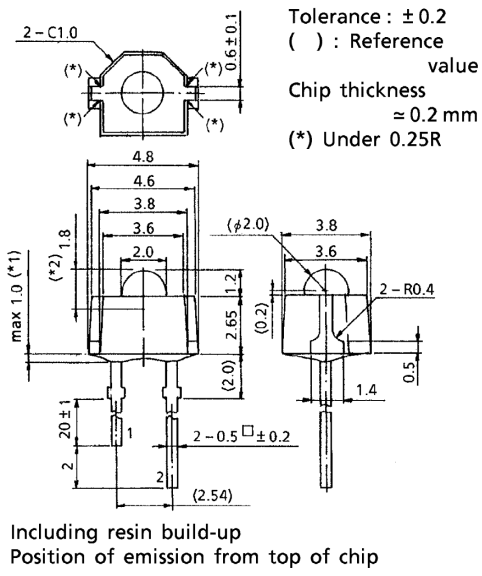
TOSHIBA LED Lamp GaAℓAs Red−light Emitter

TLRA270

Auxiliary Light Source For Auto−focus Camera

- Resin molding with accurate luminous position
- LED in DH structure yielding high radiant flux
- Harmonious wavelength of visual sensitivity and detective device
- Pulse drive rating and characteristic expression optimized for use in cameras

Unit: mm



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Weight: 0.16 g (typ.)

Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Forward current	I_F (Note 1)	25	mA
Pulse forward current	I_{Fp} (Note 2)	165	mA
Reverse voltage	V_R	3	V
Operating temperature	T_{opr}	−20~50	°C
Storage temperature	T_{stg}	−30~100	°C

(Note 1): This rating is the parmissible value for acceptance inspection or characteristic test and is not guaranteed for actual use.

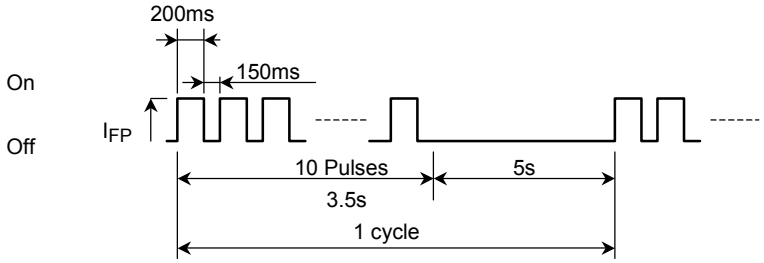
(Note 2): • Rated pulse current values corresponding to temperature changes are as shown in the following table:

Temperature	I_{FP}
−20°C	165 mA + 15%
25°C	165 mA
45°C	165 mA −10%

Pin Connection

1. Cathode
2. Anode

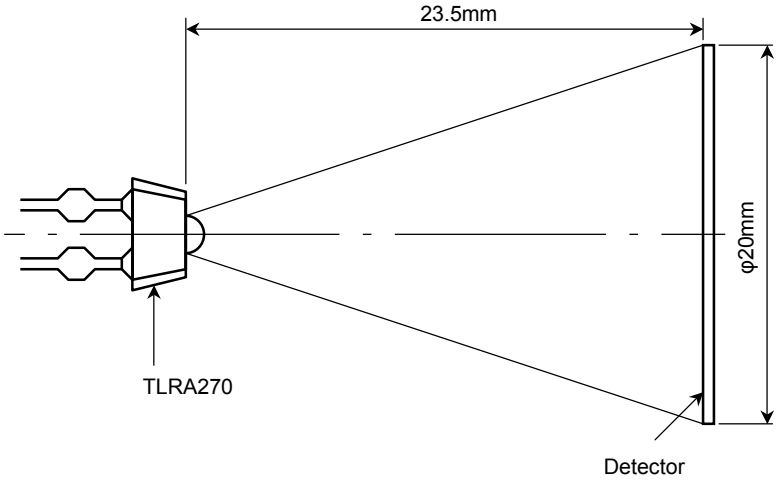
• The rated period is 3000 cycles of the waveform shown in the following diagram :



Optical And Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	V_F	I_F = 20 mA	—	1.8	—	V
Pulse forward voltage	V_{FP}	I_{FP} = 150 mA, t = 10 ms	—	2.7	3.2	V
Reverse current	I_R	V_R = 3 V	—	—	100	μA
Lens diameter	—	Resin lense diameter	—	2	—	mm
Radiant flux	ϕ_e	I_F = 150 mA, t = 10ms (Note)	12	18	—	mW
Directional half value angle	θ	I_F = 70 mA	—	30	—	°
Peak emission wave length	λ_P	I_F = 70 mA, about 3 s	680	695	710	nm
Spectral line half width	Δλ	I_F = 70 mA, about 3 s	—	28	35	nm

(Note): Radiant flux ϕ_e depends on position of TLRA270 relative to light−receiving surface.

