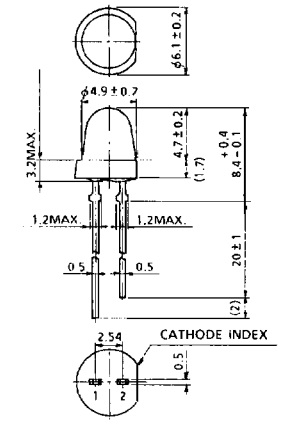
TOSHIBA LED LAMP

TLG143, TLG144, TLO143, TLO144, TLPG143, TLPG144, TLPY144, TLR140 TLR143, TLR144, TLR146, TLS143, TLS144, TLUG143, TLUG144, TLUR143 TLUR144, TLUY143, TLUY144, TLY143, TLY144

PANEL CIRCUIT INDICATOR

Unit in mm



1. ANODE
2. CATHODE

JEDEC	—
EIAJ	—
TOSHIBA	4-5M1A

Weight : 0.23g

- All Plastic Mold Type

  TLR140 : Colorless Transparent Lens
  TL□143 : Colored Transparent Lens
  TL□144 : Colored Diffused Lens
  TLR146 : Milky Diffused Lens

- Low Drive Current, High Intensity Light Emission.

  Recommended Forward Current : I_F=15~20mA (DC)

- All Plastic Molded Lens, Provides an Excellent ON-OFF Contrast Ratio.

- Fast Response Time, Capable of Pulse Operation.

MATELIALS

PRODUCT NAME	MATERIALS	LIGHT EMITTING COLOR
TLPG143 / TLPG144	GaP	Pure Green
TLG143 / TLG144	GaP	Green
TLUG143 / TLUG144	GaP	
TLPY144	GaP	Pure Yellow
TLY143 / TLY144	GaAsP	Yellow
TLUY143 / TLUY144	GaAsP	
TLO143 / TLO144	GaAsP	Orange
TLS143 / TLS144	GaAsP	Red
TLUR143 / TLUR144	GaAℓAs	
TLR140 / TLR143	GaP	
TLR144 / TLR146		

MAXIMUM RATINGS (Ta = 25°C)

PRODUCT NAME	FORWARD CURRENT I_F (mA)	REVERSE VOLTAGE V_R (V)	POWER DISSIPATION P_D (mW)	OPERATING TEMPERATURE RANGE T_{opr} (°C)	STORAGE TEMPERATURE RANGE T_{stg} (°C)
TLPG143/TLPG144	25	4	70	−20~75	−30~100
TLG143/TLG144	25	4	70	−20~75	−30~100
TLUG143/TLUG144	25	4	70	−20~75	−30~100
TLPY144	25	4	70	−20~75	−30~100
TLY143/TLY144	25	4	70	−20~75	−30~100
TLUY143/TLUY144	25	4	70	−20~75	−30~100
TLO143/TLO144	25	4	70	−20~75	−30~100
TLS143/TLS144	25	4	70	−20~75	−30~100
TLUR143/TLUR144	25	4	55	−20~75	−30~100
TLR140/TLR143	25	4	70	−20~75	−30~100
TLR144/TLR146					

ELECTRO-OPTICAL CHARACTERISTICS (Ta = 25°C)
143 SERIES (Colored transparent lens)

PRODUCT NAME	EMISSION SPECTRUM			LUMINOUS INTENSITY I_V			FORWARD VOLTAGE V_F			REVERSE CURRENT I_R	
	λ_p	$\Delta\lambda$	I_F	MIN.	TYP.	I_F	TYP.	MAX.	I_F	MAX.	V_R
TLPG143	555	20	15	5.0	20	15	2.15	2.8	20	5	4
TLG143	565	25	15	10	40	15	2.15	2.8	20	5	4
TLUG143	565	25	15	30	60	15	2.15	2.8	20	5	4
TLY143	585	32	15	10	40	15	2.05	2.8	20	100	4
TLUY143	585	32	15	30	60	15	2.05	2.8	20	100	4
TLO143	610	35	15	10	40	15	2.05	2.8	20	100	4
TLS143	635	40	15	10	50	15	2.05	2.8	20	100	4
TLUR143	660	25	15	30	100	15	1.75	2.2	20	100	4
TLR143	700	100	15	3.0	11	15	2.15	2.8	20	5	4
Unit	nm		mA	mcd		mA	V		mA	μA	V

