

TLN119

PRINTERS, FAX MACHINES

FLOPPY DISK DRIVE

HOME ELECTRIC EQUIPMENT

OPTO-ELECTRONIC SWITCHES

- $\phi 3.1$ mm plastic package
- Radiant intensity : $I_E = 5 \text{ mW/sr}$ (typ.)
- Half-angle value : $\theta_{\frac{1}{2}} = \pm 30^\circ$ (typ.)

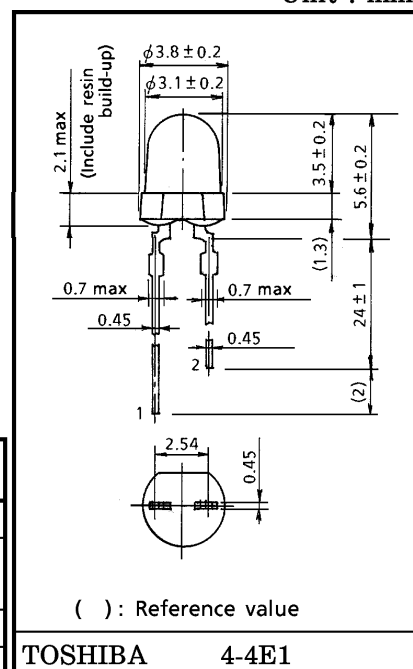
MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Forward Current	I_F	60	mA
Forward Current Derating ($T_a > 25^\circ\text{C}$)	$\Delta I_F / ^\circ\text{C}$	-0.8	mA / $^\circ\text{C}$
Pulse Forward Current (Note 1)	I_{FP}	600	mA
Reverse Voltage	V_R	5	V
Operating Temperature Range	T_{opr}	$-25 \sim 85$	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-30 \sim 100$	$^\circ\text{C}$
Soldering Temperature (3 s)	T_{sol} (Note 2)	260	$^\circ\text{C}$

(Note 1) : Pulse width $\leq 100 \mu\text{s}$, repetitive frequency = 100 Hz

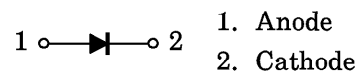
(Note 2) : Soldering must be performed 2 mm from the bottom of the package body.

Unit : mm



Weight : 0.12 g (typ.)

