

TOSHIBA LED Lamp GaAlAs Red-light Emitter

TLRA270

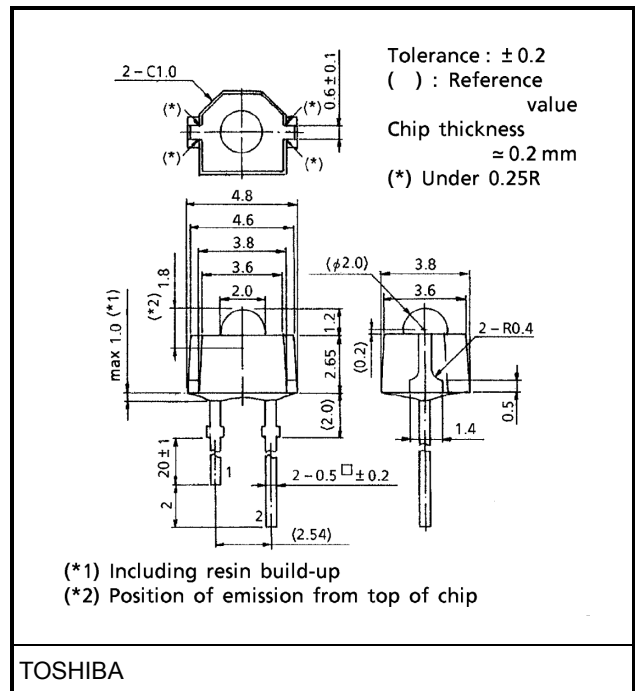
Auxiliary Light Source For Auto-focus Camera

Unit: mm

- 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

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 |



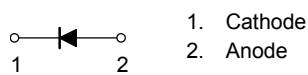
Weight: 0.16 g (typ.)

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

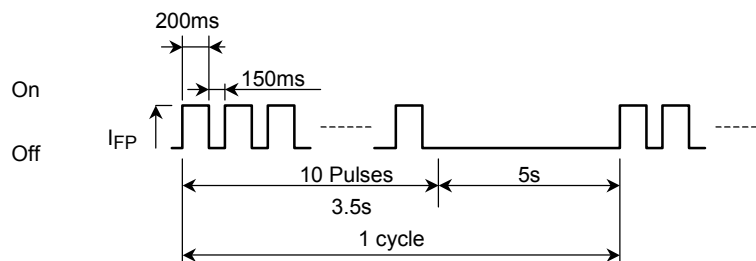
(Note 2): • Rated pulse current values corresponding to temperature changes are as shown in the following table:

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

Pin Connection



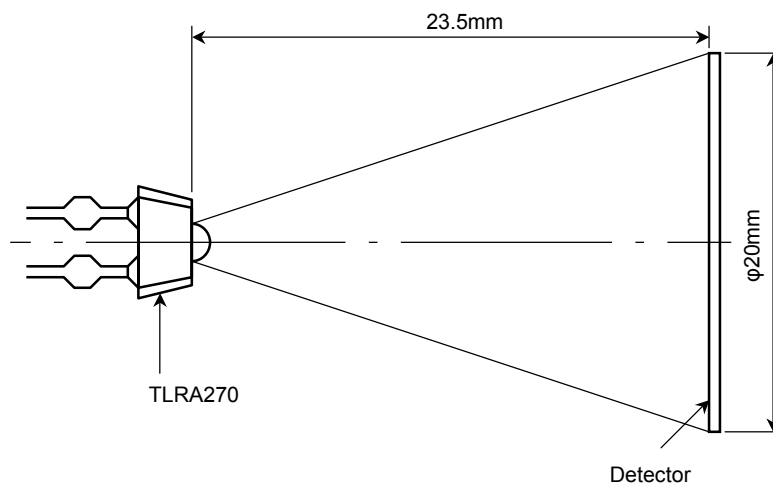
- The rated period is 3000 cycles of the waveform shown in the following diagram :



Optical And Electrical Characteristics (Ta = 25°C)

| Characteristic | Symbol | Test Condition | Min | Typ. | Max | Unit |
|------------------------------|-----------------|---|-----|------|-----|---------------|
| Forward voltage | V_F | $I_F = 20 \text{ mA}$ | — | 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 lens 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 | $I_F = 70 \text{ mA}, \text{ about } 3 \text{ s}$ | 680 | 695 | 710 | nm |
| Spectral line half width | $\Delta\lambda$ | $I_F = 70 \text{ mA}, \text{ about } 3 \text{ s}$ | — | 28 | 35 | nm |

