

TOSHIBA LED LAMP GaAs RED LIGHT EMISSION

## TLRC133A, TLRC134A, TLRC135A, TLRC136A

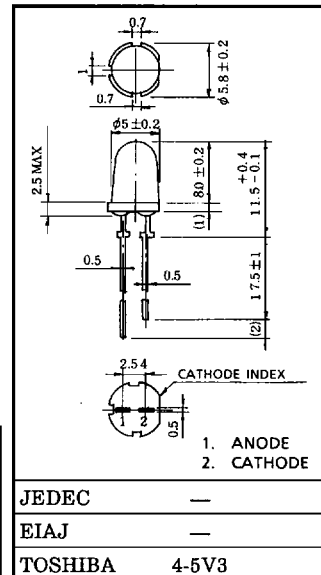
PANEL CIRCUIT INDICATOR

Unit in mm

- All Plastic Mold Type
  - TLRC133A : Red Transparent Lens
  - TLRC134A : Red Lusterless Lens
  - TLRC135A : Clear Transparent Lens
  - TLRC136A : Milky Lusterless Lens
- High Intensity & Moderate Radiation Angle
  - Half Angle =  $\pm 15^\circ\text{C}$  (Typ.) (TLRC133A / 135A)
  - (limits for 50% of  $I_V$ )
  - Recommended Forward Current :  $I_F = 15 \sim 20\text{mA}$
- Fast Response Time, Capable of Pulse Operation.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current (DC)	$I_F$	25	mA
Reverse Voltage	$V_R$	4	V
Power Dissipation	$P_D$	70	mW
Operating Temperature Range	$T_{opr}$	$-20 \sim 75$	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	$-30 \sim 100$	$^\circ\text{C}$



Weight : 0.33g

ELECTRO-OPTICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	$V_F$	$I_F = 20\text{mA}$	—	1.75	2.2	V
Reverse Current	$I_R$	$V_R = 4\text{V}$	—	—	100	$\mu\text{A}$
Luminous Intensity	TLRC133A	$I_F = 20\text{mA}$	47.6	150	—	mcd
	TLRC134A		27.2	90	—	
	TLRC135A		47.6	150	—	
	TLRC136A		15.8	50	—	
Peak Emission Wave Length	$\lambda_p$	$I_F = 20\text{mA}$	—	660	—	nm
Spectral Line Half Width	$\Delta\lambda$	$I_F = 20\text{mA}$	—	25	—	nm

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LUMINOUS INTENSITY SELECTION TABLE (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Luminous Intensity	TLRC133A (MN)	I <sub>V</sub>	I <sub>F</sub> = 20mA (Note)	47.6	—	230	mcd
	TLRC133A (NP)			85.0	—	414	
	TLRC134A (LM)	I <sub>V</sub>		27.2	—	129	
	TLRC134A (MN)			47.6	—	230	
	TLRC135A (MN)	I <sub>V</sub>		47.6	—	230	
	TLRC135A (NP)			85.0	—	414	
	TLRC136A (KL)	I <sub>V</sub>		15.3	—	73.6	
	TLRC136A (LM)			27.2	—	129	

(Note) Rank selection carried out under next standard range respectively, although it needs ±15% additional for guaranteed limits.

K : 18~36mcd, L : 32~64mcd, M : 56~112mcd, N : 100~200mcd,

P : 130~360mcd

Each rank products is classified by package unit, and (KL) includes K and L, (LM) includes L and M, (MN) includes M and N, (NP) includes N and P.

#### PRECAUTION

Please be careful of the followings.

- Soldering temperature : 260°C MAX. Soldering time : 3s MAX.  
(Soldering portion of lead : below 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.
- The TLRC series should not be used in high-temperature, high-humidity environments.

