

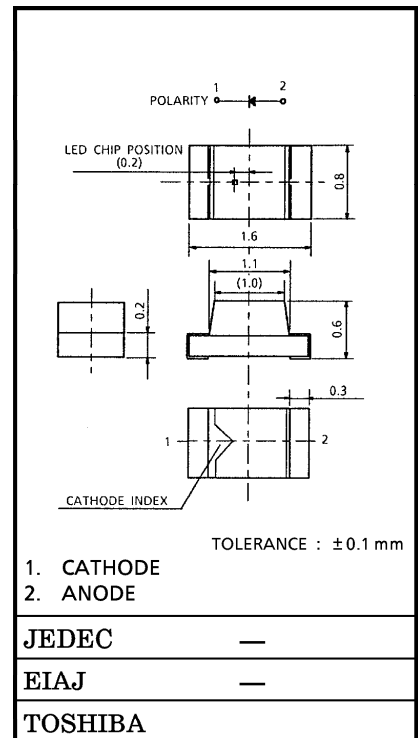
TOSHIBA LED LAMP

**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 <sub>F</sub> (mA)	REVERSE VOLTAGE V <sub>R</sub> (V)	POWER DISSIPATION P <sub>D</sub> (mW)	OPERATING TEMPERATURE T <sub>opr</sub> (°C)	STORAGE TEMPERATURE T <sub>stg</sub> (°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)

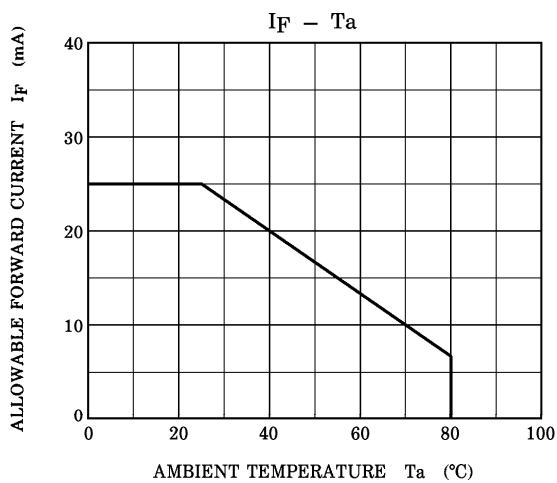
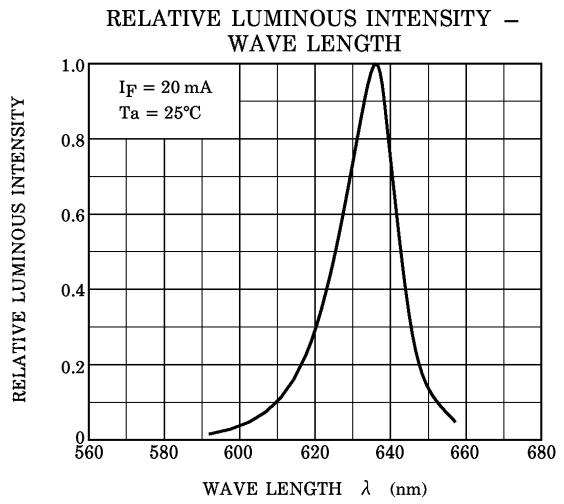
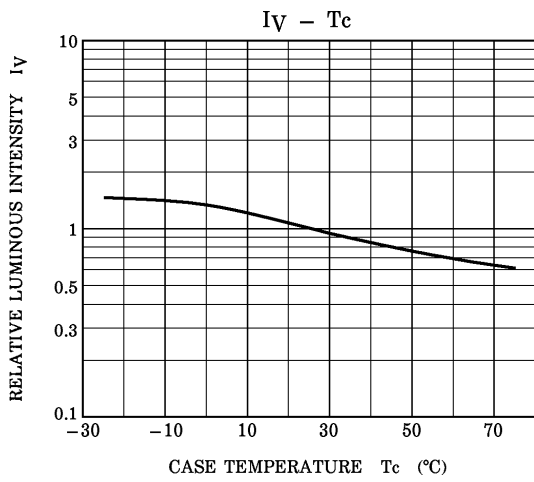
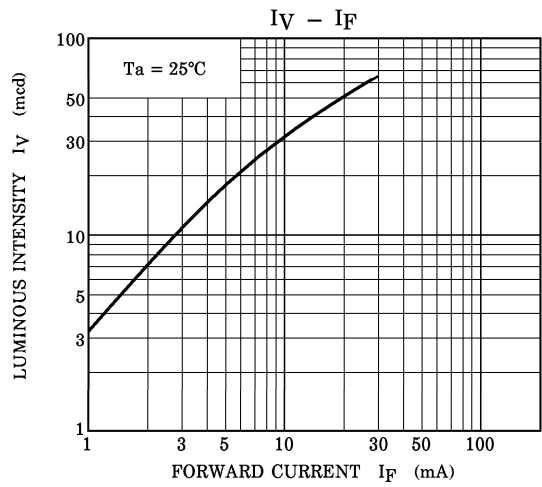
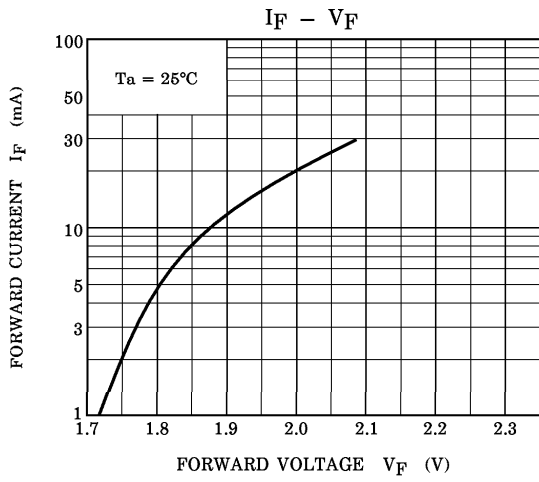
PRODUCT NAME	FORWARD VOLTAGE V <sub>F</sub>				REVERSE CURRENT I <sub>R</sub>	
	MIN.	TYP.	MAX.	I <sub>F</sub>	MAX.	V <sub>R</sub>
TLSU1008	—	2.0	2.4	20	50	4
TLOU1008	—	2.0	2.4	20	50	4
TLAU1008	—	2.1	2.5	20	50	4
TLYU1008	—	2.1	2.5	20	50	4
TLGU1008	—	2.4	2.8	20	50	4
TLPGU1008	—	2.3	2.8	20	50	4
Unit	V			mA	μA	V

