TOSHIBA INFRARED LED GaAs INFRARED EMITTER

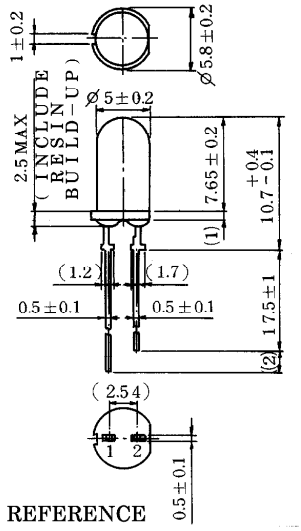
TLN115A

INFRARED LED FOR REMOTE CONTROL SYSTEM

Unit in mm

REMOTE CONTROL SYSTEM

- High radiant intensity : I_E = 26mW / sr (TYP.)
- Wide half value angle : $\theta\frac{1}{2} = \pm 21°$ (TYP.)
- Excellent linearity of radiant intensity and modulation by pulse operation and high frequency is possible.
- PIN photo diode TPS703 provided with a visible light cut filter is available for light receiving element for remote control.



( ): REFERENCE VALUE

JEDEC	—
EIAJ	—
TOSHIBA	4-6B6

Weight : 0.3g (TYP.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current	I_F	100	mA
Forward Current Derating (Ta > 25°C)	ΔI_F / °C	−1.33	mA / °C
Pulse Forward Current (Note)	I_{FP}	1	A
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	150	mW
Operation Temperature Range	T_{opr}	−20~75	°C
Storage Temperature Range	T_{stg}	−30~85	°C

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

PIN CONNECTION

1. ANODE
2. CATHODE

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_F	I_F = 100mA	—	1.35	1.5	V
Reverse Current	I_R	V_R = 5V	—	—	10	μA
Radiant Intensity (Note)	I_E	I_F = 50mA	15	26	—	mW / sr
Radiant Power	P_O	I_F = 50mA	—	13	—	mW
Capacitance	C_T	V_R = 0, f = 1MHz	—	20	—	pF
Peak Emission Wavelength	λ_P	I_F = 50mA	—	950	—	nm
Spectral Line Half Width	$\Delta\lambda$	I_F = 50mA	—	50	—	nm
Half Value Angle	$\theta\frac{1}{2}$	I_F = 50mA	—	±21	—	°

(Note) I_E classification B : 19mW / sr MIN.

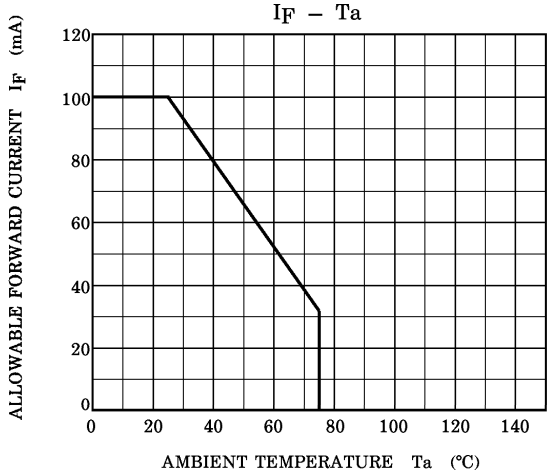
961001EAC2

PRECAUTION

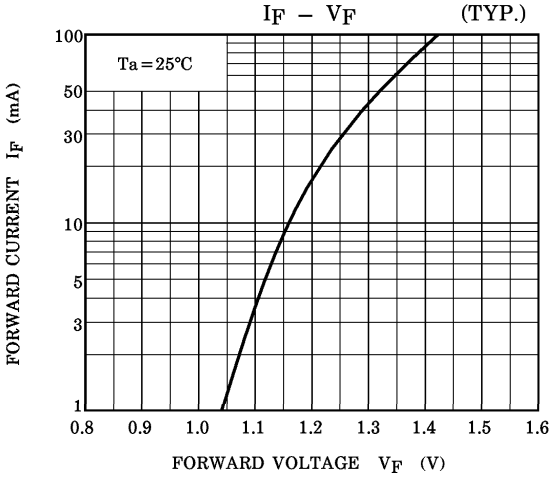
Please be careful of the followings.

1. Soldering shall be performed at the top portion from the lead stopper.
2. Soldering temperature : 260°C MAX. Solderint time : 5 sec MAX.
3. When the lead is formed, the lead shall be formed at the top portion of the stopper without leaving forming stress to the body of the device.
   Soldering shall be performed after lead forming.

