TOSHIBA Infrared LED GaAℓAs Infrared Emitter

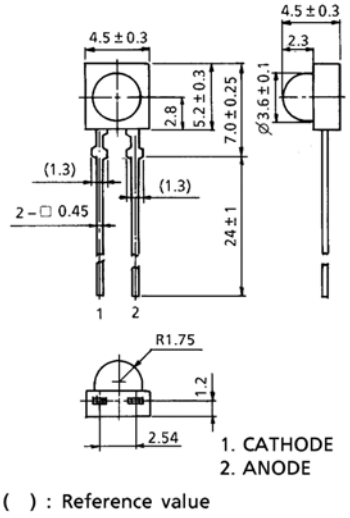
TLN210(F)

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 344μm
- Optical output efficiently radiated in solid angle of 0.984 sr
- Can be operated at V_{CC} = 3V (which is equal to is two cells)
- Optical output vs. temperature characteristic almost constant with constant forward voltage drive system

Unit: mm



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Weight: 0.18g (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}	400	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 0.1s paused for 0.4s

Optical And Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	V_F	I_F = 50mA	—	1.35	—	V
Pulse forward voltage	V_{FP}	I_{FP} = 300mA, t = 10ms	—	1.75	1.95	V
Reverse current	I_R	V_R = 1V	—	—	100	μA
Effective emission spot diameter	—	—	—	348	—	μm
Radiation flux (Note)	ϕe	I_{FP} = 300mA, t = 10ms	7	12	—	mW
Half value angle	$\theta\frac{1}{2}$	I_F = 50mA	—	32.5	—	°
Peak emission wavelength	λ_P	I_F = 50mA	—	875	—	nm
Spectral line half width	Δλ	I_F = 50mA	—	40	—	nm

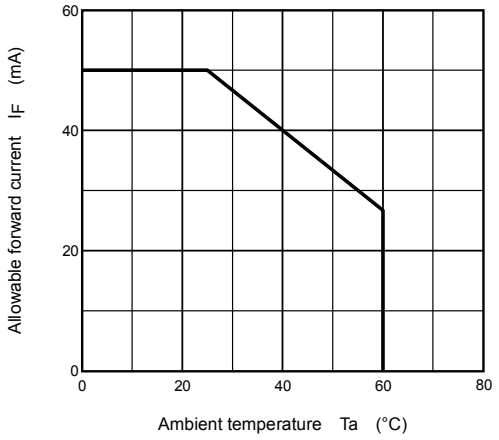
(Note): Luminous radiation output to effective angle ±25 degree.

Precautions

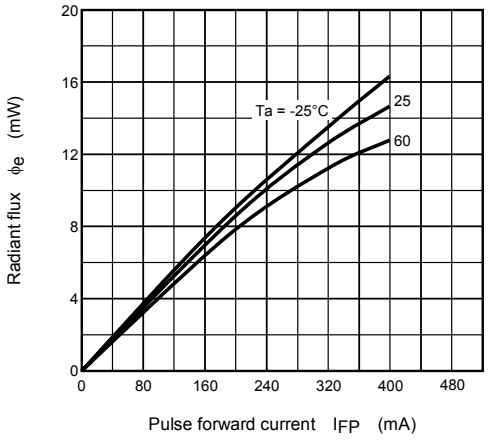
Please be careful of the followings.

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.

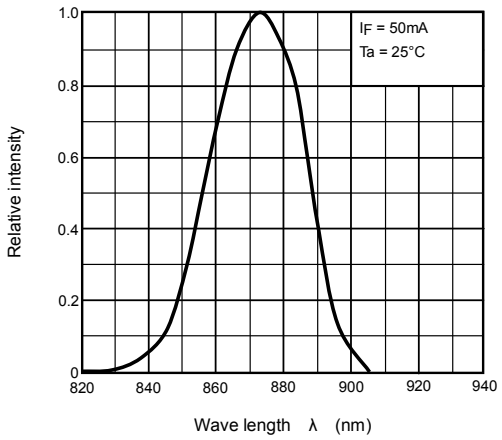
I_F – Ta



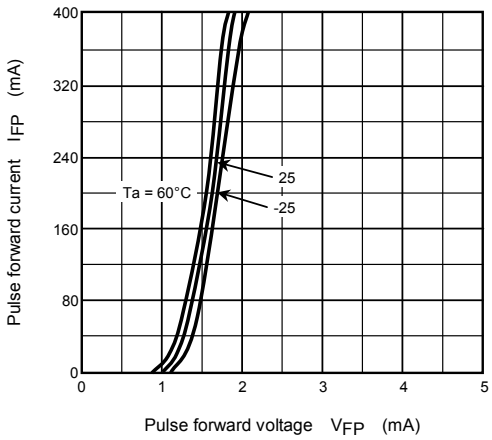
ϕ_e – I_{FP} (typ.)



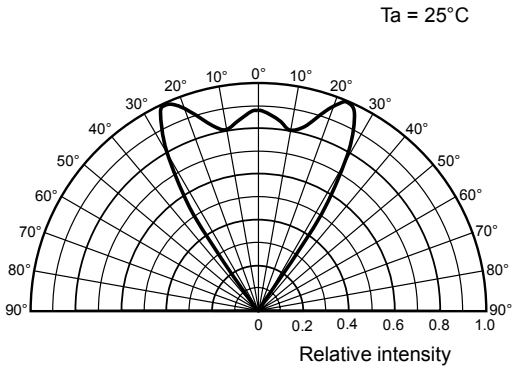
Wavelength Characteristic (typ.)



I_{FP} – V_{FP} (typ.)



Radiation Pattern (typ.)



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