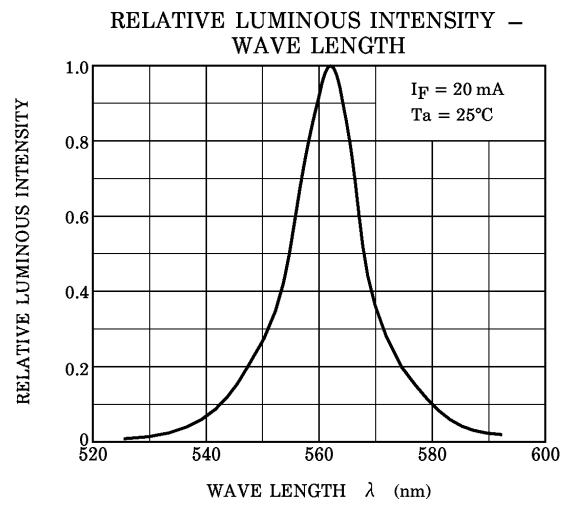
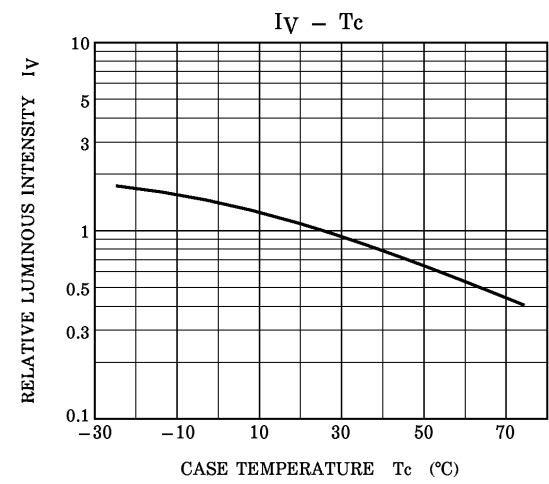
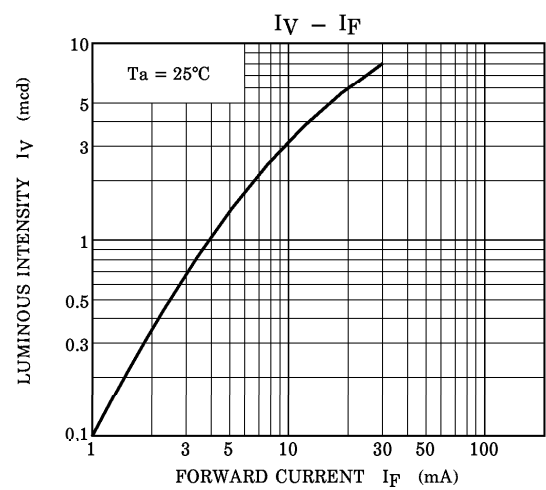
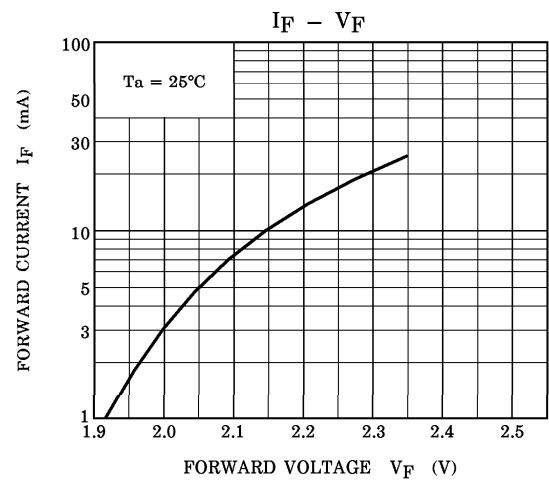


TLGU1008-2
[RADIATION PATTERN]

