

TOSHIBA Infrared LED GaAs Infrared Emitter

# TLN210(F)

Lead Free Product

Infrared Light-emission Diode For Still Camera  
Light Source For Auto Focus

- Optical radiation of current confining LED chip is condensed by a resin lens.
- High output
- Effective emission diameter of 344 $\mu$ m
- Optical output efficiently radiated in solid angle of 0.984 sr
- Can be operated at VCC = 3V (which is equal to is two cells)
- Optical output vs. temperature characteristic almost constant with constant forward voltage drive system

## Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Forward current (Note 1)	I <sub>F</sub>	50	mA
Pulse forward current (Note 2)	I <sub>FP</sub>	400	mA
Reverse voltage	V <sub>R</sub>	1	V
Operating temperature	T <sub>opr</sub>	-25~60	°C
Storage temperature	T <sub>stg</sub>	-40~90	°C

(Note 1): Permissible value for acceptance inspection / characteristic test and is guaranteed for actual application

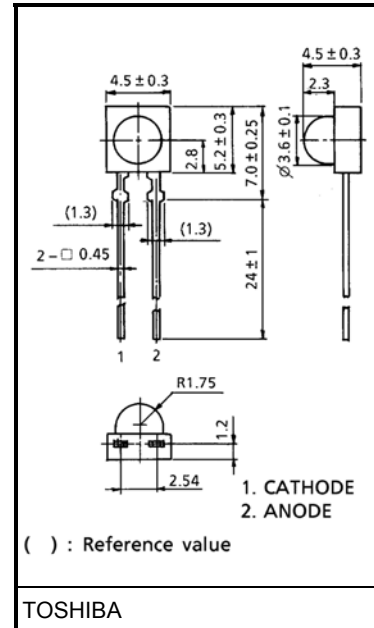
(Note 2): Within 4 hours at 1 cycle with frequency 10 kHz, duty 50%, power applied for 0.1s paused for 0.4s

## Optical And Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 50mA	—	1.35	—	V
Pulse forward voltage	V <sub>FP</sub>	I <sub>FP</sub> = 300mA, t = 10ms	—	1.75	1.95	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 1V	—	—	100	$\mu$ A
Effective emission spot diameter	—	—	—	348	—	$\mu$ m
Radiation flux (Note)	$\phi_e$	I <sub>FP</sub> = 300mA, t = 10ms	7	12	—	mW
Half value angle	$\theta_{\frac{1}{2}}$	I <sub>F</sub> = 50mA	—	32.5	—	°
Peak emission wavelength	$\lambda_p$	I <sub>F</sub> = 50mA	—	875	—	nm
Spectral line half width	$\Delta\lambda$	I <sub>F</sub> = 50mA	—	40	—	nm

(Note): Luminous radiation output to effective angle  $\pm 25$  degree.

Unit: mm



Weight: 0.18g (typ.)

**Precautions**

Please be careful of the followings.

1. Soldering temperature: 260°C max

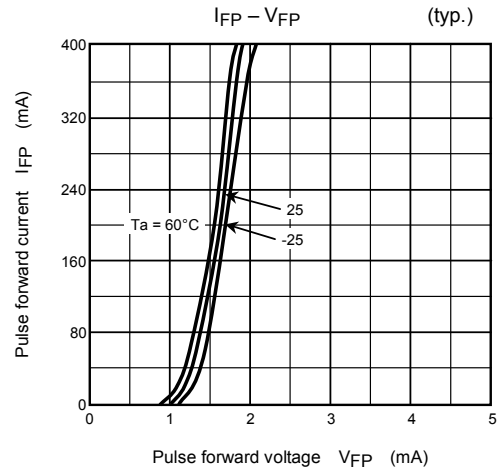
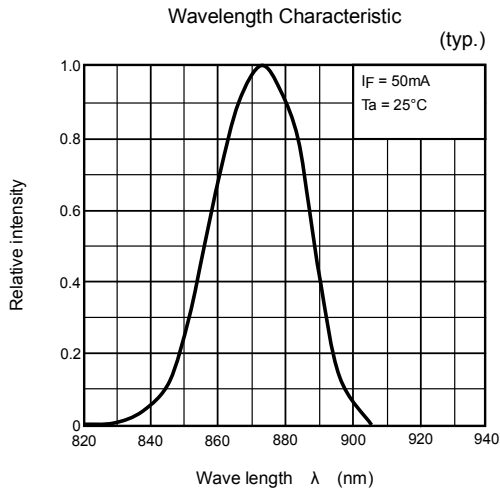
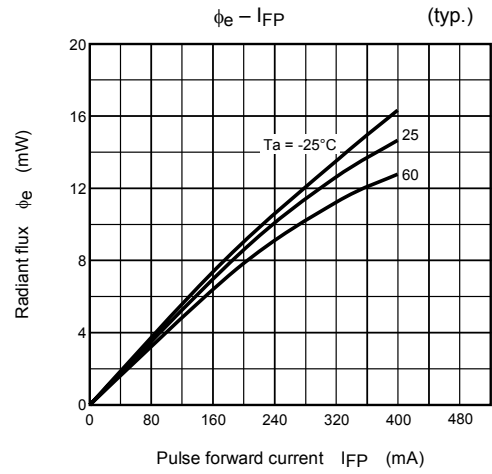
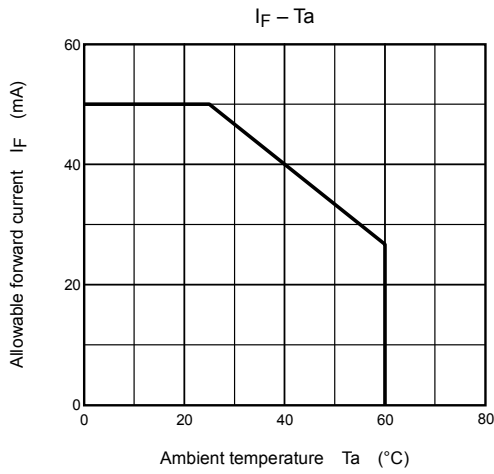
Soldering time: 5s max

(Soldering must be performed 2mm from the bottom of the package.)

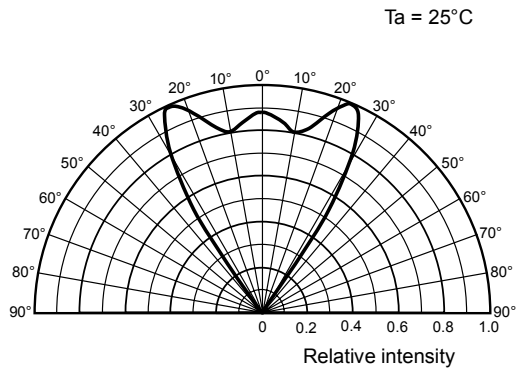
2. When forming the leads, bend each lead under the 2mm from the body of the device.

Soldering must be performed after the leads have been formed.

3. The TLN210(F) for a still camera AF use only. Please do not use this device except for a still camera.



Radiation Pattern (typ.)



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