TOSHIBA INFRARED LED GaAℓAs INFRARED EMITTER

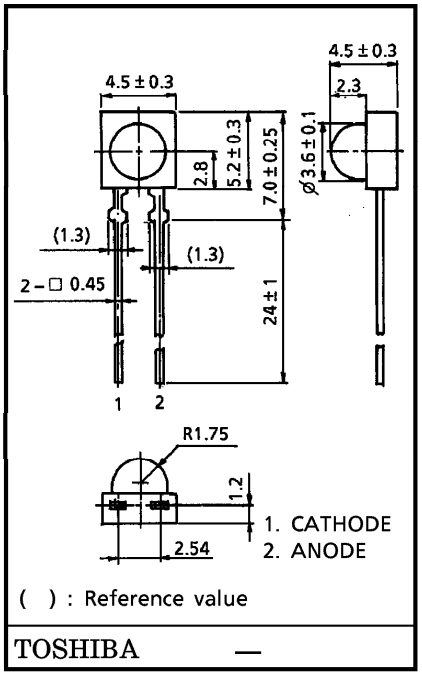
TLN212

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 × 296 μm
- Optical output efficiently radiated in solid angle of 1.136 sr
- Can be operated at V_{CC} = 3 V (which is equal to is two cells)

Unit : mm



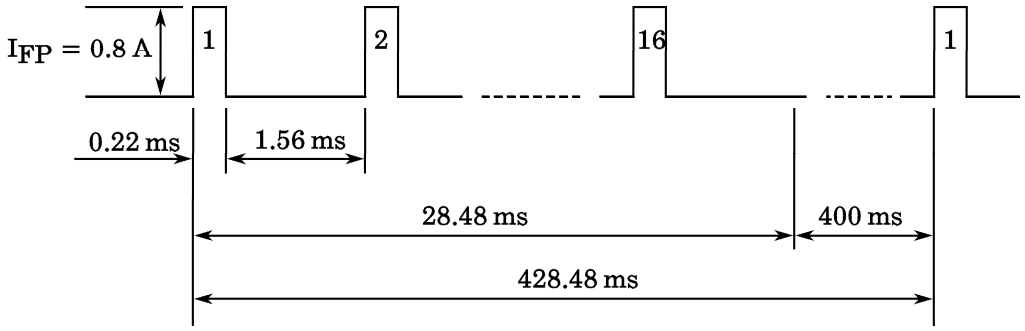
Weight : 0.18 g (typ.)

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

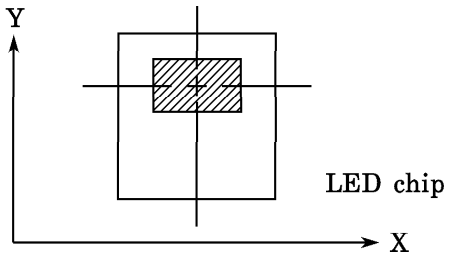
(Note 2) : Within 4 hours at 1 cycle with frequency 10 kHz, duty 50%, power applied for 0.1 s paused for 0.4 s



OPTICAL AND ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	Min	Typ.	Max	UNIT
Forward Voltage	V_F	I_F = 50 mA	—	1.35	—	V
Pulse Forward Voltage	V_{FP}	I_{FP} = 300 mA, t = 10 ms	—	1.67	1.85	V
Reverse Current	I_R	V_R = 1 V	—	—	100	μA
Effective emission spot diameter	X	Half Value of Peak (Note 1)	—	388	—	μm
	Y	Half Value of Peak (Note 1)	—	296	—	
Radiation Flux (Note)	ϕ_e	I_{FP} = 300 mA, t = 10 ms (Note 2)	8	12	—	mW
Half Value Angle	$\theta_{\frac{1}{2}}$	I_F = 50 mA	—	±35	—	°
Peak Emission Wavelength	λ_P	I_F = 50 mA	850	870	900	nm
Spectral Line Half Width	$\Delta\lambda$	I_F = 50 mA	—	40	—	nm

(Note 1) : The direction of X, Y are in the following diagram.
The shaded area represents the emitting surface.