144 SERIES (Colored diffused lens)

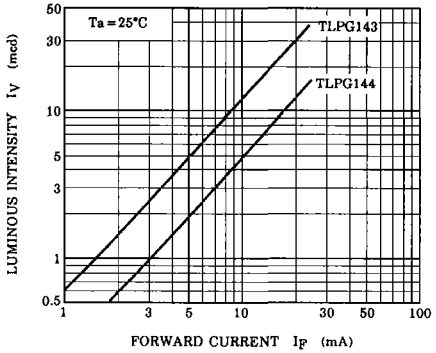
PRODUCT NAME	EMISSION SPECTRUM			LUMINOUS INTENSITY I_V			FORWARD VOLTAGE V_F			REVERSE CURRENT I_R	
	λ_p	$\Delta\lambda$	I_F	MIN.	TYP.	I_F	TYP.	MAX.	I_F	MAX.	V_R
TLPG144	555	20	15	2.0	8.0	15	2.15	2.8	20	5	4
TLG144	565	25	15	5.0	20	15	2.15	2.8	20	5	4
TLUG144	565	25	15	10	30	15	2.15	2.8	20	5	4
TLPY144	570	25	15	3.0	8.0	15	2.15	2.8	20	100	4
TLY144	585	32	15	5.0	20	15	2.05	2.8	20	100	4
TLUY144	585	32	15	10	30	15	2.05	2.8	20	100	4
TLO144	610	35	15	5.0	20	15	2.05	2.8	20	100	4
TLS144	635	40	15	5.0	25	15	2.05	2.8	20	100	4
TLUR144	660	25	15	10	50	15	1.75	2.2	20	100	4
TLR144	700	100	15	1.0	3.5	15	2.15	2.8	20	5	4
Unit	nm		mA	mcd		mA	V		mA	μA	V

TLR140 / TLR146

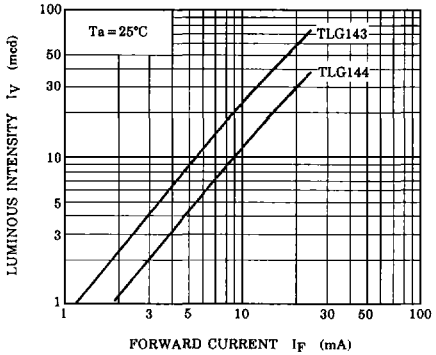
PRODUCT NAME	EMISSION SPECTRUM			LUMINOUS INTENSITY I_V			FORWARD VOLTAGE V_F			REVERSE CURRENT I_R	
	λ_p	$\Delta\lambda$	I_F	MIN.	TYP.	I_F	TYP.	MAX.	I_F	MAX.	V_R
TLR140	700	100	15	3.5	13	15	2.15	2.8	20	5	4
TLR146	700	100	15	1.2	4.0	15	2.15	2.8	20	5	4
Unit	nm		mA	mcd		mA	V		mA	μA	V