OPTICAL CHARACTERISTICS (Ta = 25°C)

PRODUCT NAME	LUMINOUS INTENSITY I <sub>v</sub>			
	MIN.	TYP.	MAX.	I <sub>F</sub>
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

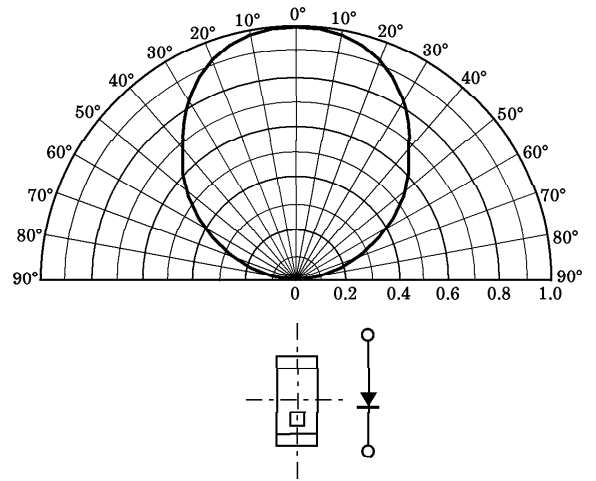
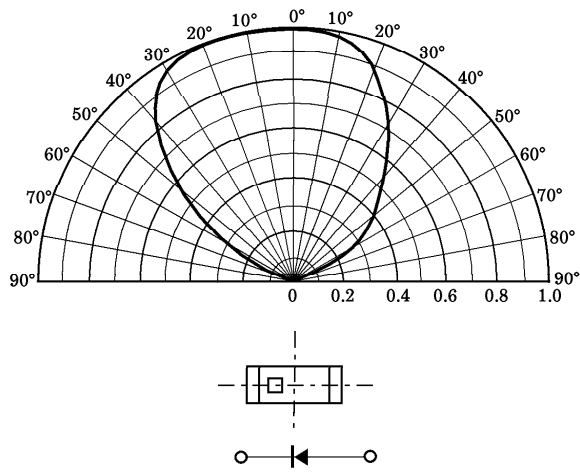
PRODUCT NAME	EMISSION SPECTRUM							I <sub>F</sub>
	Peak Emission Wavelength λ <sub>p</sub>			Δλ TYP.	Dominant Wavelength λ <sub>d</sub>			
	MIN.	TYP.	MAX.		MIN.	TYP.	MAX.	
TLSU1008	—	636	—	17	—	623	—	20
TLOU1008	—	612	—	15	—	605	—	20
TLAU1008	—	596	—	13	—	592	—	20
TLYU1008	—	590	—	13	—	587	—	20
TLGU1008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

TL SU1008-1

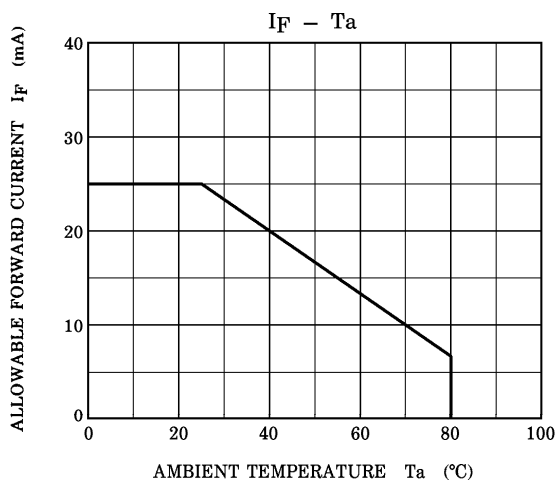
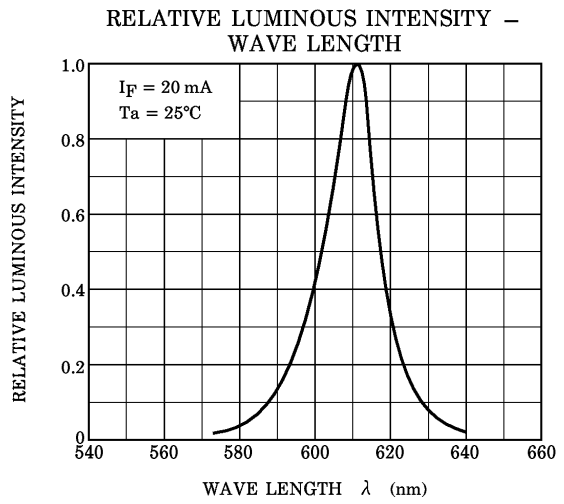
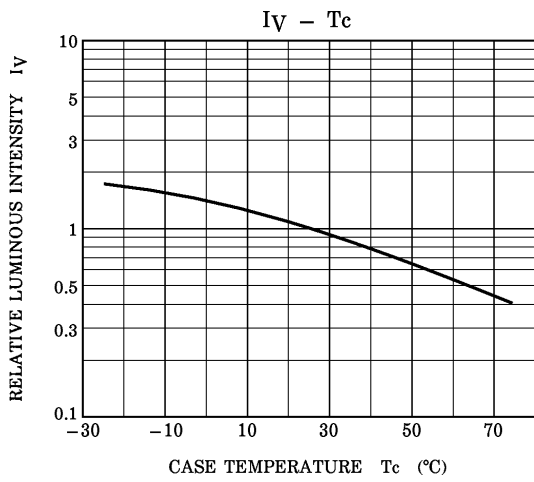
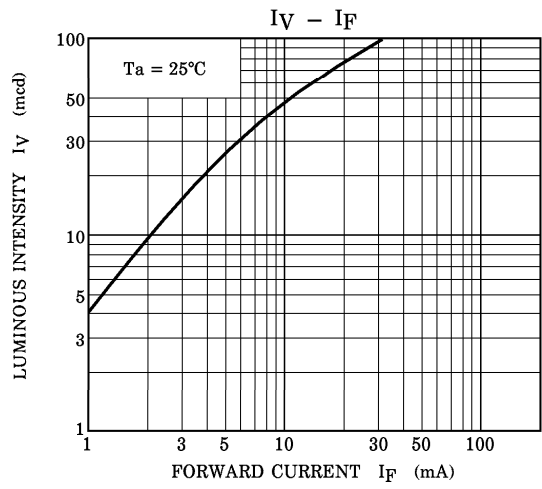
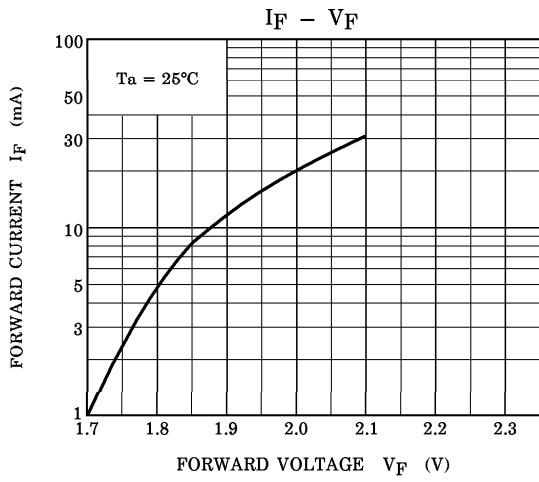


