

TOSHIBA Infrared LED GaAs Infrared Emitter

# TLN212(F)

Lead Free Product

Infrared Light-Emission Diode For Still Camera

Light Source For Auto Focus

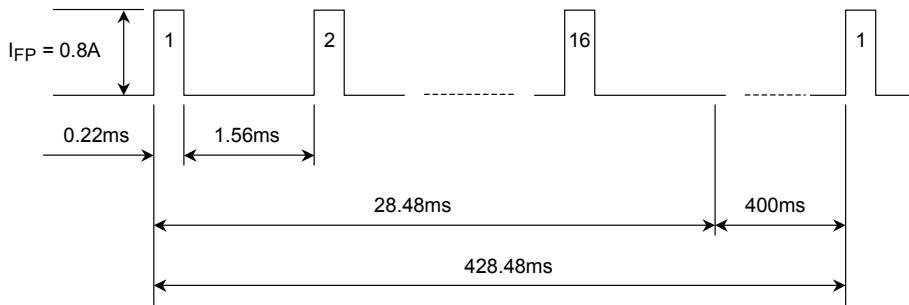
- Optical radiation of current confining LED chip is condensed by a resin lens.
- High output
- Effective emission diameter of  $388 \times 296\mu\text{m}$
- Optical output efficiently radiated in solid angle of 1.136sr
- Can be operated at  $V_{CC} = 3V$  (which is equal to is two cells)

### Maximum Ratings (Ta = 25°C)

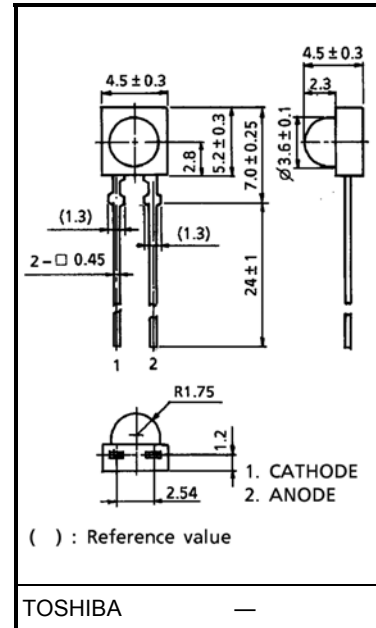
Characteristic	Symbol	Rating	Unit
Forward current (Note 1)	$I_F$	50	mA
Pulse forward current (Note 2)	$I_{FP}$	800	mA
Reverse voltage	$V_R$	1	V
Operating temperature	$T_{opr}$	-25~60	°C
Storage temperature	$T_{stg}$	-40~90	°C

(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 10kHz, duty 50%, power applied for 0.1s paused for 0.4s



Unit: mm

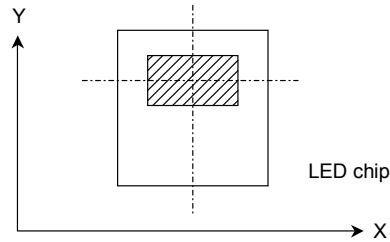


Weight: 0.18g(typ.)

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

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F$	$I_F = 50\text{mA}$	—	1.35	—	V
Pulse forward voltage	$V_{FP}$	$I_{FP} = 300\text{mA}, t = 10\text{ms}$	—	1.67	1.85	V
Reverse current	$I_R$	$V_R = 1\text{V}$	—	—	100	$\mu\text{A}$
Effective emission spot diameter	X	Half value of peak (Note 1)	—	388	—	$\mu\text{m}$
	Y	Half value of peak (Note 1)	—	296	—	
Radiation flux (Note)	$\phi_e$	$I_{FP} = 300\text{mA}, t = 10\text{ms}$ (Note 2)	8	12	—	mW
Half value angle	$\theta_{\frac{1}{2}}$	$I_F = 50\text{mA}$	—	$\pm 35$	—	$^\circ$
Peak emission wavelength	$\lambda_P$	$I_F = 50\text{mA}$	850	870	900	nm
Spectral line half width	$\Delta\lambda$	$I_F = 50\text{mA}$	—	40	—	nm

(Note1): The direction of X, Y are in the following diagram.  
The shaded area represents the emitting surface.

