TLRA280

(TLRA280)

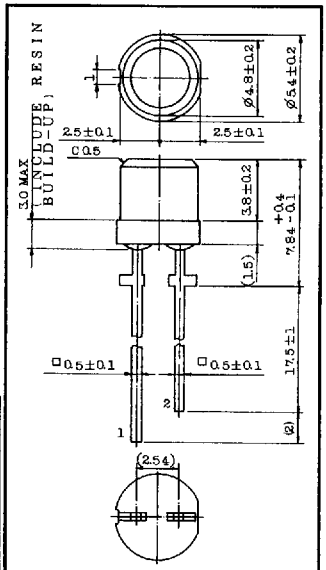
LED FOR PLASTIC FIBER

- Luminous spectra are suited to plastic fiber.
  : $\lambda p = 660nm$ (TYP.)
- High coupling efficiency with fiber : $P_f = -4.0dBm$ (TYP.)
- High speed application is possible. : $f_c = 3MHz$ (TYP.)

PIN CONNECTION

1 : ANODE
2 : CATHODE

Unit in mm



( ) = REFERENCE VALUE

JEDEC	—
EIAJ	—
TOSHIBA	4-5W1

Weight : 0.25g (TYP.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Diode Power Dissipation	P_D	130	mW
Forward Current	I_F	50	mA
Pulse Forward Current (Note)	I_{FP}	200	mA
Reverse Voltage	V_R	4	V
Operating Temperature Range	T_{opr}	−30~85	°C
Storage Temperature Range	T_{stg}	−40~90	°C

(Note) Pulse Width = 1ms, duty = $\frac{1}{20}$

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Optical Output at Fiber End (Note)	P_f	$I_F = 30mA$	−7.0	−4.0	—	dBm
			200	400	—	μW
Reverse Current	I_R	$V_R = 4V$	—	—	100	μA
Forward Voltage	V_F	$I_F = 30mA$	—	1.9	2.5	V
Peak Emission Wavelength	λ_P	$I_F = 30mA$	—	660	—	nm
Spectral Line Half Width	$\Delta\lambda$	$I_F = 30mA$	—	25	—	nm
Capacitance	C_T	$V = 0V$, $f = 1MHz$	—	80	—	pF
Cut-off Frequency	f_c	$I_F = 30mA_{DC} + 6mA_{p\text{-}p}$ Output : −3dB down to 100kHz	—	3	—	MHz

(Note) Plastic fiber used : Fiber length 0.5m, core diameter 980μm, NA 0.5
$P_f(dBm) = 10 \cdot 1\log[P(\mu W)/1000(\mu W)]$
When testing this device, it should be kept closely contacted to a fiber.

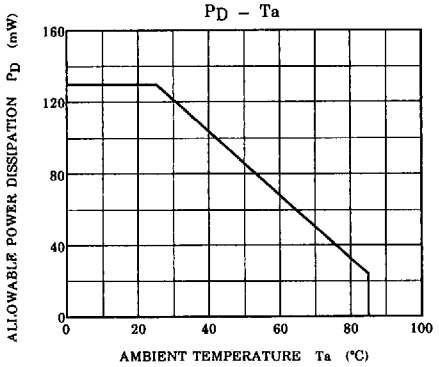
5

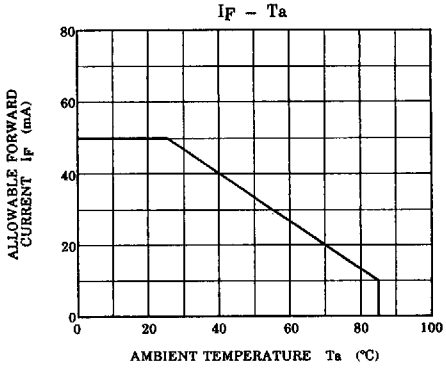
(TLRA280)