TLSU1008-2  
[RADIATION PATTERN]

Ta = 25°C

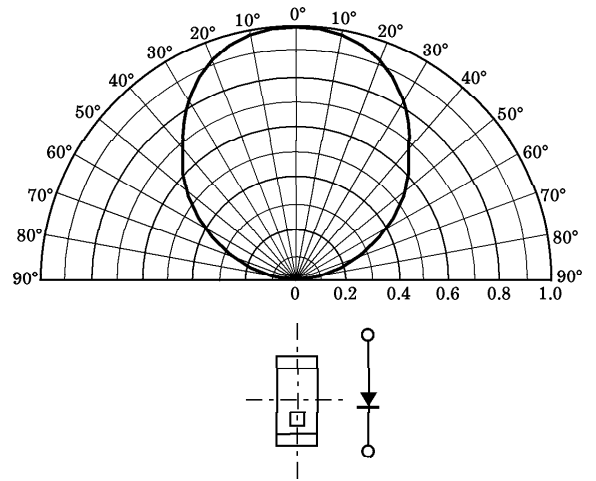
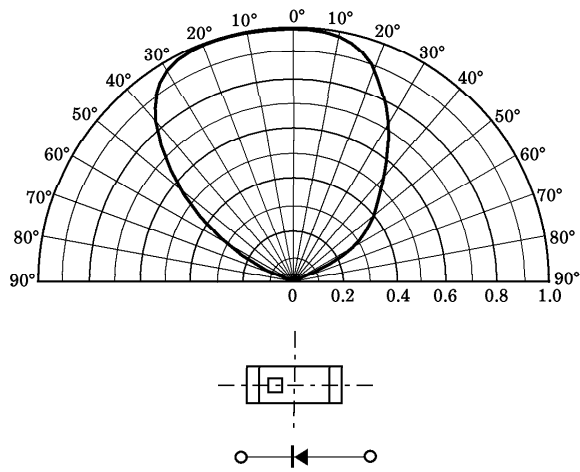


