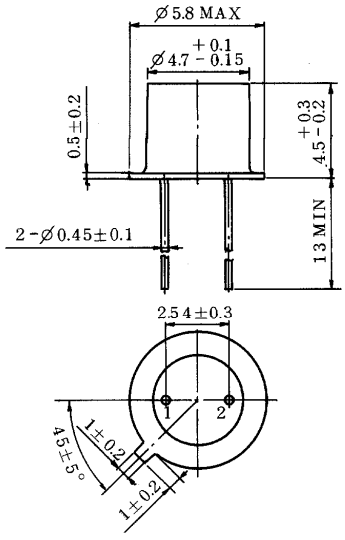
TOSHIBA INFRARED LED GaAs INFRARED EMITTER

TLN102

INFRARED LED FOR PHOTO SENSOR

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	4-5X1

Weight : 0.29g (TYP.)

PIN CONNECTION

1. ANODE
2. CATHODE (CASE)

OPTO-ELECTRONIC SWITCH

INFRARED RAYS APPLIED EQUIPMENT

- Wide half value angle : $\theta\frac{1}{2} = \pm 31°$ (TYP.)
- Excellent linearilty of radiant power and modulation by pulse operation and high frequency is possible.
- Hyghly reliable because of hermetic seal.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current	I_F	100	mA
Forward Current Derating (Ta > 25°C)	ΔI_F / °C	−1	mA / °C
Pulse Forward Current	I_{FP} (Note)	1	A
Reverse Voltage	V_R	5	V
Operating Temperature Range	T_{opr}	−40~125	°C
Storage Temperature Range	T_{stg}	−55~150	°C

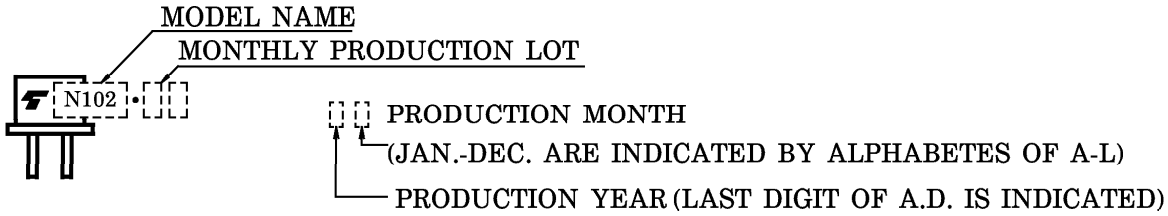
(Note) Pulse Width ≦ 100 μs, Repetitive Frequency = 100Hz

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_F	I_F = 50mA	—	1.3	1.4	V
Pulse Forward Voltage	V_{FP}	I_{FP} = 1A	—	2.4	—	V
Reverse Current	I_R	V_R = 5V	—	—	10	μA
Radiant Intensity	I_E	I_F = 50mA	2	4	—	mW / sr
Radiant Power	P_O	I_F = 50mA	—	4.2	—	mW
Capacitance	C_T	V_R = 0, f = 1MHz	—	30	—	pF
Peak Emission Wavelength	λ_P	I_F = 50mA	—	940	—	nm
Spectral Line Half Width	$\Delta\lambda$	I_F = 50mA	—	50	—	nm
Half Value Angle	$\theta\frac{1}{2}$	I_F = 50mA	—	±31	—	°

961001EAC2

PRODUCTION INDICATION



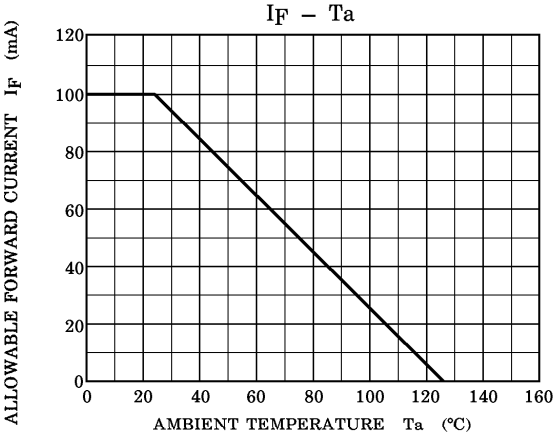
STAMP COLOR : RED

PRECAUTION

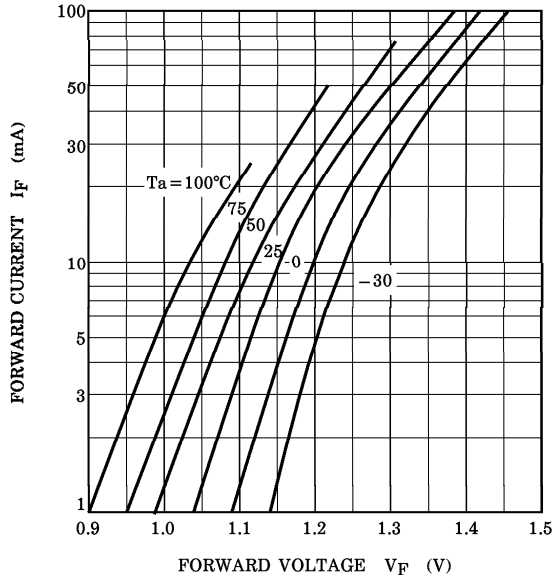
Please be careful of the followings.

