

TOSHIBA INFRARED LED GaAs INFRARED EMITTER

# TLN107A

INFRARED LED FOR PHOTO INTERRUPTER

Unit in mm

OPTO-ELECTRONIC SWITCH

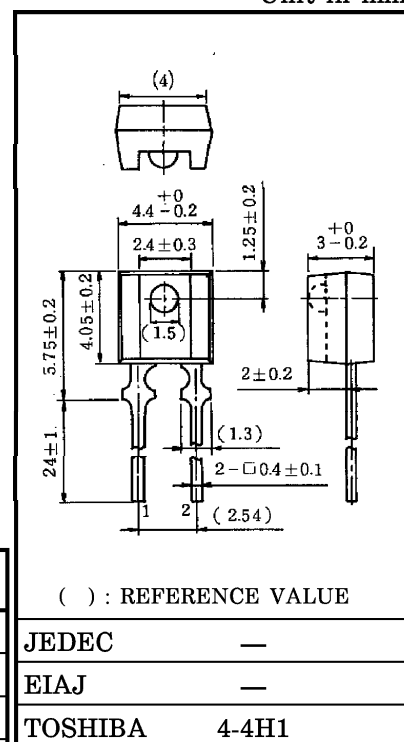
INFRARED RAYS APPLIED EQUIPMENT

- High radiant intensity
- Excellent linearity of radiant intensity and modulation by pulse operation and high frequency is possible.
- The same external shape as Photo Transistors TPS607A and TPS608A and is best suited for combination with them as a photo interrupter.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current	I <sub>F</sub>	50	mA
Pulse Forward Current	I <sub>FP</sub> (Note)	600	mA
Reverse Voltage	V <sub>R</sub>	5	V
Forward Current Derating (Ta > 25°C)	ΔI <sub>F</sub> / °C	-0.33	mA / °C
Operating Temperature Range	T <sub>opr</sub>	-25~85	°C
Storage Temperature Range	T <sub>stg</sub>	-40~100	°C

(Note) Pulse Width ≤ 100μs, Repetitive Frequency = 100Hz



Weight : 0.16g (TYP.)

PIN CONNECTION



1. CATHODE
2. ANODE

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 10mA	1.0	1.15	1.3	V	
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5V	—	—	10	μA	
Radiant Intensity	I <sub>E</sub>	I <sub>F</sub> = 20mA	TLN107A	0.8	—	—	mW / sr
			TLN107A-A	0.8	—	3.0	
			TLN107A-B	2.0	—	7.5	
Radiant Power	P <sub>o</sub>	I <sub>F</sub> = 20mA	—	2.5	—	mW	
Half Value Angle	θ <sub>1/2</sub>	I <sub>F</sub> = 20mA	—	± 15	—	°	
Capacitance	C <sub>T</sub>	V <sub>R</sub> = 0, f = 1MHz	—	30	—	pF	
Peak Emission Wavelength	λ <sub>P</sub>	I <sub>F</sub> = 20mA	—	940	—	nm	
Spectral Line Half Width	Δλ	I <sub>F</sub> = 20mA	—	50	—	nm	