$I_V - I_F$

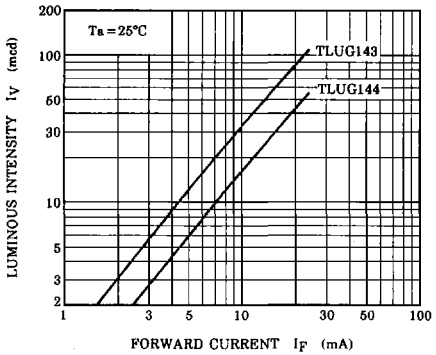
TLPG143 / 144



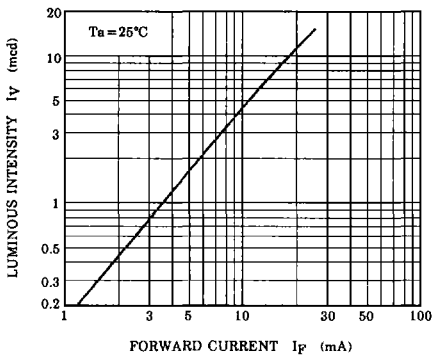
TLG143 / 144



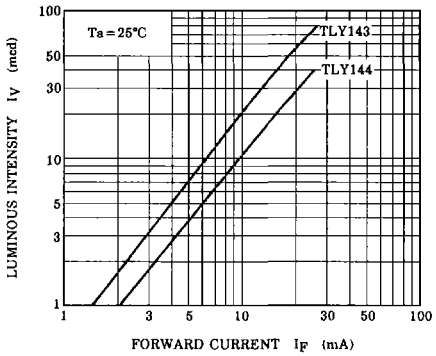
TLUG143 / 144



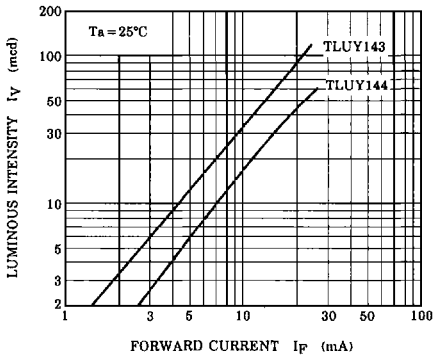
TLPY144



TLY143 / 144

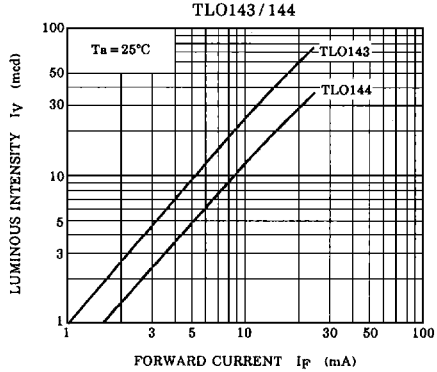


TLUY143 / 144

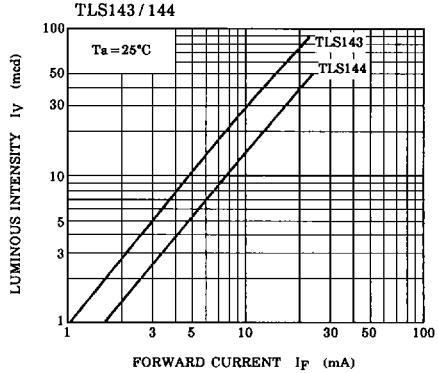


$I_V - I_F$

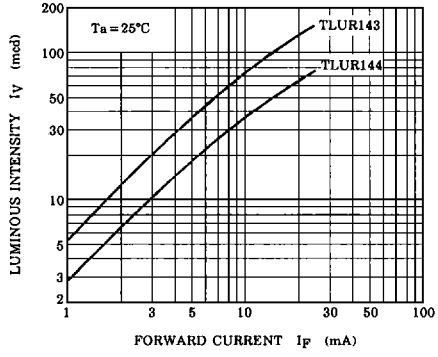
TLO143 / 144



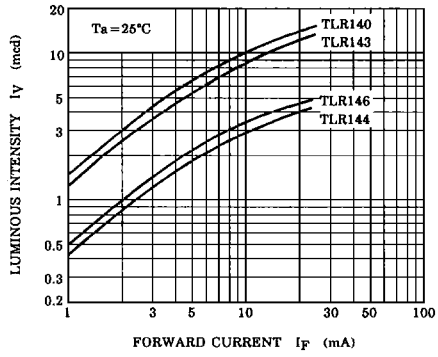
TLS143 / 144



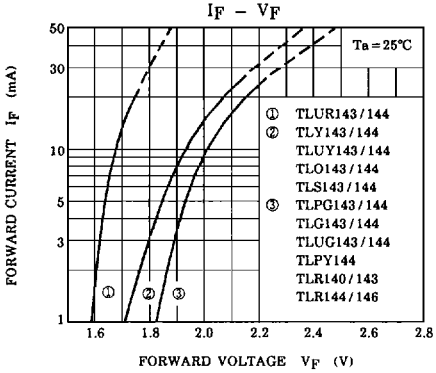
TLUR143 / 144



