

TOSHIBA LED LAMP GaAlAs RED LIGHT EMITTER

TLRA270

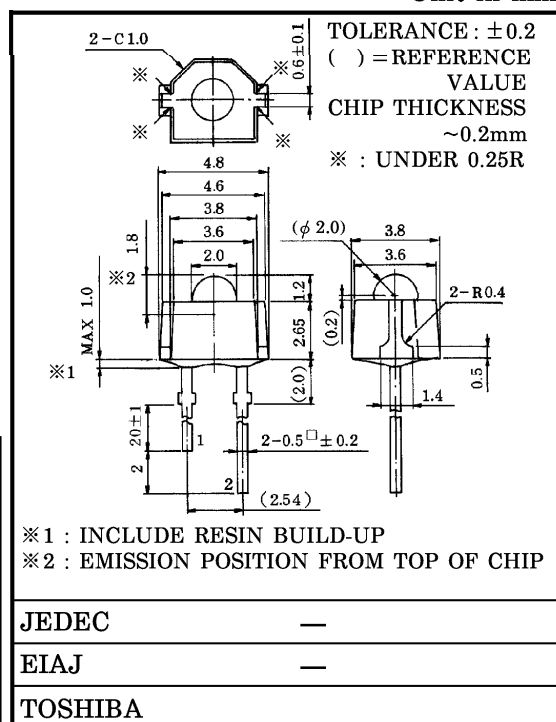
AUXILIARY LIGHT SOURCE FOR AUTO FOCUS CAMERA

Unit in mm

- Resin molding with accurate luminous position.
- LED in DH structure employed provides high radiant flux.
- Harmonious wavelength of visual sensitivity and detective device.
- Pulse driving ratings and characteristic expression dedicated for camera.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Foward Current	I _F (Note 1)	25	mA
Pulse Foward Current	I _{FP} (Note 2)	165	mA
Reverse Voltage	V _R	3	V
Operating Temperature range	T _{opr}	-20~50	°C
Storage Temperature Range	T _{stg}	-30~100	°C



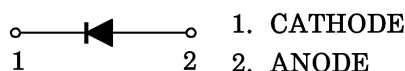
Weight : 0.16g (TYP.)

(Note 1) This rating is an allowable value in the acceptance inspection or characteristic test but not guaranteed in actual use.

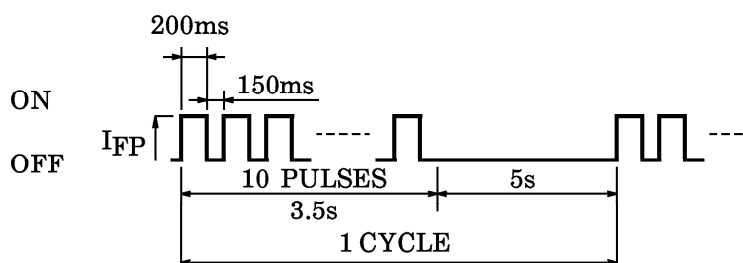
(Note 2) • Rated pulse current values corresponding to temperature changes are as shown in the following table.

Temperature	I _{FP}
-20°C	165mA + 15%
25°C	165mA
45°C	165mA - 10%

PIN CONNECTION



- The rated cycle is 3000 cycles at the waveform in the following diagram.



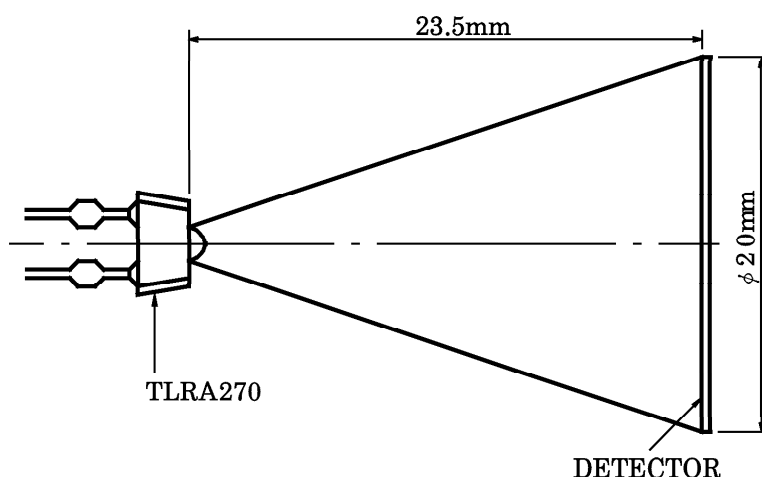
961001EAC2

• TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_F	$I_F = 20\text{mA}$	—	1.8	—	V
Pulse Forward Voltage	V_{FP}	$I_{FP} = 150\text{mA}$, $t = 10\text{ms}$	—	2.7	3.2	V
Reverse Current	I_R	$V_R = 3\text{V}$	—	—	100	μA
Lens Diameter	—	Resin lense diameter	—	2	—	mm
Radiant Flux	ϕ_e	$I_F = 150\text{mA}$, $t = 10\text{ms}$ (Note)	12	18	—	mW
Directional Half Value Angle	θ	$I_F = 70\text{mA}$	—	30	—	°
Peak Emission Wave Length	λ_P	$I_F = 70\text{mA}$, About 3s	680	695	710	nm
Spectral Line Half Width	$\Delta\lambda$	$I_F = 70\text{mA}$, About 3s	—	28	35	nm

(Note) Radiant flux ϕ_e : Positional relation between TLRA270 and the light receiving surface.



PRECATION

Please be careful of the followings.

1. Soldering temperature : 260°C MAX. Soldering time : 5s MAX.
(Soldering portion of lead : at above 1.5mm from the body of the device)
2. If the lead is formed, the lead should be formed at a distance of 2mm from the body of the device. Soldering shall be performed after lead forming.
3. Do not apply stress to the lead for 30 sec. after soldered.

961001EAC2'

- Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