PIN CONNECTION

OPTICAL AND ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

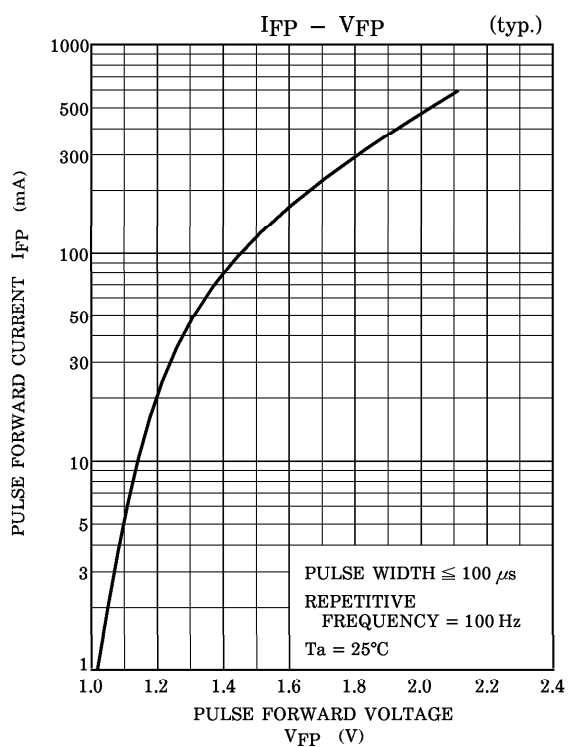
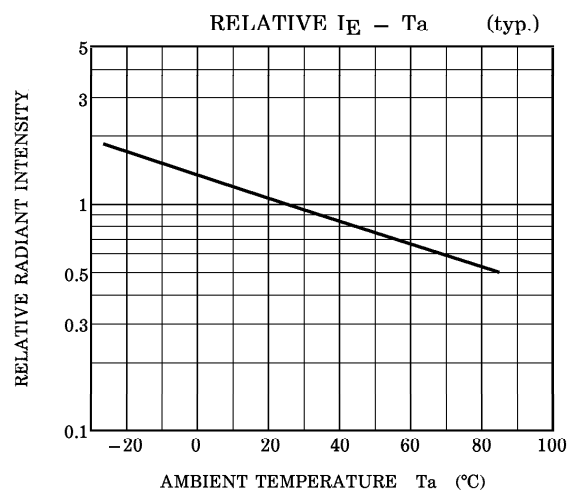
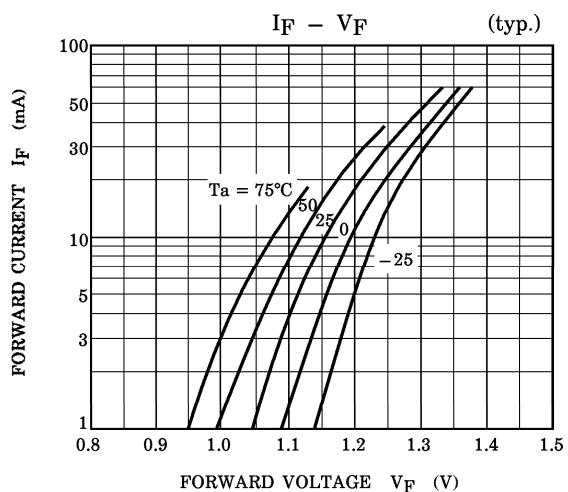
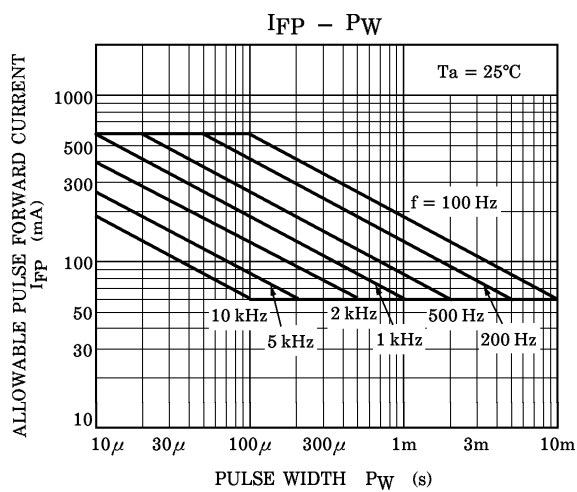
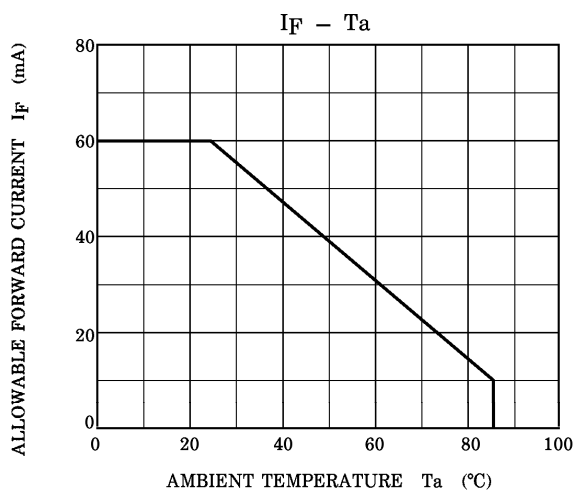
CHARACTERISTIC	SYMBOL	TEST CONDITION	Min	Typ.	Max	UNIT
Forward Voltage	V_F	$I_F = 10 \text{ mA}$	1.00	1.15	1.30	V
Reverse Current	I_R	$V_R = 5 \text{ V}$	—	—	10	μA
Radiant Intensity	I_E	$I_F = 20 \text{ mA}$	TLN119	2.5	5.0	10.0
			TLN119 (A)	2.5	—	6.0
			TLN119 (B)	4.2	—	10.0
Radiant Power	P_O	$I_F = 20 \text{ mA}$	—	4.5	—	mW
Peak Emission Wavelength	λ_P	$I_F = 20 \text{ mA}$	—	945	—	nm
Spectral Line Half Width	$\Delta\lambda$	$I_F = 20 \text{ mA}$	—	50	—	nm
Half Value Angle	$\theta_{\frac{1}{2}}$	$I_F = 20 \text{ mA}$	—	± 30	—	$^\circ$

