TOSHIBA INFRARED LED GaAs INFRARED EMITTER

TLN104, TLN104(LB)

INFRARED LED FOR PHOTO SENSOR

Unit in mm

TAPE, CARD READERS

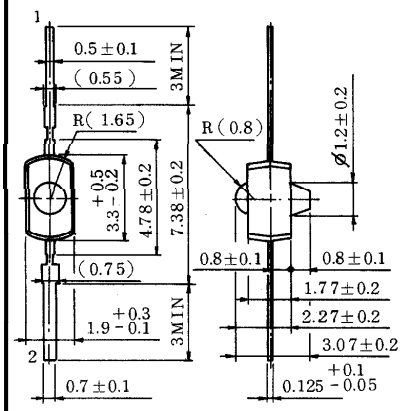
HANDY TERMINAL

AUDIO, VIDEO EQUIPMENT

OPTO-ELECTRONIC SWITCH

- Micro-package (epoxy resin package)
  - Double end type : TLN104
  - DIP type : TLN104 (LB)
- Mountable at a 2.5mm pitch
- Large radiant power : Po = 3mW (TYP.)
- Excellent linearity of radiant power and modulation by pulse operation and high frequency is possible.
- Half value angle : $\theta\frac{1}{2} = \pm 20°$ (TYP.)

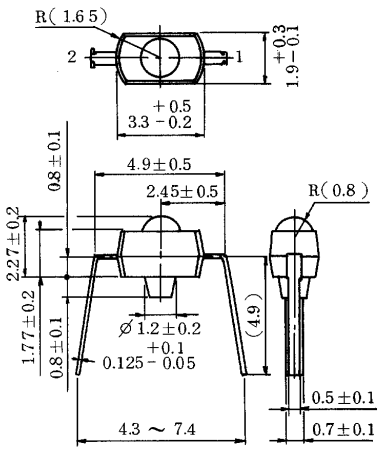
TLN104



( ) : REFERENCE VALUE

JEDEC	—
EIAJ	—
TOSHIBA	4-2A2

TLN104 (LB)



( ) : REFERENCE VALUE

JEDEC	—
EIAJ	—
TOSHIBA	4-2A01

Weight : 0.02g (TYP.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current	I_F	40	mA
Forward Current Derating (Ta > 25°C)	ΔI_F / °C	−0.53	mA / °C
Pulse Forward Current	I_{FP} (Note 1)	400	mA
Reverse Voltage	V_R	5	V
Operating Temperature Range	T_{opr}	−25~85	°C
Storage Temperature Range	T_{stg}	−30~100	°C
Soldering Temperature Range (3s)	T_{sol}	260	°C

Note 1. Pulse Width ≦ 100μs, Repetitive Frequency = 100Hz

PIN CONNECTION

1. ANODE
2. CATHODE

961001EAC2

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

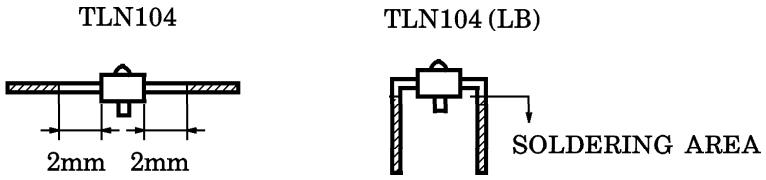
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_F	I_F=10mA	—	1.13	1.35	V
Reverse Current	I_R	V_R=5V	—	—	10	μA
Rediant Power (Note 2)	P_O	I_F=20mA	1.5	3	—	mW
Capacitance	C_T	V_R=0, f=1MHz	—	50	—	pF
Peak Emission Wavelength	λ_P	I_F=20mA	—	940	—	nm
Spectral Line Half Width	$\Delta\lambda$	I_F=20mA	—	50	—	nm
Half Value Angle	$\theta\frac{1}{2}$	I_F=20mA	—	±20	—	°

Note 2. P_O Classification B : 2.5~6.0mW

PRECAUTION

Please be careful of the followings.

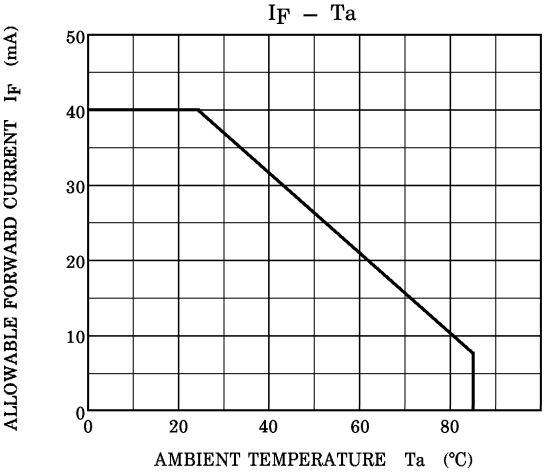
1. If the lead is formed, the lead should be formed at a distance of 0.8mm from the body of the device.
   Soldering shall be performed after lead forming. However, in case of TLN104 (LB), no lead forming shall be performed.
2. Soldering shall be performed within the range shown below.



