

## TOSHIBA LED LAMP

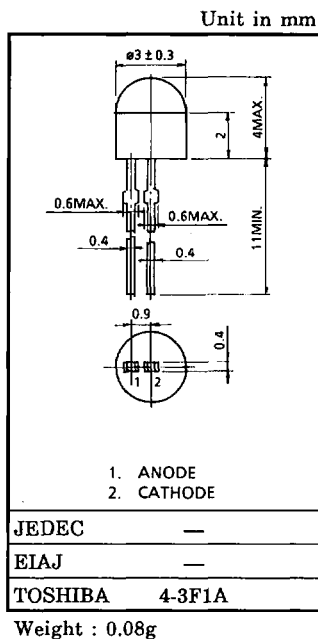
TLG102A, TLG108A, TLO102A, TLO108A  
TLR102A, TLR108A, TLR109A, TLS108A  
TLS109A, TLY102A, TLY108A

### PANEL CIRCUIT INDICATOR

- Resin Stem Type
  - TL□ 102A : Colored Lusterless Lens
  - TL□ 108A : Colored Transparent Lens
  - TL□ 109A : Milky Lusterless Lens
- Low Drive Current, High Intensity Light Emission.
  - Recommended Forward Current :  $I_F = 5 \sim 10 \text{mA}$  (DC)
- Wide Viewing Angle, Provides an Excellent ON-OFF Contrast Ratio.
- Fast Response Time, Capable of Pulse Operation.

### MATERIALS

ITEM	MATERIALS	LIGHT EMITTING COLOR
PRODUCT NAME		
TLG102A / TLG108A	GaP	Green
TLY102A / TLY108A	GaAsP	Yellow
TLO102A / TLO108A	GaAsP	Orange
TLS108A / TLS109A	GaAsP	Red
TLR102A / TLR108A / TLR109A	GaP	Red



### MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

ITEM	FORWARD CURRENT $I_F$ (mA)	REVERSE VOLTAGE $V_R$ (V)	POWER DISSIPATION $P_D$ (mW)	OPERATING TEMPERATURE RANGE $T_{opr}$ ( $^\circ\text{C}$ )	STORAGE TEMPERATURE RANGE $T_{stg}$ ( $^\circ\text{C}$ )
PRODUCT NAME					
TLG102A / TLG108A	30	4	85	-20~75	-30~100
TLY102A / TLY108A	30	4	85	-20~75	-30~100
TLO102A / TLO108A	30	4	85	-20~75	-30~100
TLS108A / TLS109A	30	4	85	-20~75	-30~100
TLR102A / TLR108A / TLR109A	25	4	70	-20~75	-30~100

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ELECTRO-OPTICAL CHARACTERISTICS (Ta = 25°C)  
102A SERIES (Colored lusterless lens)

PRODUCT NAME	EMISSION SPECTRUM			LUMINOUS INTENSITY I <sub>v</sub>			FORWARD VOLTAGE V <sub>F</sub>			REVERSE CURRENT I <sub>R</sub>	
	λ <sub>p</sub>	Δλ	I <sub>F</sub>	MIN.	TYP.	I <sub>F</sub>	TYP.	MAX.	I <sub>F</sub>	MAX.	V <sub>R</sub>
TLG102A	565	25	15	0.8	3.0	15	2.15	2.8	20	5	4
TLY102A	585	32	15	0.6	2.5	15	2.05	2.8	20	100	4
TLO102A	610	35	15	0.6	3.0	15	2.05	2.8	20	100	4
TLR102A	700	100	15	0.2	0.7	15	2.15	2.8	20	5	4
Unit	nm		mA	mcd		mA	V		mA	μA	V

## 108A SERIES (Colorless transparent lens)

PRODUCT NAME	EMISSION SPECTRUM			LUMINOUS INTENSITY I <sub>v</sub>			FORWARD VOLTAGE V <sub>F</sub>			REVERSE CURRENT I <sub>R</sub>	
	λ <sub>p</sub>	Δλ	I <sub>F</sub>	MIN.	TYP.	I <sub>F</sub>	TYP.	MAX.	I <sub>F</sub>	MAX.	V <sub>R</sub>
TLG108A	565	25	15	1.4	8.0	15	2.15	2.8	20	5	4
TLY108A	585	32	15	1.0	6.0	15	2.05	2.8	20	100	4
TLO108A	610	35	15	1.0	6.0	15	2.05	2.8	20	100	4
TLS108A	635	40	15	1.5	4.5	15	2.05	2.8	20	100	4
TLR108A	700	100	15	0.4	1.5	15	2.15	2.8	20	5	4
Unit	nm		mA	mcd		mA	V		mA	μA	V

## 109A SERIES (Milky lusterless lens)

PRODUCT NAME	EMISSION SPECTRUM			LUMINOUS INTENSITY I <sub>v</sub>			FORWARD VOLTAGE V <sub>F</sub>			REVERSE CURRENT I <sub>R</sub>	
	λ <sub>p</sub>	Δλ	I <sub>F</sub>	MIN.	TYP.	I <sub>F</sub>	TYP.	MAX.	I <sub>F</sub>	MAX.	V <sub>R</sub>
TLS109A	635	40	15	1.0	3.0	15	2.05	2.8	20	100	4
TLR109A	700	100	15	0.3	1.0	15	2.15	2.8	20	5	4
Unit	nm		mA	mcd		mA	V		mA	μA	V

## PRECAUTION

Please be Careful of the followings.

- Soldering temperature : 260°C MAX. Soldering time : 3s 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.

$I_V - I_F$