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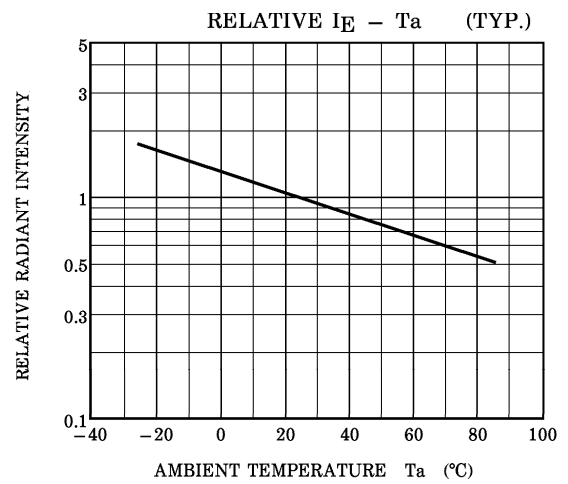
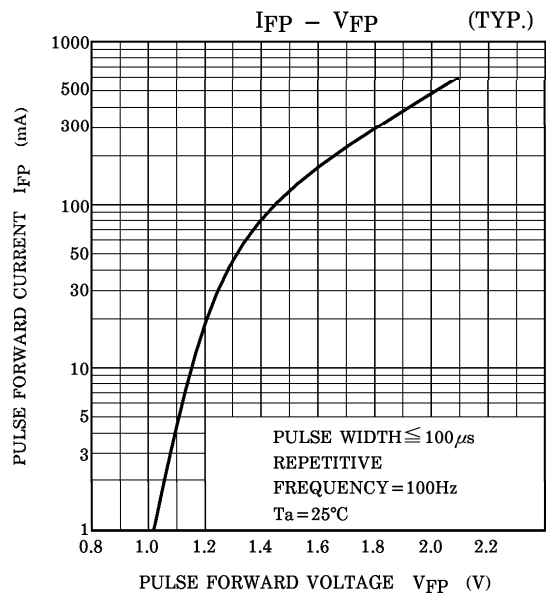
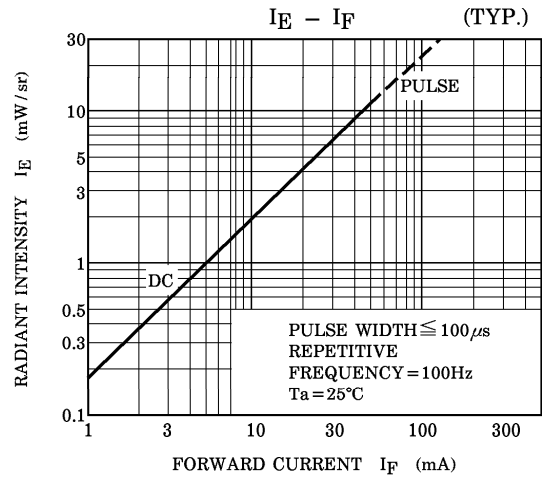
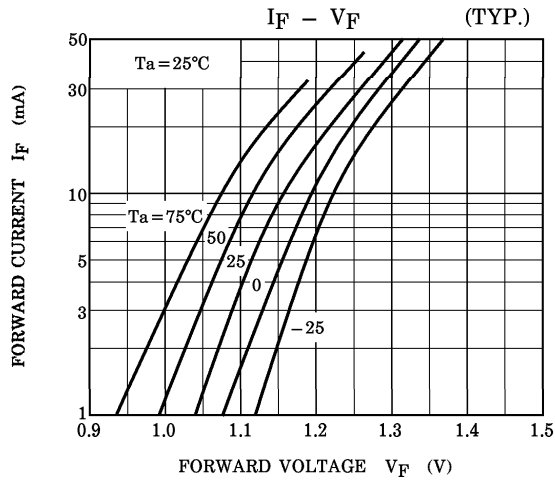
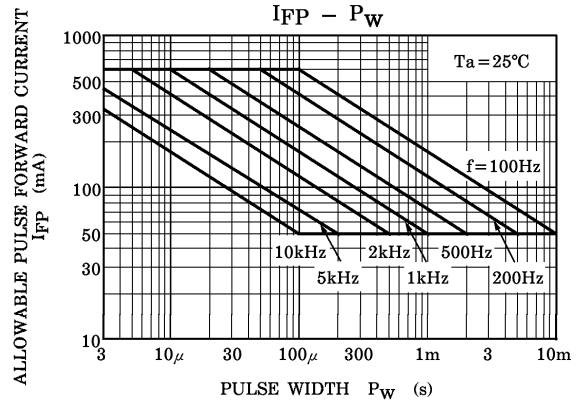
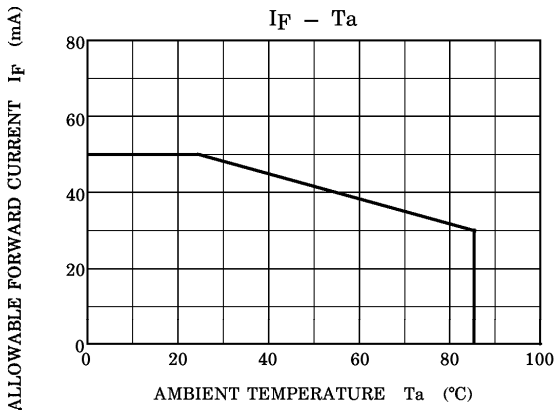
## PRECAUTION

Please be careful of the followings.

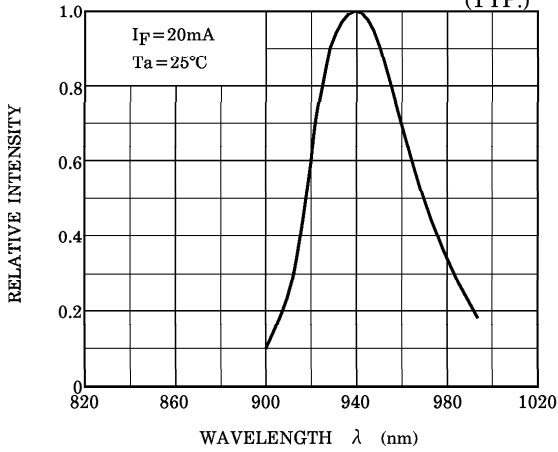
1. Soldering temperature : 260°C MAX.  
Soldering time : 5s MAX.  
(Soldering portion of lead : above 2mm from the body of the device)
2. If the lead is formed, the lead should be formed at a distance of 2mm from the body of the device.

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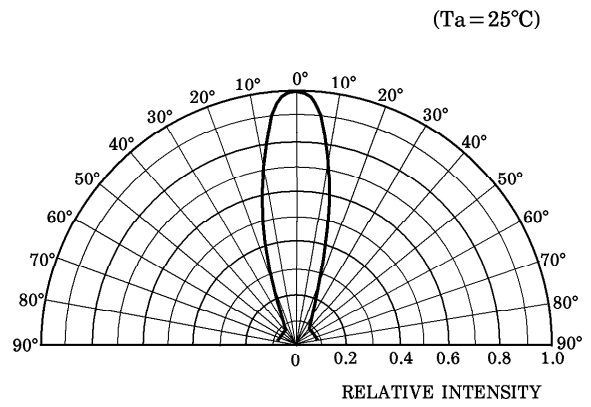
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**WAVELENGTH CHARACTERISTIC (TYP.)**



**RADIATION PATTERN (TYP.)**



**COUPLING CHARACTERISTICS WITH TPS608A**