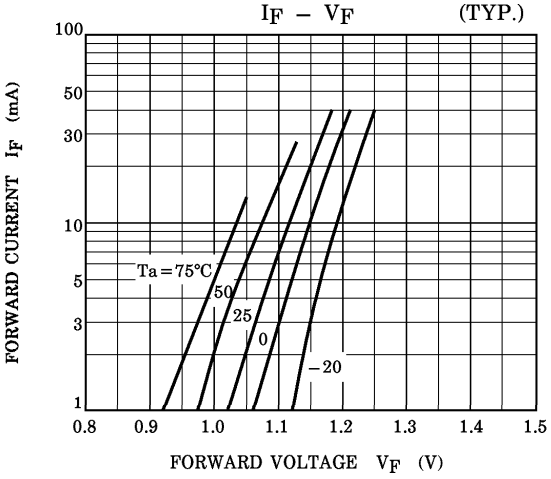
AREA 2mm AWAY FROM
THE PACKAGE ENDS

961001EAC2'

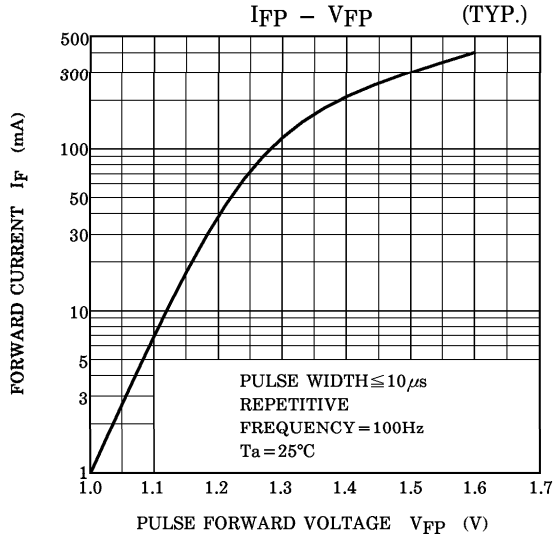
I_F – Ta



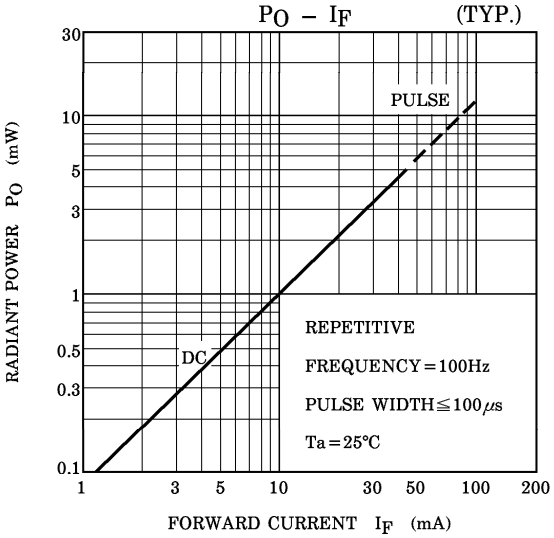
I_F – V_F (TYP.)



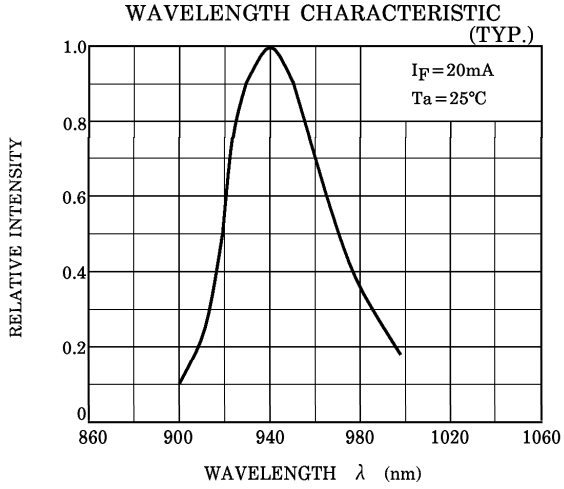
I_{FP} – V_{FP} (TYP.)



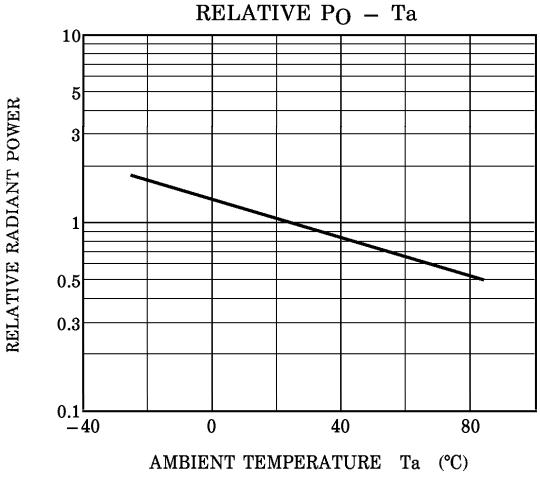
P_O – I_F (TYP.)



WAVELENGTH CHARACTERISTIC (TYP.)

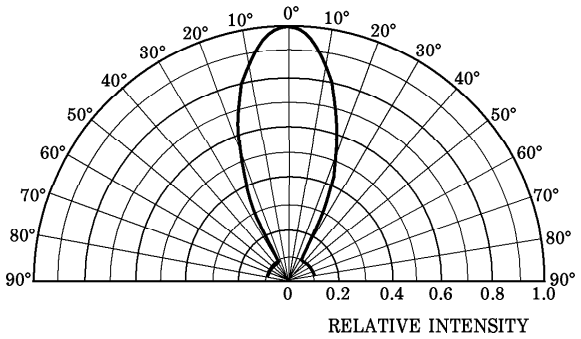


RELATIVE P_O – Ta



RADIATION PATTERN (TYP.)

(Ta = 25°C)



I_{FP} – P_W