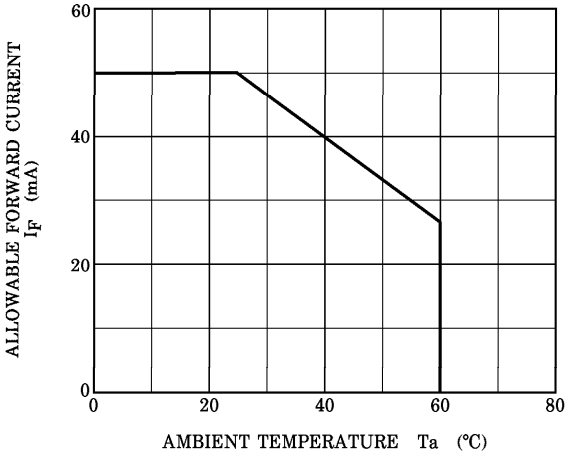
(Note 2) : Luminous radiation output effective angle = ±25 degree

PRECAUTION

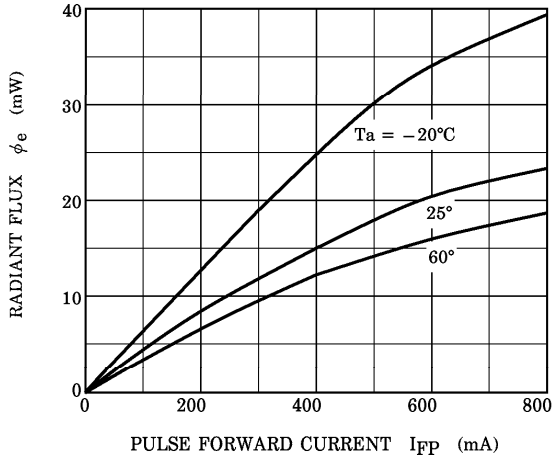
Please be careful of the followings.

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

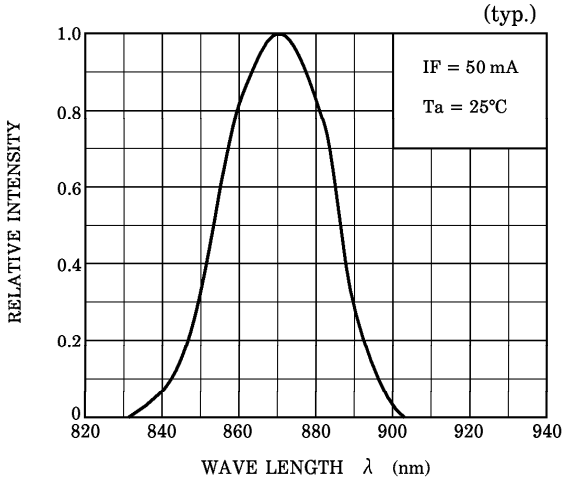
I_F – Ta



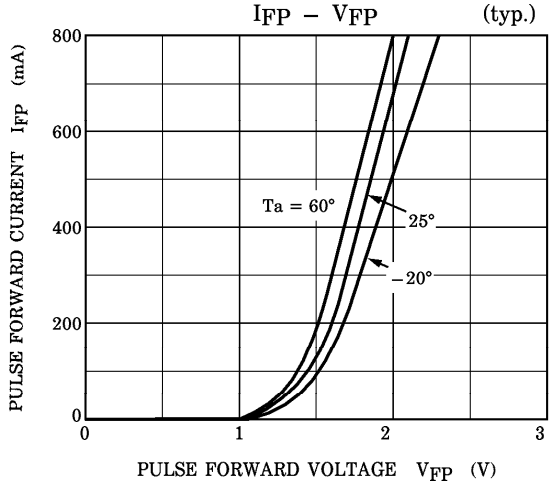
ϕ_e – I_{FP} (typ.)



WAVELENGTH CHARACTERIISTIC (typ.)

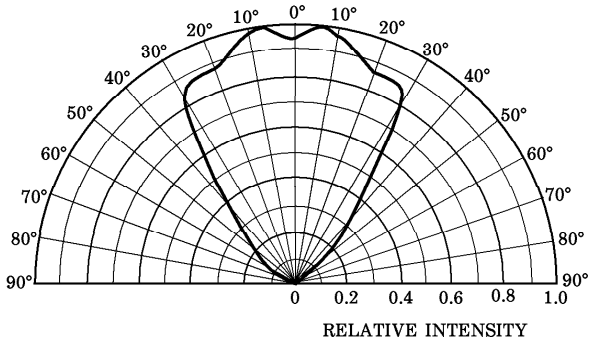


I_{FP} – V_{FP} (typ.)



RADIATION PATTERN (typ.)

Ta = 25°C



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