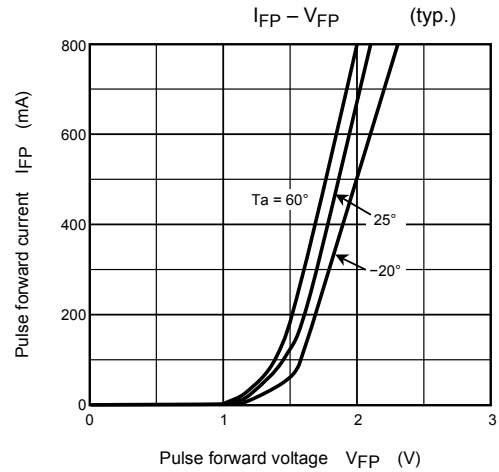
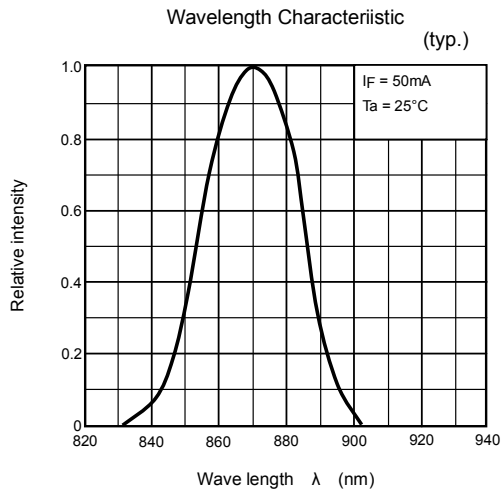
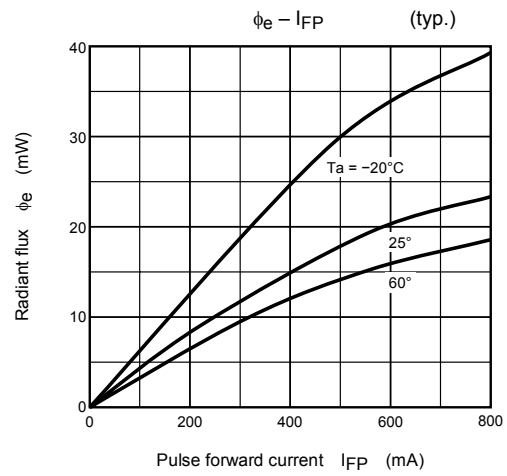
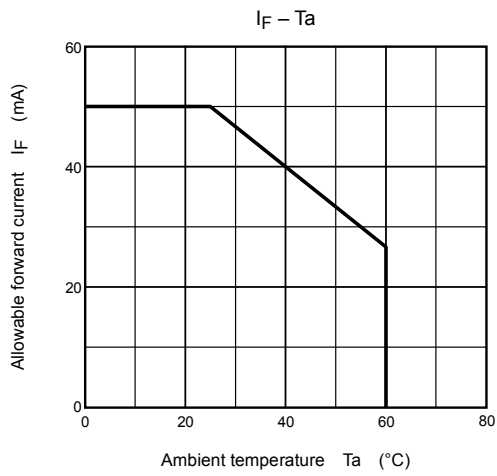


(Note 2): Luminous radiation output effective angle =  $\pm 25$  degree

**Precaution**

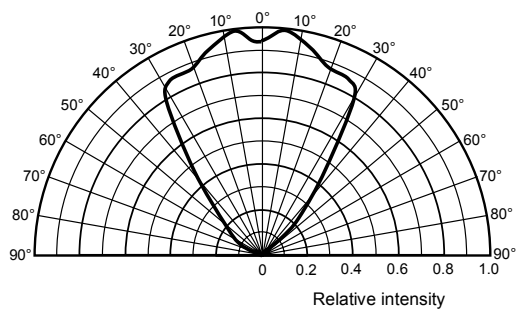
Please be careful of the followings.

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 TLN212(F) for a still camera AF use only. Please do not use this device except for a still camera.



Radiation Pattern (typ.)

$T_a = 25^\circ\text{C}$



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