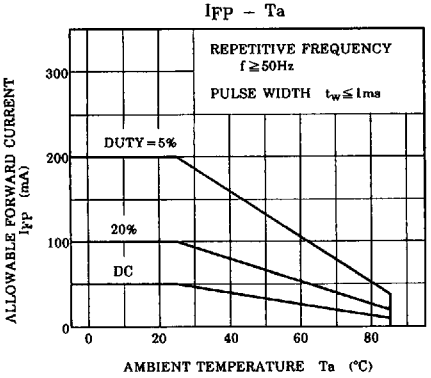
PRECAUTION

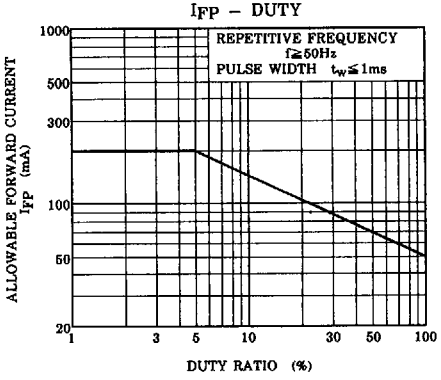
Please be careful of the followings.

1. Soldering temperature : 260°C MAX.
   Soldering time : 3s MAX.
   (Soldering portion of lead : at above 2.5mm from the body of the device)
2. If the lead is formed, the lead should be formed at a distance of 2.5mm from the body of the device.
   Soldering shall be performed after lead forming.



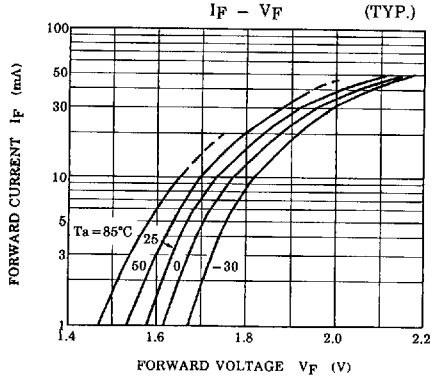




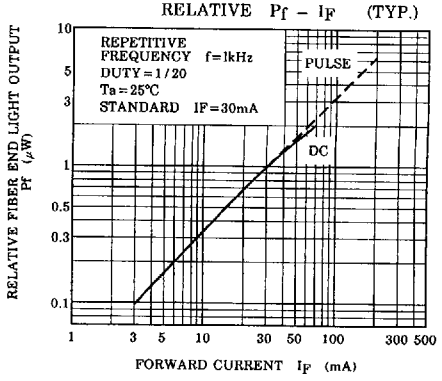


(TLRA280)

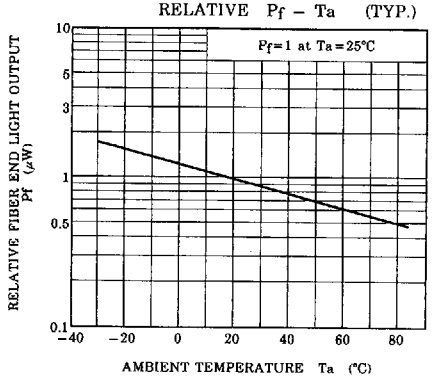
$I_F - V_F$ (TYP.)



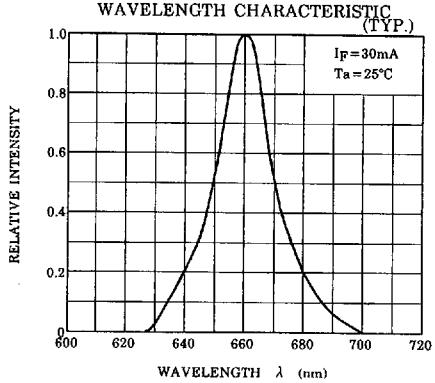
RELATIVE $P_f - I_F$ (TYP.)



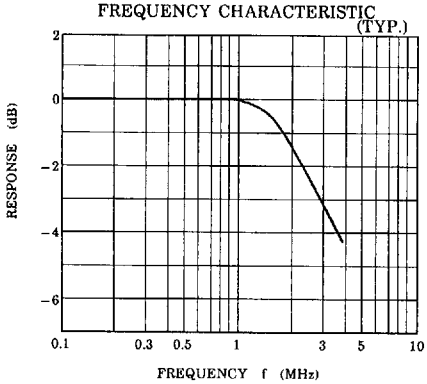
RELATIVE $P_f - Ta$ (TYP.)



WAVELENGTH CHARACTERISTIC (TYP.)



FREQUENCY CHARACTERISTIC (TYP.)



5