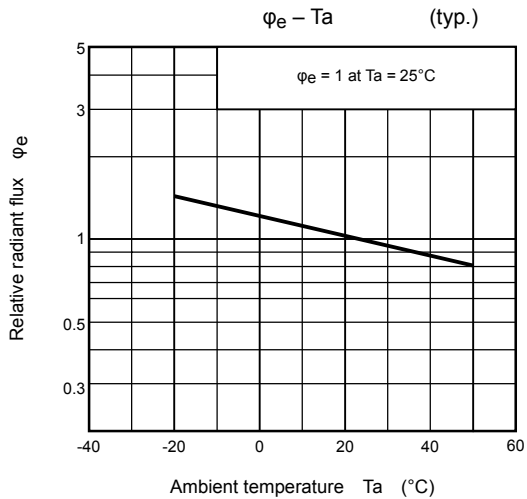
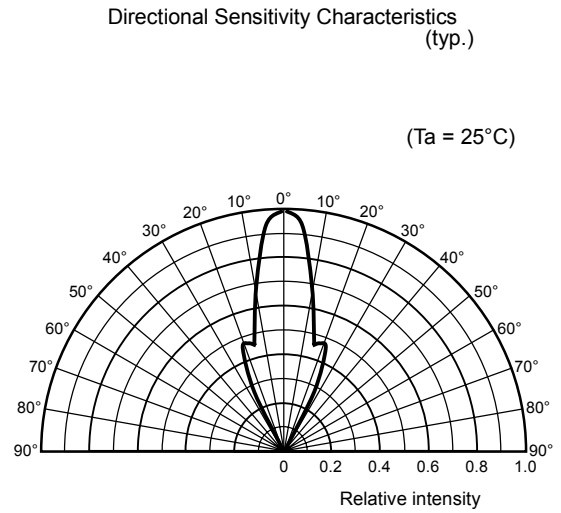
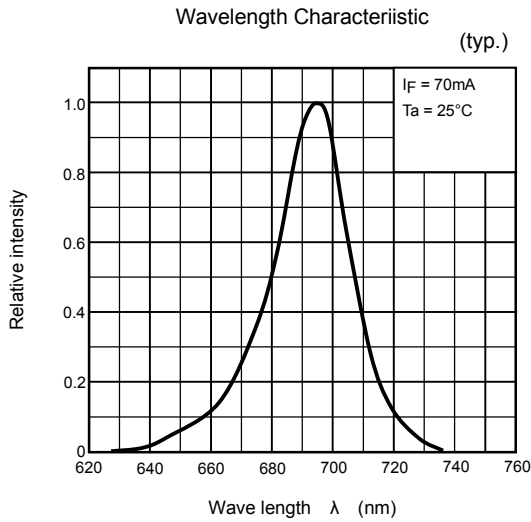
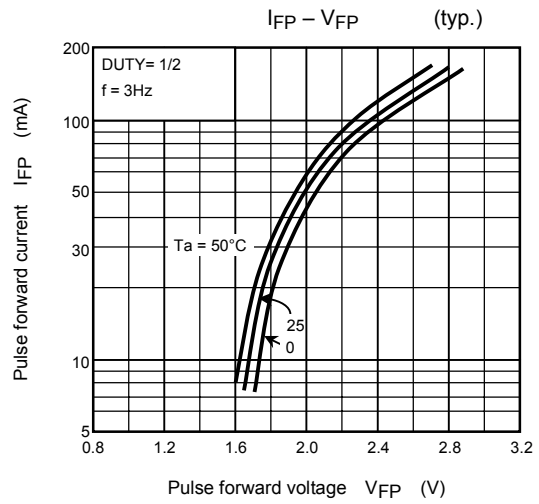
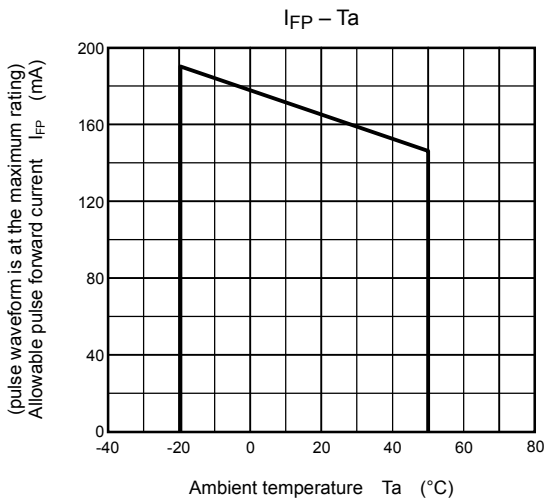
(Note): Radiant flux ϕ_e depends on position of TLRA270 relative to light-receiving surface.



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.



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