TLOU1008-1

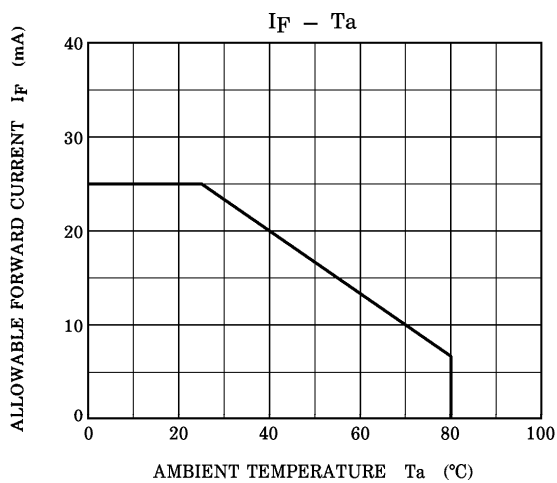
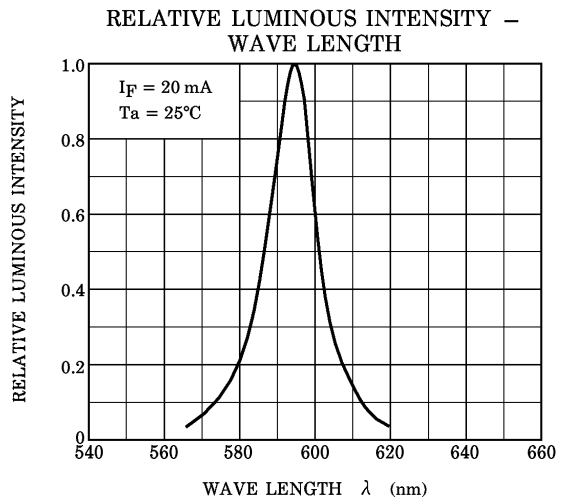
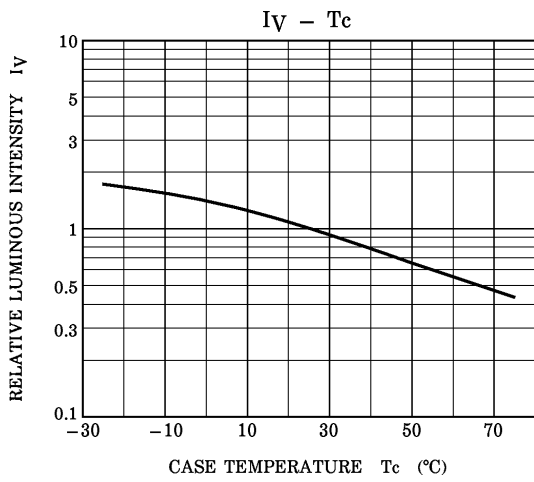
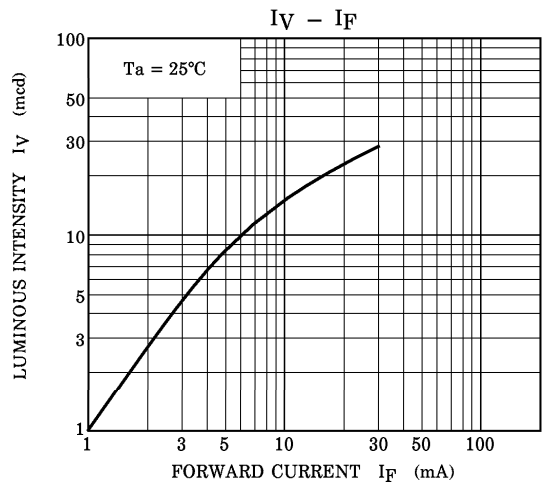
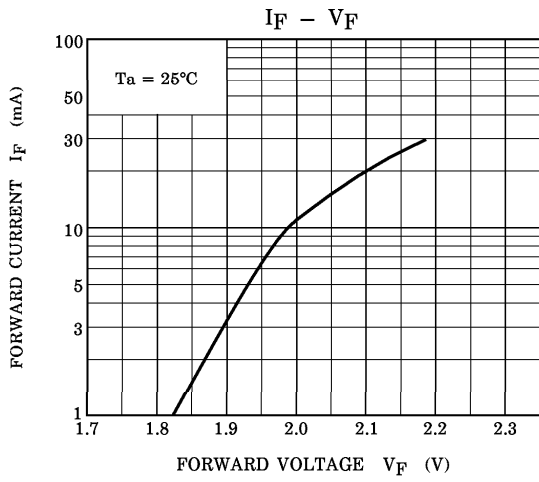


TLOU1008-2  
[RADIATION PATTERN]

Ta = 25°C

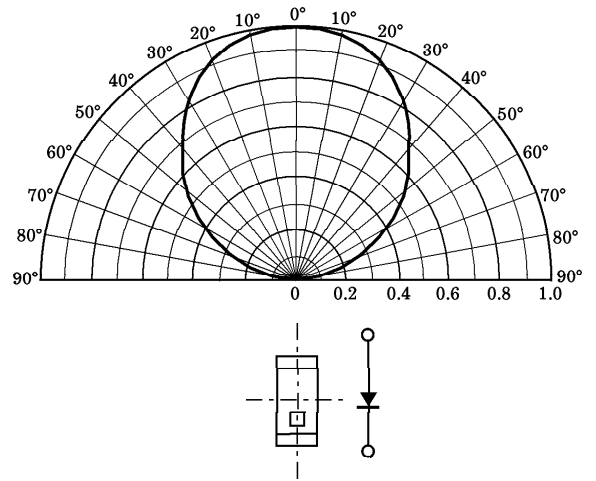
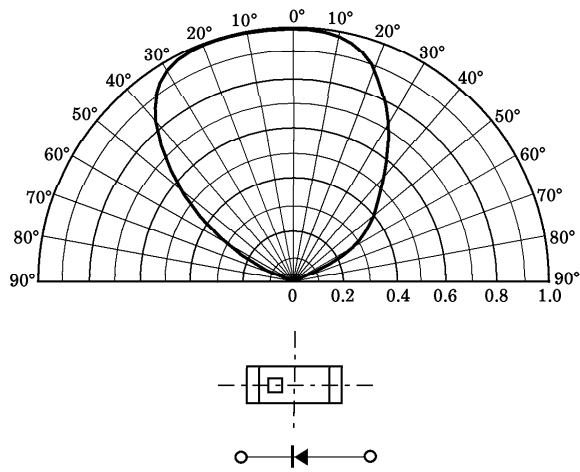


