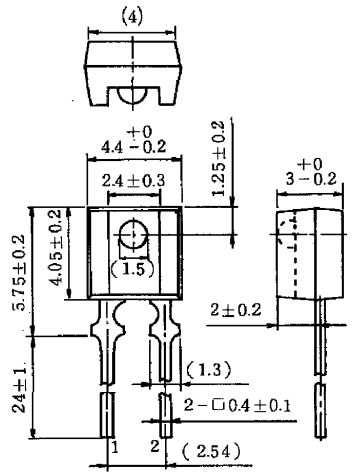
TOSHIBA INFRARED LED GaAs INFRARED EMITTER

TLN107A

INFRARED LED FOR PHOTO INTERRUTER

Unit in mm



( ) : REFERENCE VALUE

JEDEC	—
EIAJ	—
TOSHIBA	4-4H1

Weight : 0.16g (TYP.)

OPTO-ELECTRONIC SWITCH

INFRARED RAYS APPLIED EQUIPMENT

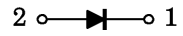
- High radiant intensity
- Excellent linearity of radiant intensity and modulation by pulse operation and high frequency is possible.
- The same external shape as Photo Transistors TPS607A and TPS608A and is best suited for combination with them as a photo interrupter.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current	I_F	50	mA
Pulse Forward Current	I_{FP} (Note)	600	mA
Reverse Voltage	V_R	5	V
Forward Current Derating (Ta > 25°C)	ΔI_F / °C	−0.33	mA / °C
Operating Temperature Range	T_{opr}	−25~85	°C
Storage Temperature Range	T_{stg}	−40~100	°C

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

PIN CONNECTION



1. CATHODE
2. ANODE

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_F	I_F = 10mA		1.0	1.15	1.3	V
Reverse Current	I_R	V_R = 5V		—	—	10	μA
Radiant Intensity	I_E	I_F = 20mA	TLN107A	0.8	—	—	mW / sr
			TLN107A-A	0.8	—	3.0	
			TLN107A-B	2.0	—	7.5	
Radiant Power	P_O	I_F = 20mA		—	2.5	—	mW
Half Value Angle	$\theta_{\frac{1}{2}}$	I_F = 20mA		—	±15	—	°
Capacitance	C_T	V_R = 0, f = 1MHz		—	30	—	pF
Peak Emission Wavelength	λ_P	I_F = 20mA		—	940	—	nm
Spectral Line Half Width	$\Delta\lambda$	I_F = 20mA		—	50	—	nm

961001EAC2

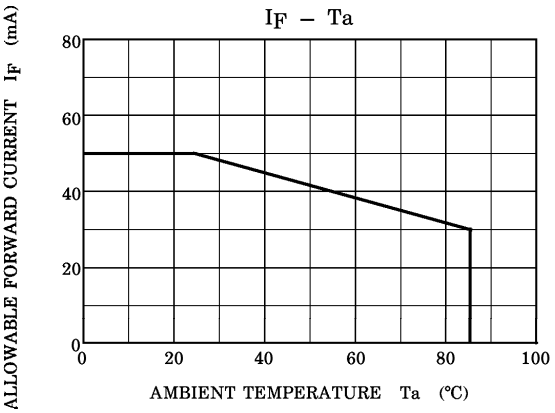
PRECAUTION

Please be careful of the followings.

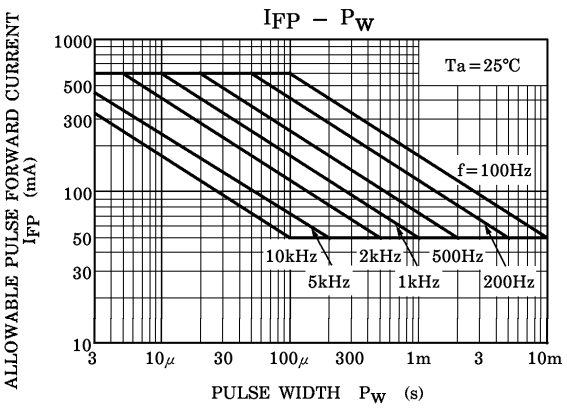
1. Soldering temperature : 260°C MAX.
   Soldering time : 5s MAX.
   (Soldering portion of lead : above 2mm from the body of the device)
2. If the lead is formed, the lead should be formed at a distance of 2mm from the body of the device.