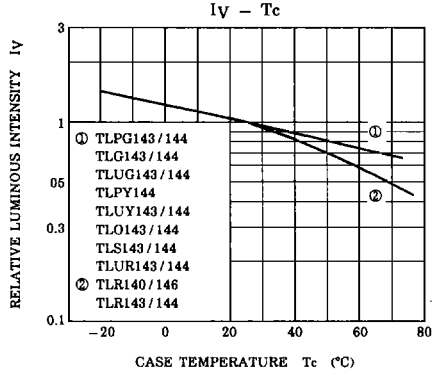
TLR140 / 143 / 144 / 146



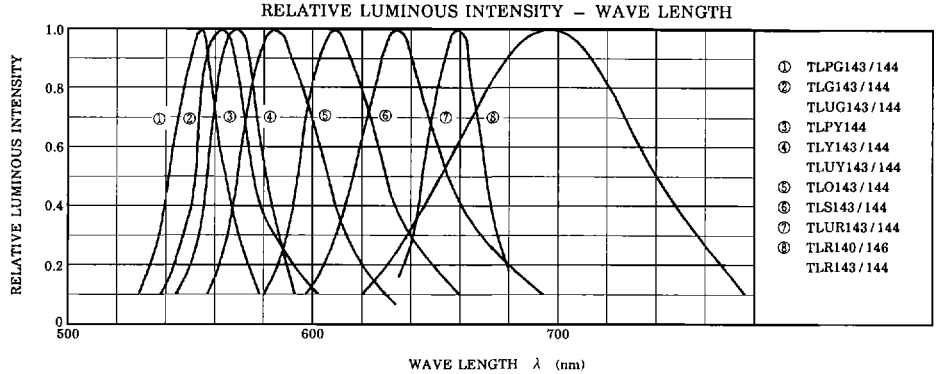
$I_F - V_F$



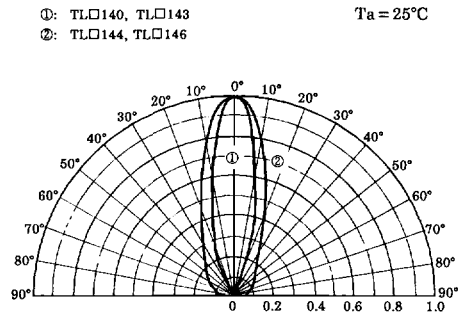
$I_V - T_c$



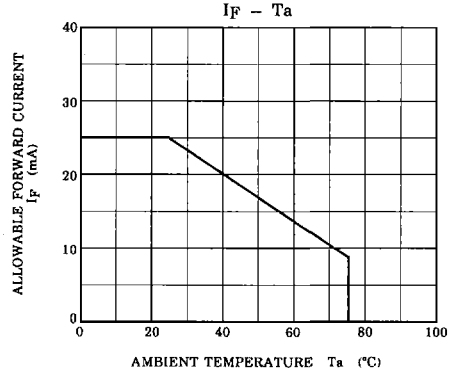
RELATIVE LUMINOUS INTENSITY – WAVE LENGTH



RADIATION PATTERN



I_F – Ta



PRECAUTION

Please be careful of the followings.

- Soldering temperature : 260°C MAX. Soldering time : 3s MAX.
  (Soldering portion of lead : at below from the lead stopper)
- 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.