TLAU1008-1



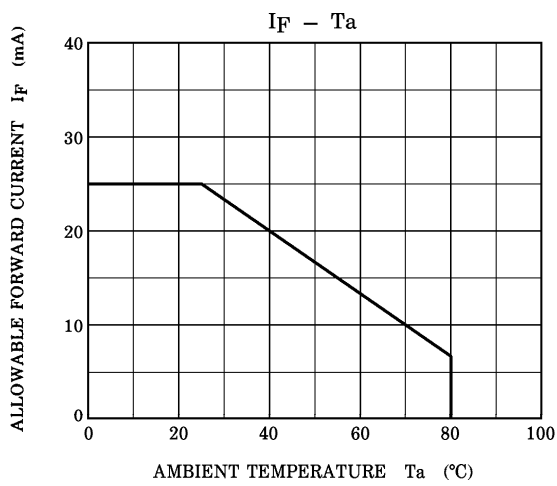
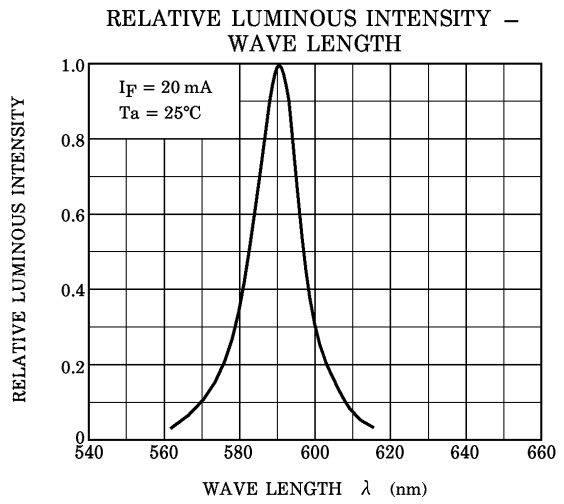
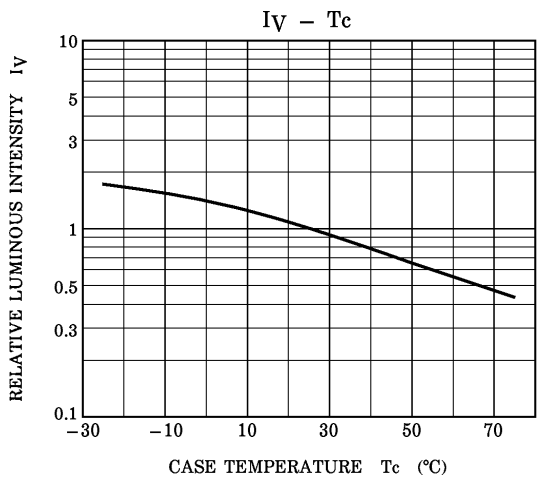
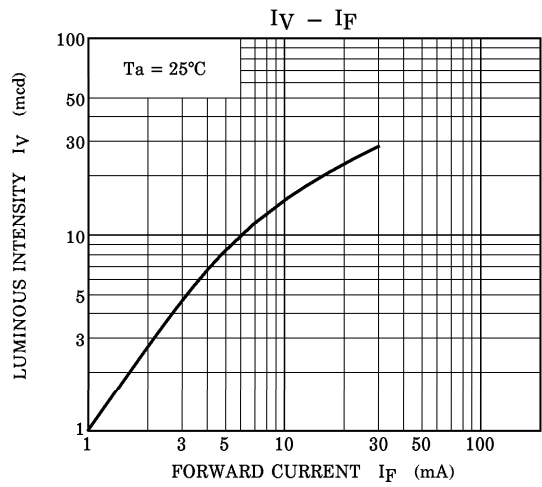
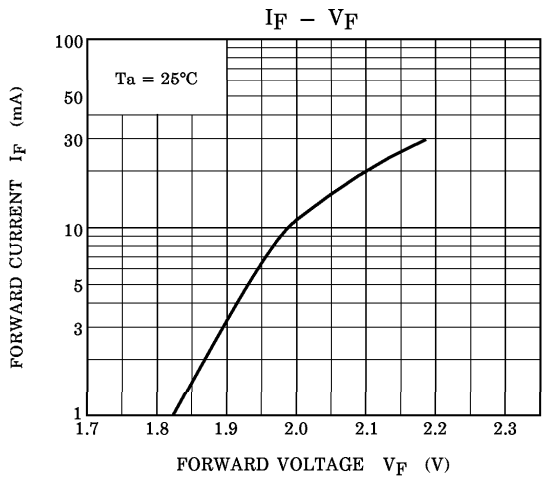
TLAU1008-2  
[RADIATION PATTERN]

Ta = 25°C



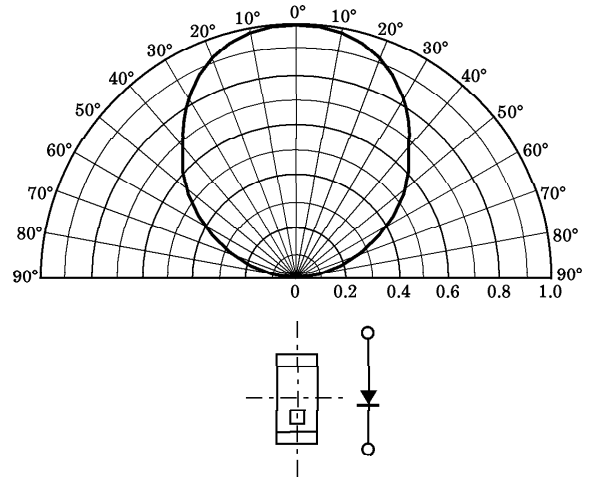
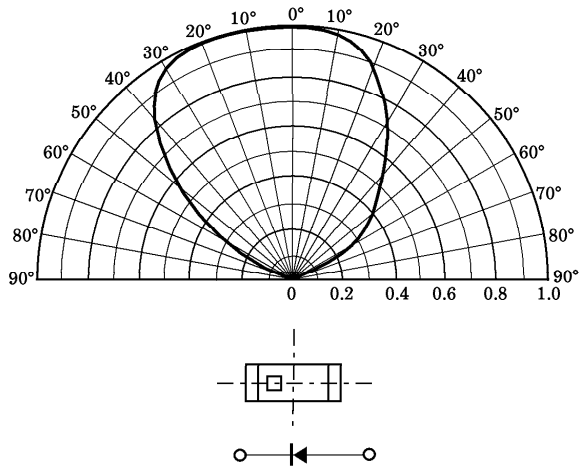