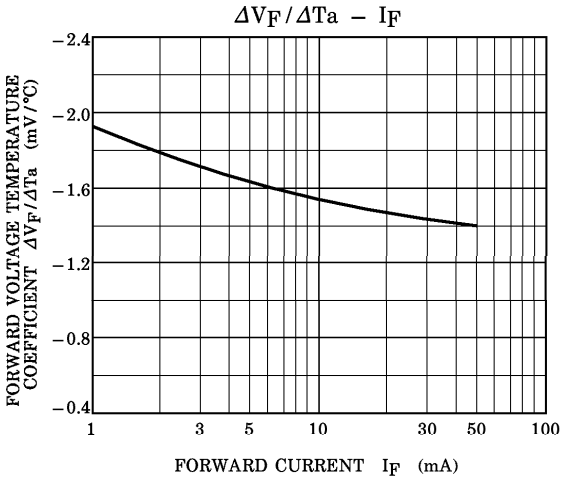
I_F – Ta



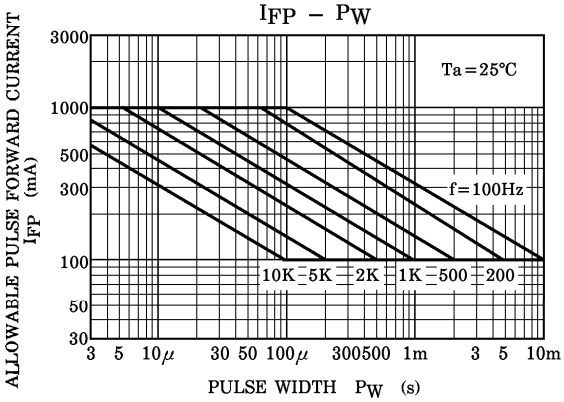
I_F – V_F (TYP.)