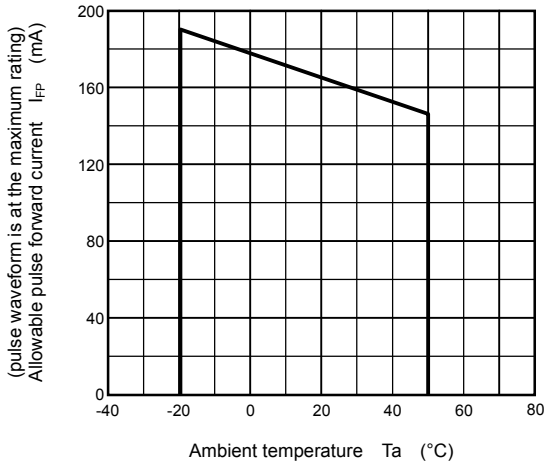


Precautions

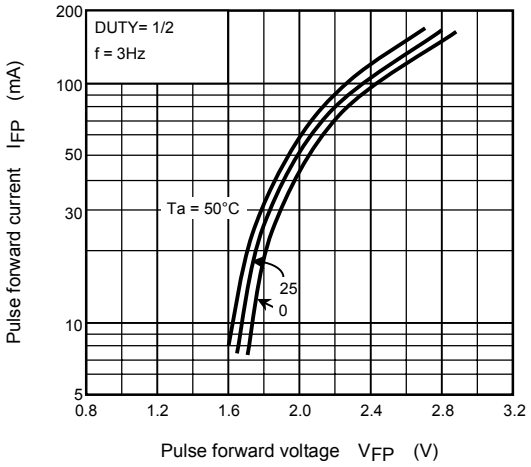
Please be careful of the followings.

1. Soldering temperature : 260°C max
   Soldering time : 5 s max
   (soldering portion of lead: at above 1.5 mm from the body of the device)
2. When forming the leads, bend each lead under the 2mm from the body of the device.
   Soldering shall be performed after lead forming.
3. Do not apply stress to the leads for at least 30 s after soldering them.
4. The TLRA270 for a camera AF use only. Please do not use this device except for a camera.

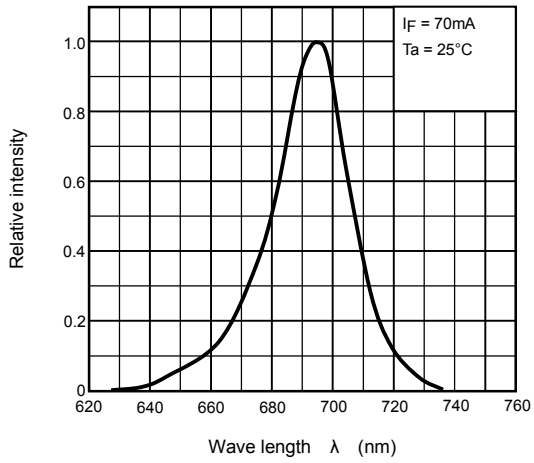
I_{FP} – Ta



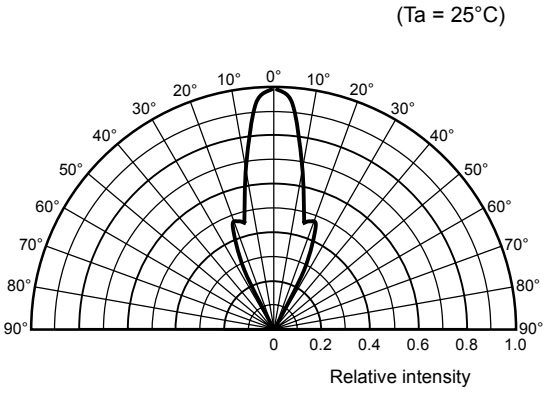
I_{FP} – V_{FP} (typ.)



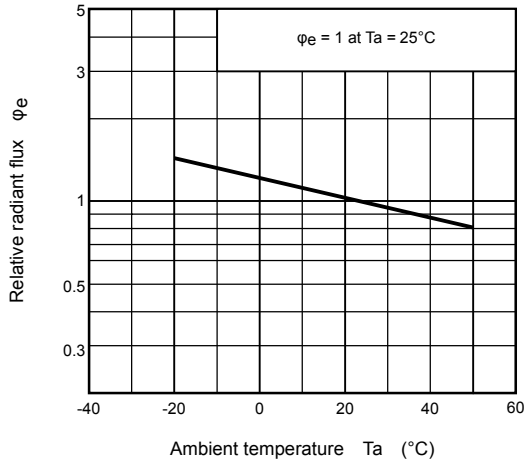
Wavelength Characteriistic (typ.)



Directional Sensitivity Characteristics (typ.)



φ_e – Ta (typ.)



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