TOSHIBA Infrared LED GaAlAs Infrared Emitter

# **TLN212(F)**

# Lead Free Product Infrared Light-Emission Diode For Still Camera Light Source For Auto Focus

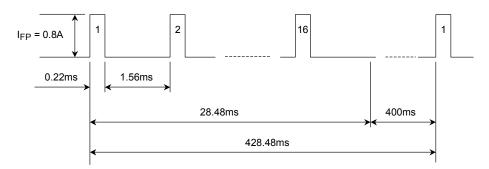
- Optical radiation of current confining LED chip is condensed by a resin lens.
- · High output
- Effective emission diameter of 388 × 296µm
- Optical output efficiently radiated in solid angle of 1.136sr
- Can be operated at VCC = 3V (which is equal to is two cells)

### Maximum Ratings (Ta = 25°C)

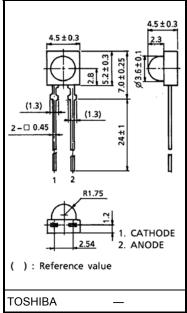
Characteristic		Symbol	Rating	Unit
Forward current	(Note 1)	IF	50	mA
Pulse forward current	(Note 2)	I <sub>FP</sub>	800	mA
Reverse voltage		$V_{R}$	1	٧
Operating temperature		T <sub>opr</sub>	-25~60	°C
Storage temperature		T <sub>stg</sub>	<b>−40~90</b>	°C

(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

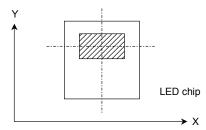


Weight: 0.18g(typ.)

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

Characteristic	Symbol	Test Condition	Min	Тур.	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	_	1.67	1.85	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 1V	_	_	100	μΑ
Effective emission spot diameter	Х	Half value of peak (Note 1)	_	388	_	μm
	Y	Half value of peak (Note 1)	_	296	_	
Radiation flux (Note	фе	I <sub>FP</sub> = 300mA, t = 10ms (Note 2)	8	12	_	mW
Half value angle	$\theta \frac{1}{2}$	I <sub>F</sub> = 50mA	_	±35	_	٥
Peak emission wavelength	λ <sub>P</sub>	I <sub>F</sub> = 50mA	850	870	900	nm
Spectral line half width	Δλ	I <sub>F</sub> = 50mA	_	40	_	nm

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



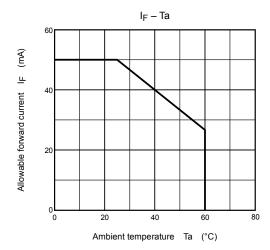
(Note 2): Luminous radiation output effective angle = ±25 degree

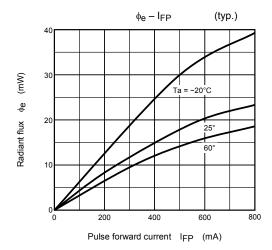
#### **Precaution**

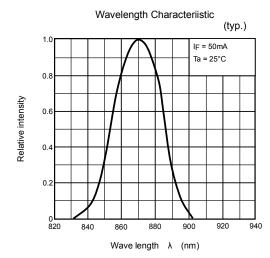
Please be careful of the followings.

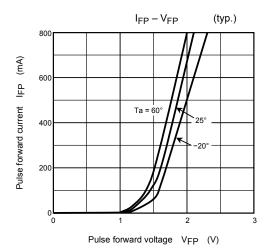
- 1. Soldering temperature: 260°C max
  - Soldering time: 5s max
  - (Soldering must be performed 2mm from the bottom of the package.)
- 2. When forming the leads, bend each lead under the 2mm from the body of the device. Soldering must be performed after the leads have been formed.
- 3. The TLN212(F) for a still camera AF use only. Please do not use this device except for a still camera.

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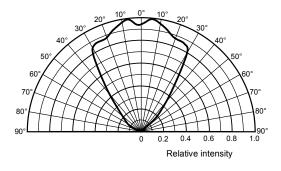






Radiation Pattern (typ.)

Ta = 25°C



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