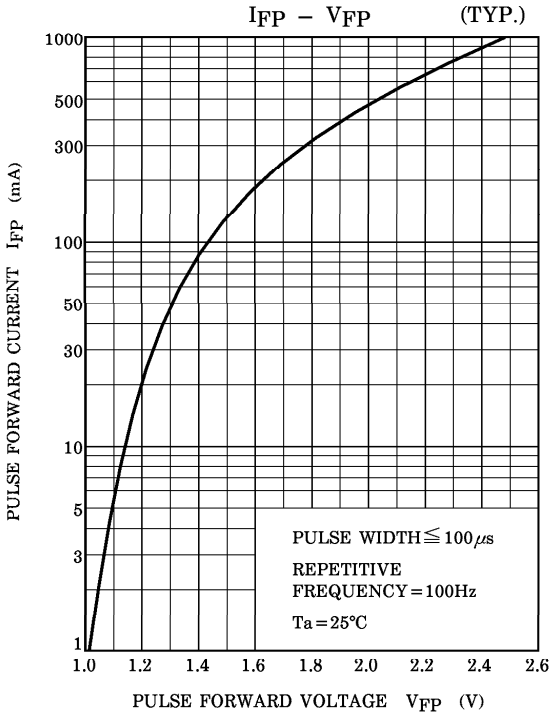
$\Delta V_F / \Delta Ta$ – I_F



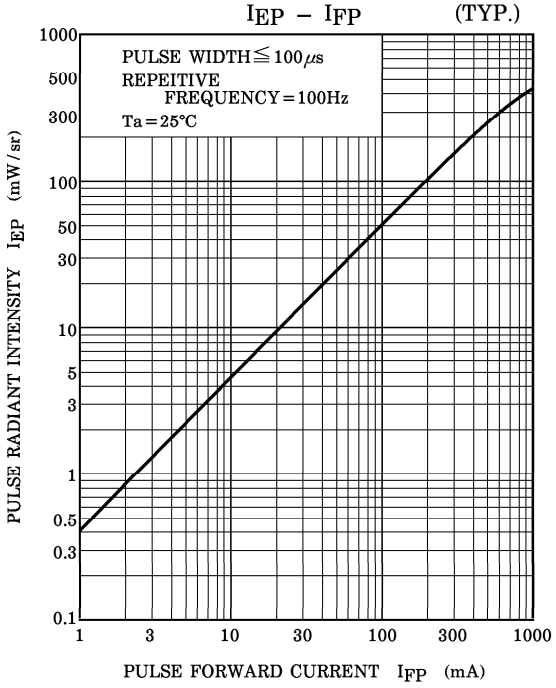
I_{FP} – P_W



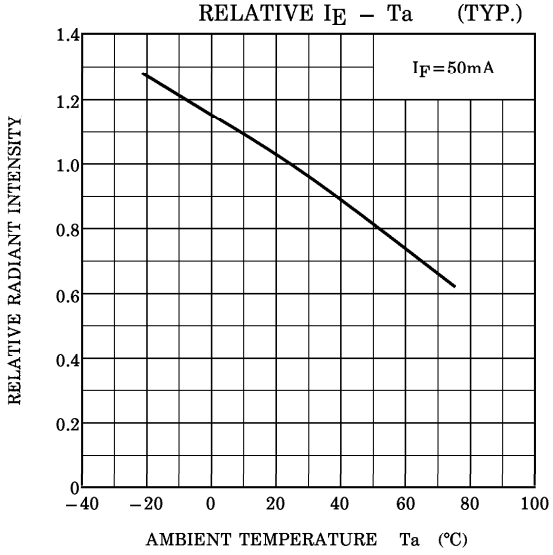
I_{FP} – V_{FP} (TYP.)



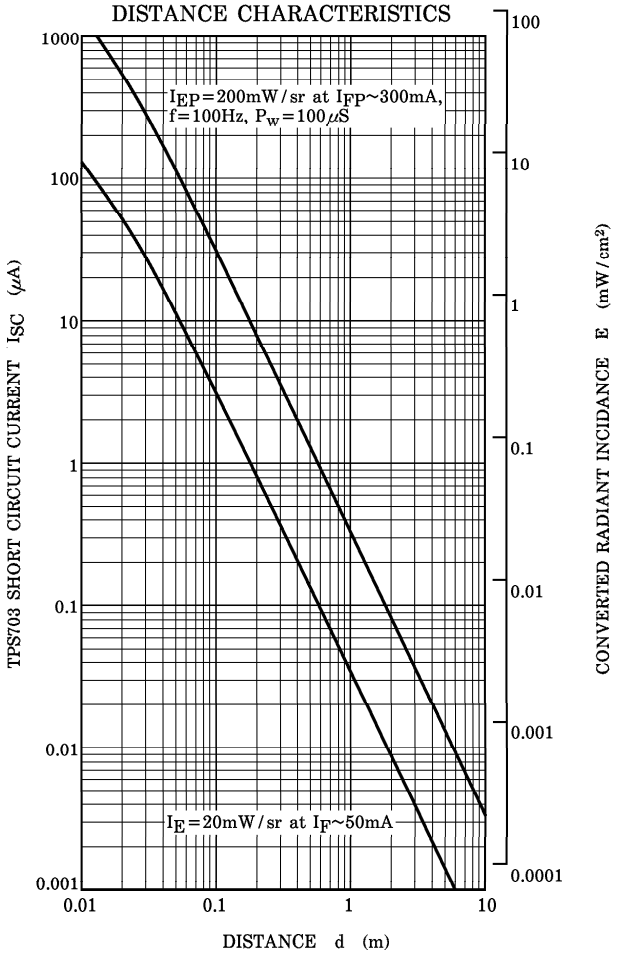
I_{EP} – I_{FP} (TYP.)



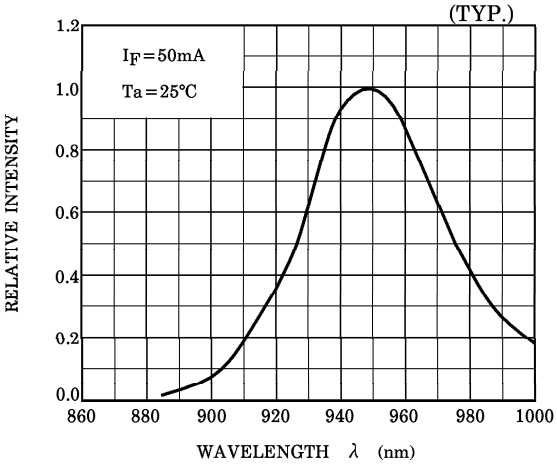
RELATIVE I_E – Ta (TYP.)



DISTANCE CHARACTERISTICS



WAVELENGTH CHARACTERISTIC (TYP.)



RADIATION PATTERN (Ta = 25°C) (TYP.)