T_a = 25°C

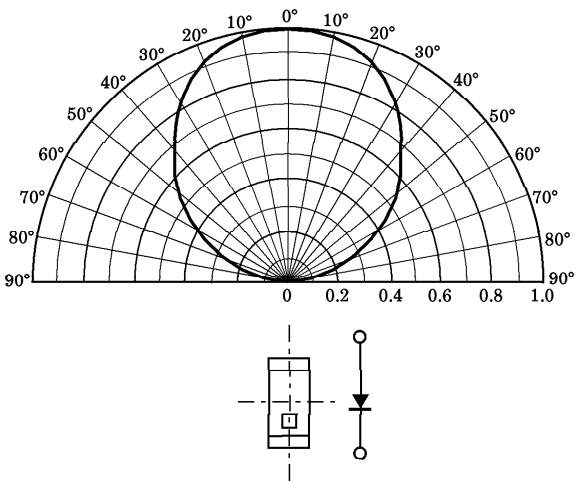
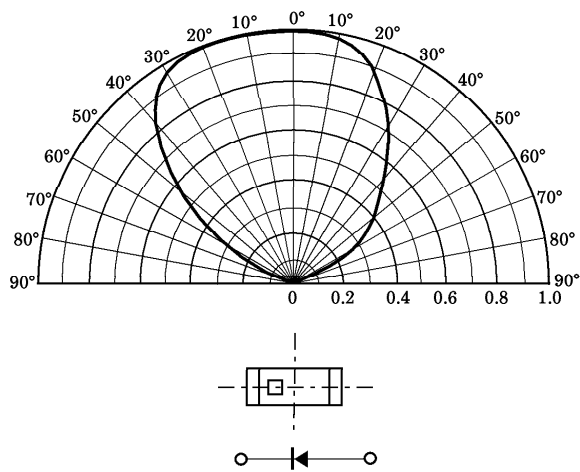


TLPGU1008-1



TLPGU1008-2
[RADIATION PATTERN]

Ta = 25°C



PACKAGING

This LED device are packed in an aluminum envelope with silica-gel to avoid moisture absorption. The optical characteristics may be affected by exposure to moisture in the air prior to soldering and storage at the following condition is recommended.

Temperature : 5~30°C
Relative Humidity : 60% Maximum

Baking is required if the device have been stored unopened for more than 6 months or if the aluminum envelope has been opened for more than 168 hours.

Recommended baking condition is 60°C for 12 hours minimum in the dry atmosphere.

PRECAUTION FOR MOUNTING

Do not apply force to the plastic part of the LED in high temperature conditions.

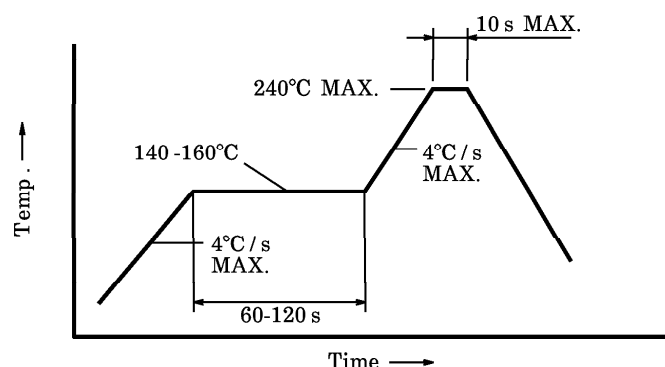
Do not apply friction using a hard materials for avoid injuring the plastic part of the LED.

Keep the LED away from any other parts when assembling boards into the set.

SOLDERING

- Reflow soldering

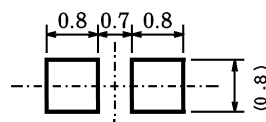
Temperature profile



- Recommended for manual soldering

Soldering iron : Less than 25 W
Temperature : Lower than 300°C
Time : Within 3 seconds

- Recommended soldering pattern



Unit in mm

POST SOLDER CLEANING

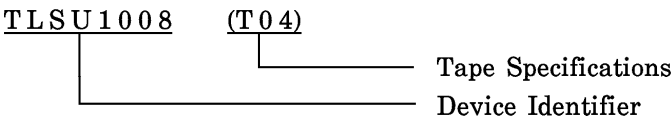
When cleaning after soldering is needed, the following condition must be adhered to.

Cleaning solvents : AK225 or Alcohol
Temperature : 50°C (112°F) max. for 30 seconds or 30°C (86°F) max. for 3 minutes max.
Ultrasonic : 300 W max.