TLYU1008-1

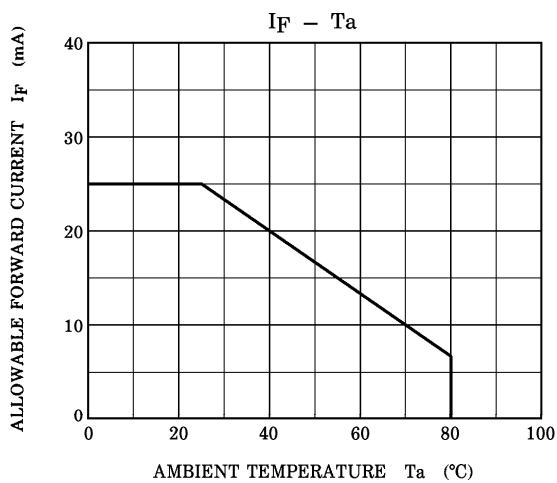
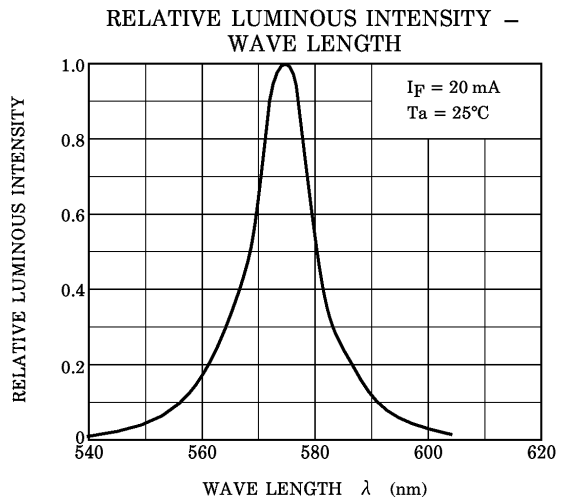
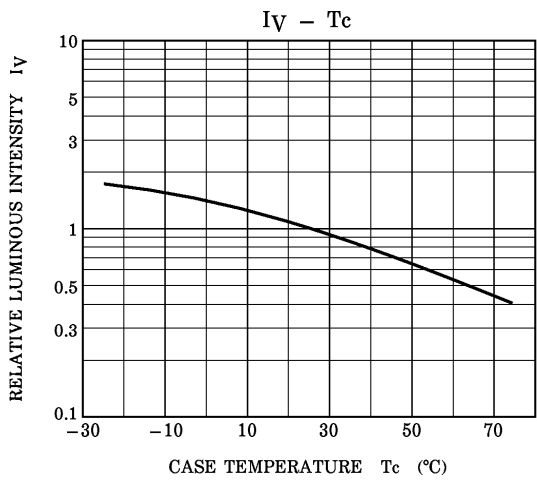
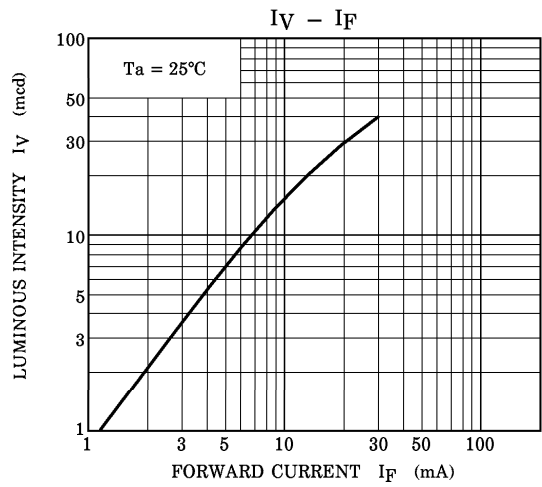
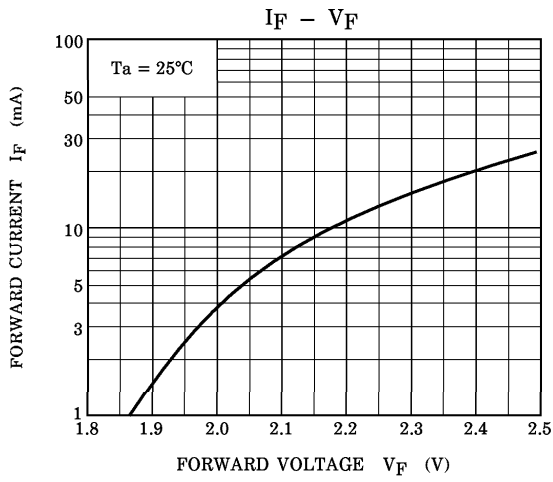


TLYU1008-2  
[RADIATION PATTERN]

Ta = 25°C

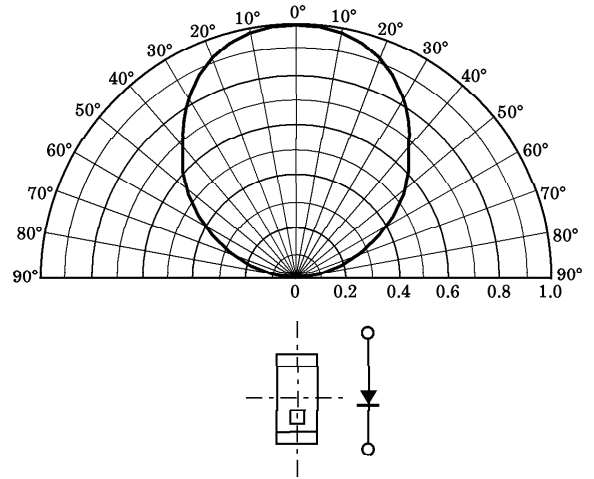
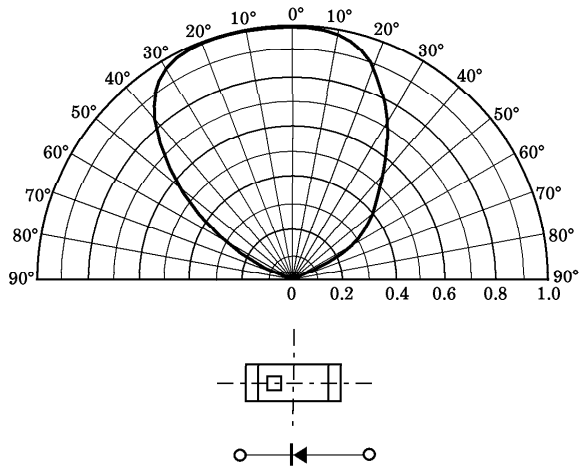