1. Soldering temperature : 260°C MAX.
   Soldering time : 5s MAX.
   (Soldering portion of lead:above 1.5mm 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. Soldering shall be performed after lead forming.

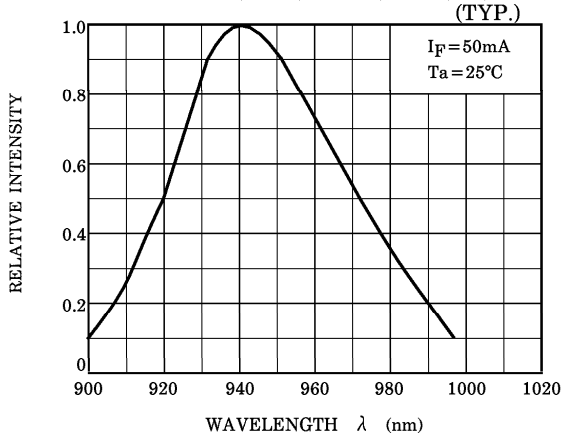
I_F – Ta



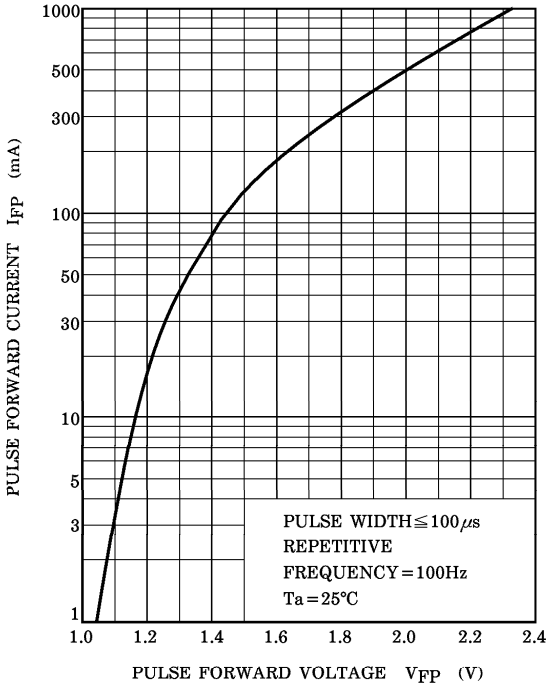
I_F – V_F (TYP.)



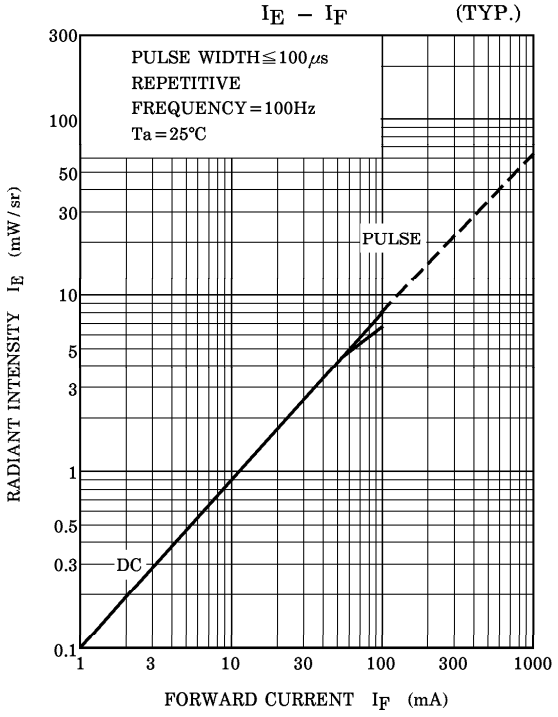
WAVELENGTH CHARACTERISTIC (TYP.)



I_{FP} – V_{FP} (TYP.)

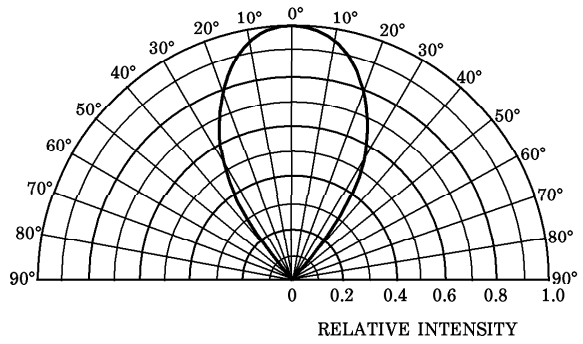


I_E – I_F (TYP.)

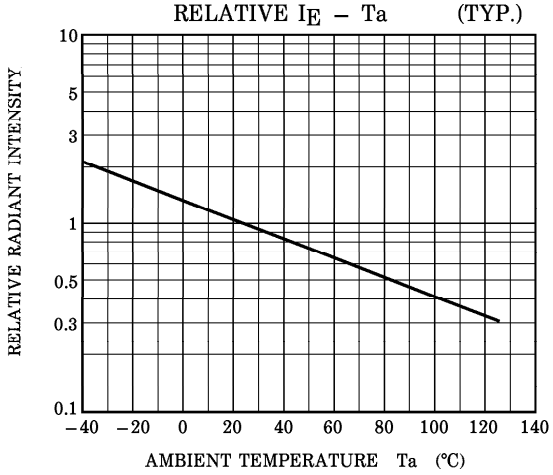


RADIATION PATTERN (TYP.)

(Ta = 25°C)



RELATIVE I_E – Ta (TYP.)



I_{FP} – P_W