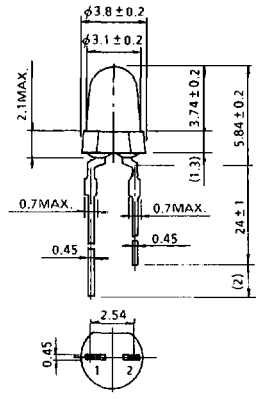
TOSHIBA LED LAMP GaAℓAs RED LIGHT EMISSION

TLRC160, TLRC163, TLRC164

PANEL CIRCUIT INDICATOR

Unit in mm



1. ANODE
2. CATHODE

JEDEC	—
EIAJ	—
TOSHIBA	4-3E1A

Weight : 0.12g

- STRIKING-BRIGHT
- All Plastic Mold Type
  TLRC160 : Colorless Clear Lens
  TLRC163 : Light Red Transparent Lens
  TLRC164 : Light Red Lusterless Lens
- Low Drive Current, High Intensity Red 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.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current (DC)	I_F	25	mA
Reverse Voltage	V_R	4	V
Power Dissipation	P_D	55	mW
Operating Temperature Range	T_{opr}	−20~75	°C
Storage Temperature Range	T_{stg}	−30~100	°C

ELECTRO-OPTICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage		V_F	I_F=20mA	—	1.75	2.2	V
Reverse Current		I_R	V_R=4V	—	—	100	μA
Luminous Intensity	TLRC160	I_V	I_F=20mA	153	400	—	mcd
	TLRC163			153	400		
	TLRC164			27.2	100		
Peak Emission Wave Length		λ_p	I_F=20mA	—	660	—	nm
Spectral Line Half Width		$\Delta\lambda$	I_F=20mA	—	25	—	nm

LUMINOUS INTENSITY SELECTION TABLE (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Luminous Intensity	TLRC160 (PQ)	I_V	I_F = 20mA (Note)	153	—	736	mcd
	TLRC160 (QR)			272	—	1290	
	TLRC163 (PQ)	I_V		153	—	736	
	TLRC163 (QR)			272	—	1290	
	TLRC164 (LM)	I_V		27.2	—	129	
	TLRC164 (MN)			47.6	—	230	

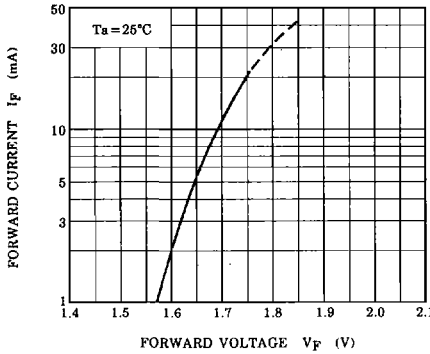
(Note) Rank selection carried out under next standard range respectively, although it needs ±15% additionary for guaranteed limits.
L : 32~64mcd, M : 56~112mcd, N : 100~200mcd, P : 180~360mcd,
Q : 320~640mcd, R : 560~1120mcd
Each rank products is classified by package unit, and (LM) includes L and M, (MN) includes M and N, (PQ) includes P and Q, (QR) includes Q and R.

PRECAUTION

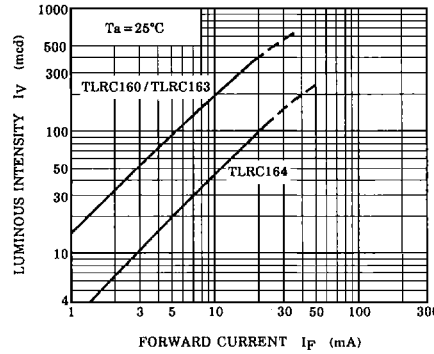
Please be careful of the followings.

- 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.
- The TLRC series should not be used in high-temperature, high-humidity environments.

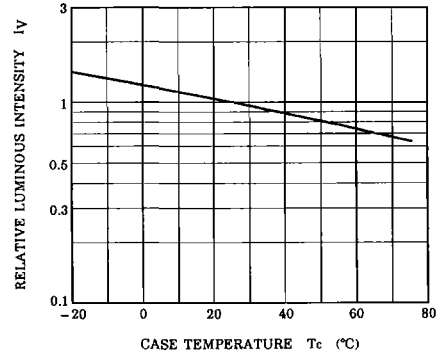
$I_F - V_F$



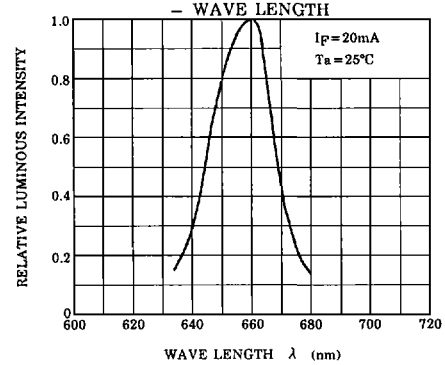
$I_V - I_F$



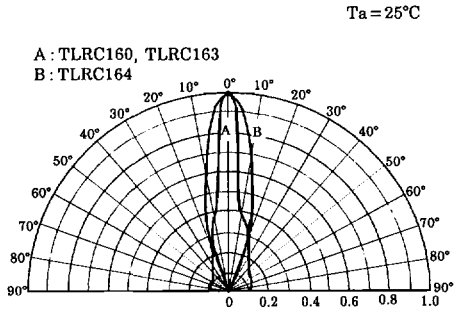
$I_V - T_c$



RELATIVE LUMINOUS INTENSITY – WAVE LENGTH



RADIATION PATTERN



$I_F - T_a$