TAPING SPECIFICATIONS

1. Taping number

- (1) Name : T04
- (2) Example



2. Work environment

- In process, taping materials may sustain an electrostatic charge, use an ionizer to neutralize the ions.
- For transport and temporary storage of devices, use containers (boxes, jigs, bags) that are made of anti-static materials or of materials that dissipate electrostatic electricity.

3. Loaded quantity per reel

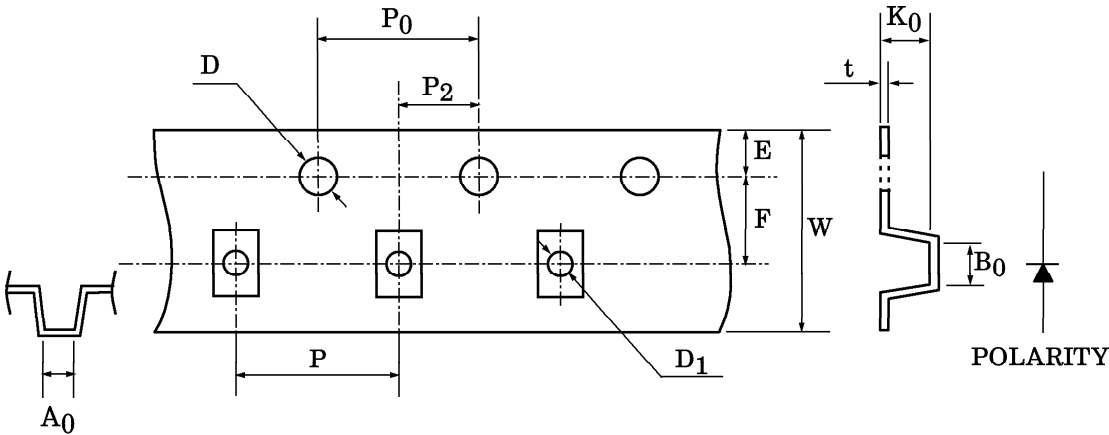
Reel	4000 pcs
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4. Dimensions of tape

T04 Specifications (4 mm pitch)

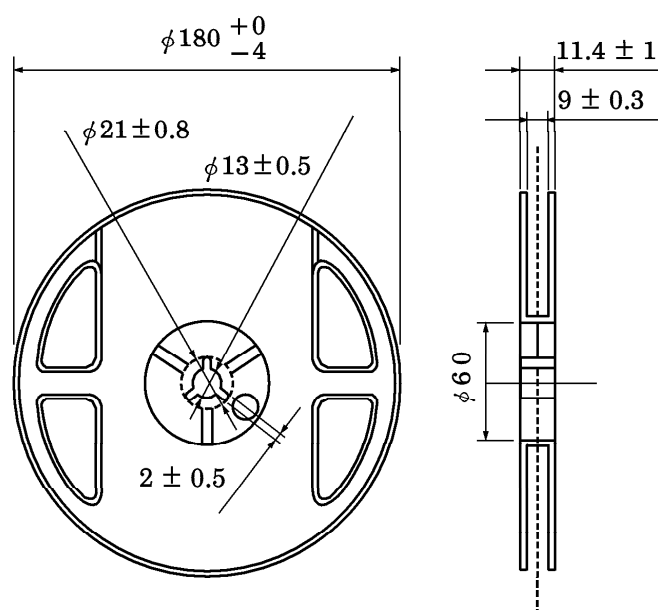
(Unit in mm)

SYMBOL	DIMENSION	TOLERANCE	SYMBOL	DIMENSION	TOLERANCE
D	1.50	+0.1 / -0	P ₂	2.00	±0.05
E	1.75	±0.1	W	8.00	±0.1
P ₀	4.00	±0.1	P	4.00	±0.1
t	0.20	±0.05	A ₀	0.90	±0.1
F	3.50	±0.05	B ₀	1.75	±0.1
D ₁	0.60	±0.05	K ₀	0.75	±0.1



5. Dimensions of reel

Unit in mm



6. Leading part