961001EAC2'

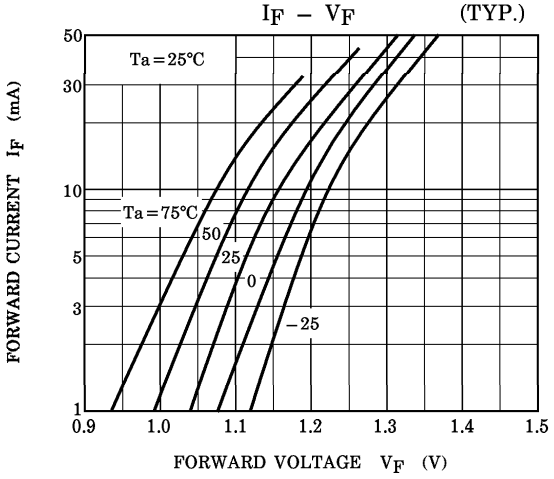
I_F – Ta



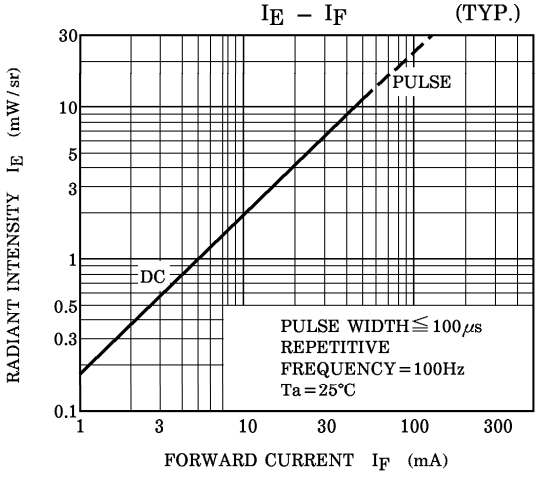
I_{FP} – P_W



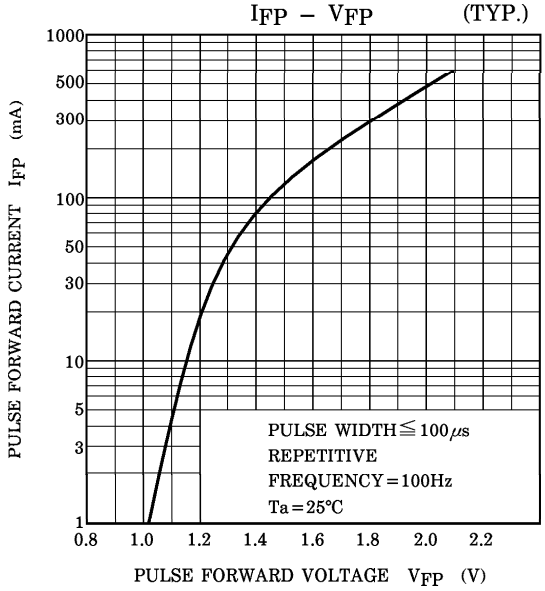
I_F – V_F (TYP.)



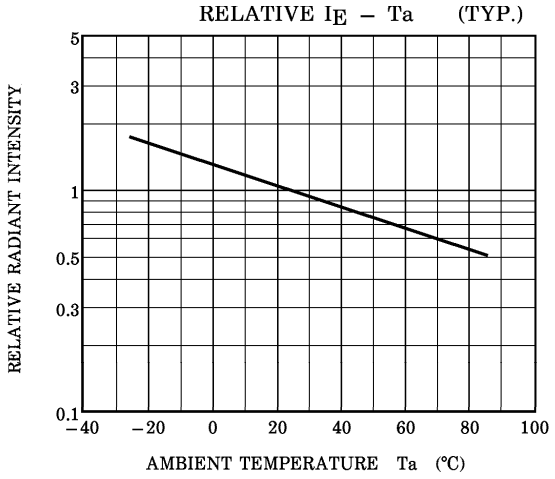
I_E – I_F (TYP.)



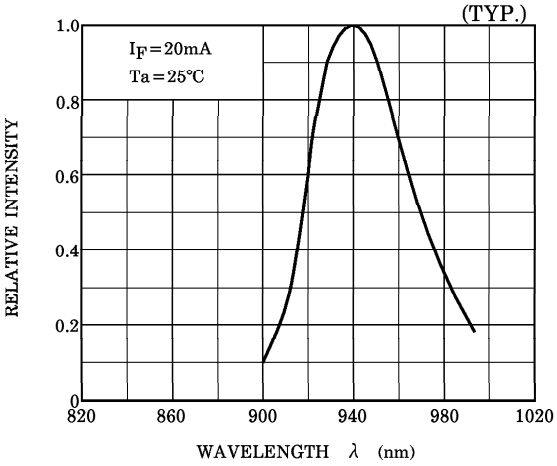
I_{FP} – V_{FP} (TYP.)



RELATIVE I_E – Ta (TYP.)

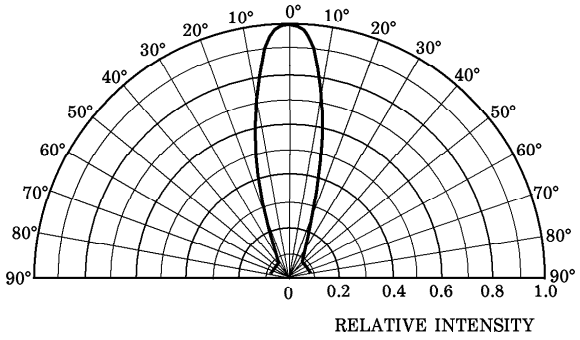


WAVELENGTH CHARACTERISTIC (TYP.)



RADIATION PATTERN (TYP.)

(Ta=25°C)



COUPLING CHARACTERISTICS WITH TPS608A