TLGU1008-1

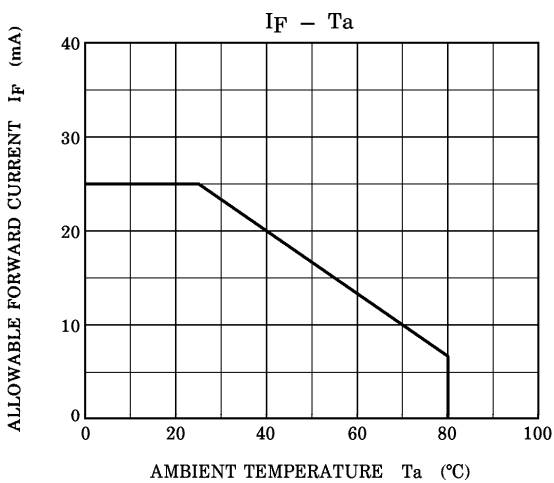
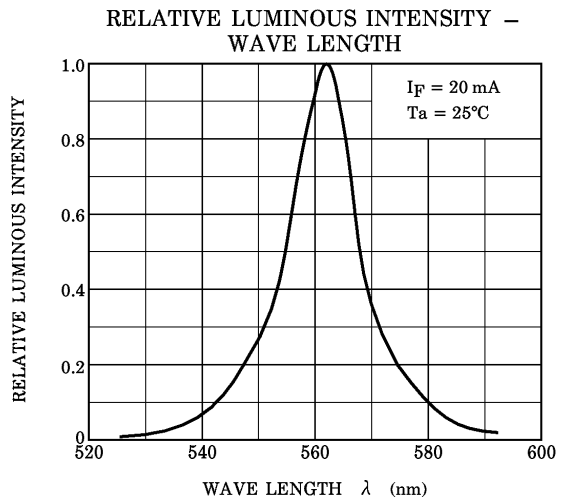
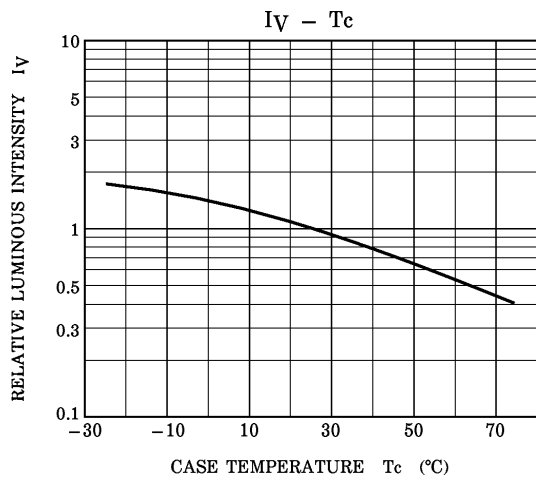
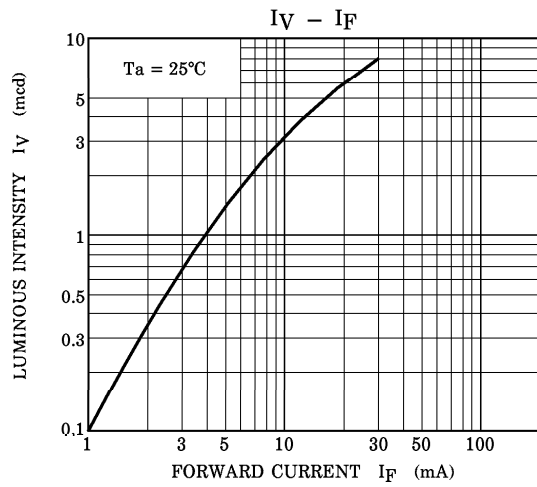
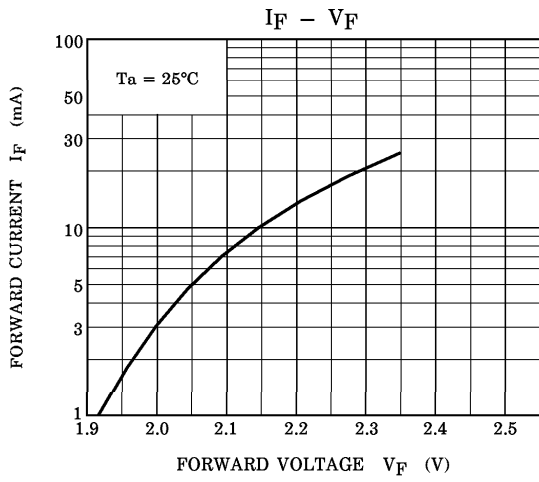


TLGU1008-2  
[RADIATION PATTERN]

Ta = 25°C

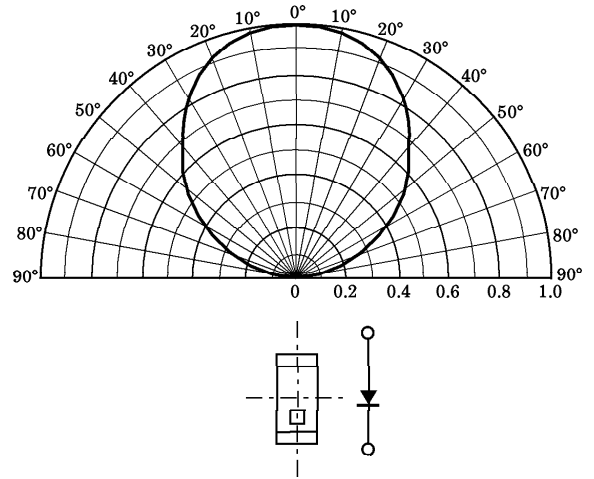
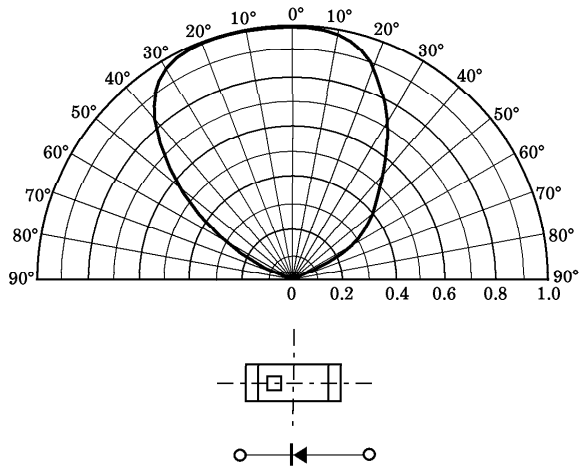


TLPGU1008-1



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.