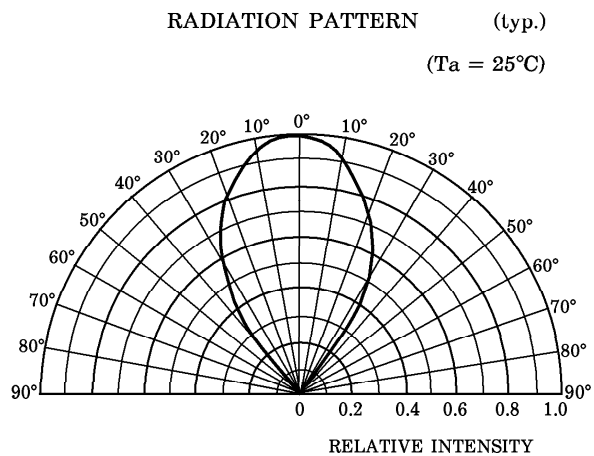
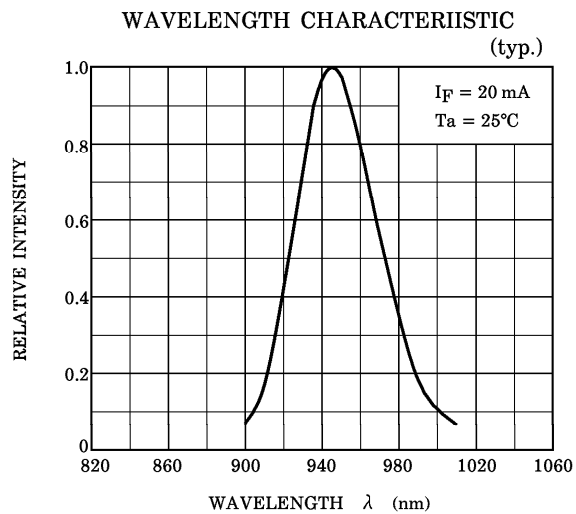
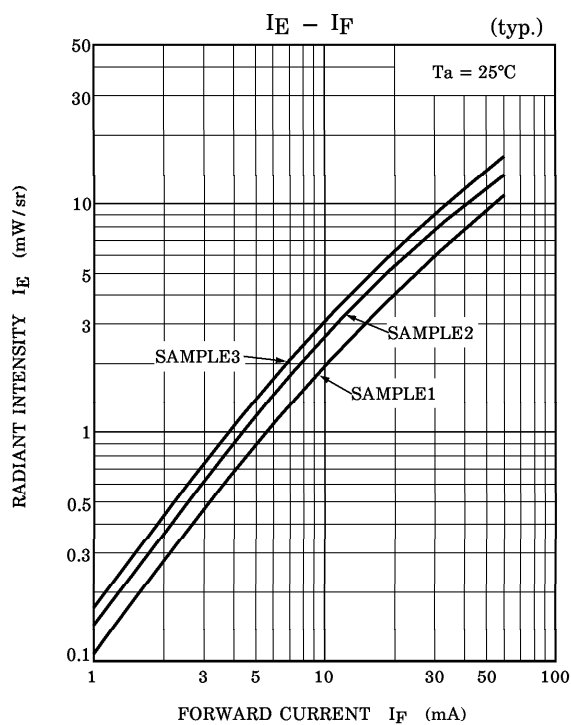
PRECAUTIONS

Please be careful of the followings.

1. When forming the leads, bend each lead under the 2 mm from the body of the device.
Soldering must be performed after the leads have been formed.
2. Radiant intensity falls over time due to the current which flows in the infrared LED.
When designing a circuit, take into account this change in radiant power over time.
The ratio of fluctuation in radiation intensity to fluctuation in optical output is 1 : 1.

$$\frac{I_E(t)}{I_E(0)} = \frac{P_O(t)}{P_O(0)}$$





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