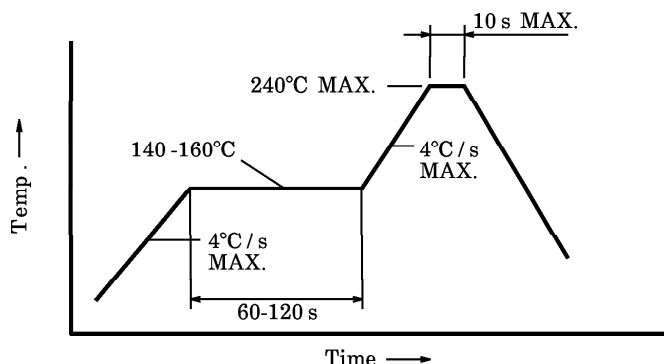
**PRECAUTION FOR MOUNTING**

- 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

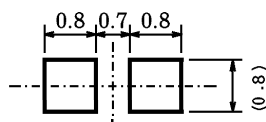
Temperature profile



- 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.

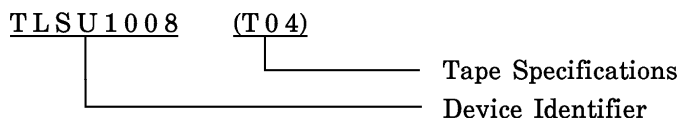
- Cleaning solvents : AK225 or Alcohol
- Temperature : 50°C (112°F) max. for 30 seconds or 30°C (86°F) max. for 3 minutes max.
- Ultrasonic : 300 W max.

**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

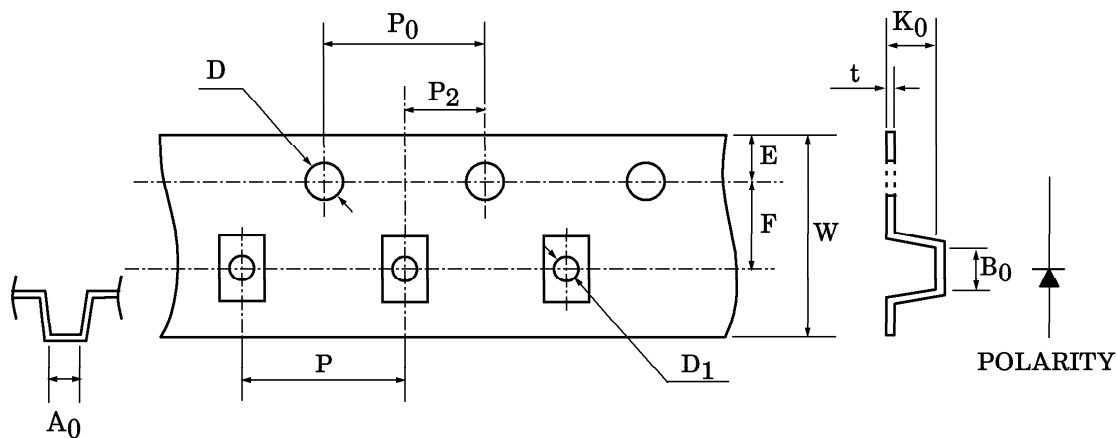
Reel	4000 pcs
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4. Dimensions of tape

T04 Specifications (4 mm pitch)

(Unit in mm)

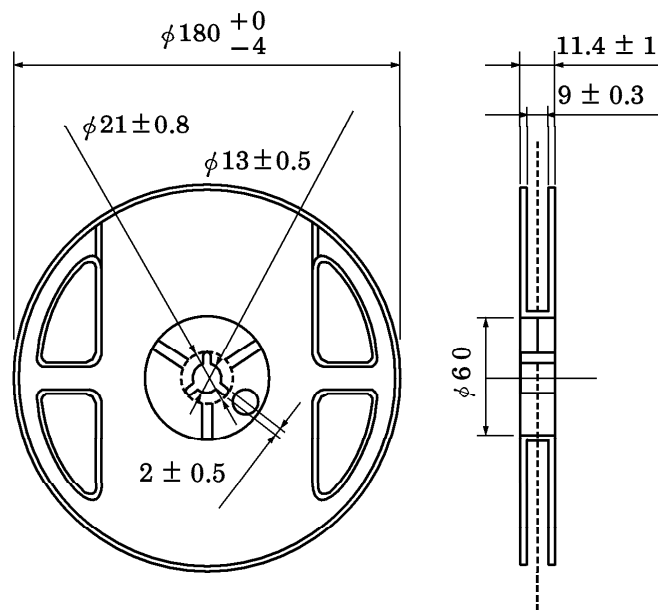
SYMBOL	DIMENSION	TOLERANCE	SYMBOL	DIMENSION	TOLERANCE
D	1.50	+0.1 / -0	P <sub>2</sub>	2.00	±0.05
E	1.75	±0.1	W	8.00	±0.1
P <sub>0</sub>	4.00	±0.1	P	4.00	±0.1
t	0.20	±0.05	A <sub>0</sub>	0.90	±0.1
F	3.50	±0.05	B <sub>0</sub>	1.75	±0.1
D <sub>1</sub>	0.60	±0.05	K <sub>0</sub>	0.75	±0.1





5. Dimensions of reel

Unit in mm



6. Leading part

