

LED Surface Mount Device

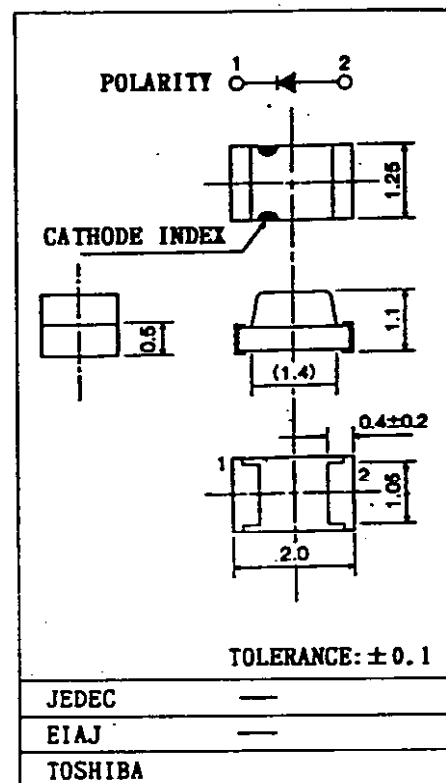
Unit in mm

Features

- 2.0(L) x 1.25(W) x 1.1(H) mm Size
 - Small Package - High Density Mounting is Available
- Available for Automounting Machine Use
- Reflow Soldering is Applicable
- Low Drive Current, High Intensity Light Emission
 - Recommended Forward Current: $I_F = 10 \text{ mA (DC)}$
- Fast Response Time
 - Capable of Pulse Operation
- High Power Luminous Intensity
- Applications:
 - Telephone Cordless/Cellular
 - Portable Instrument
 - Backlight, etc.

Line-Up

Product Name	Color	Material
TLPG1002	Pure Green	GaP
TLG1002	Green	GaP
TLGD1002	Green	GaP
TLYE1002	Yellow	InGaAlP
TLOE1002	Orange	InGaAlP
TLS1002	Red	GaAsP
TLRA1002	Red	GaAlAs



Weight : 2mg

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**TLG1002, TLGD1002, TLPG1002,
TLOE1002, TLYE1002, TLS1002, TLRA1002**

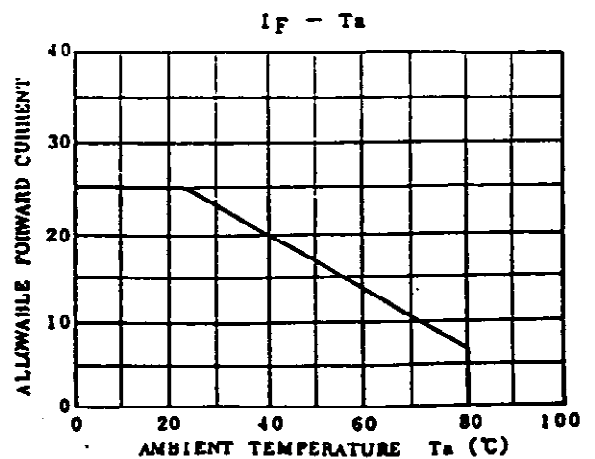
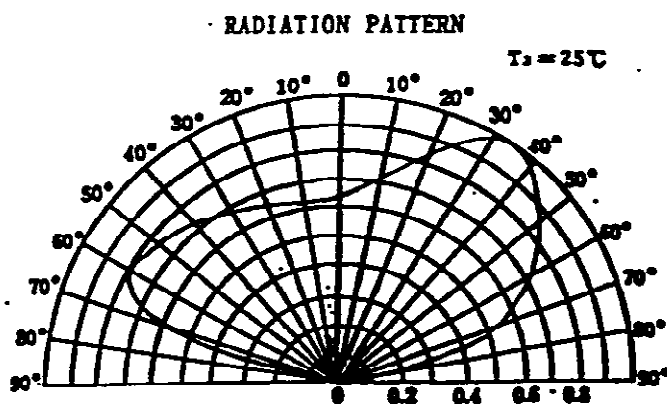
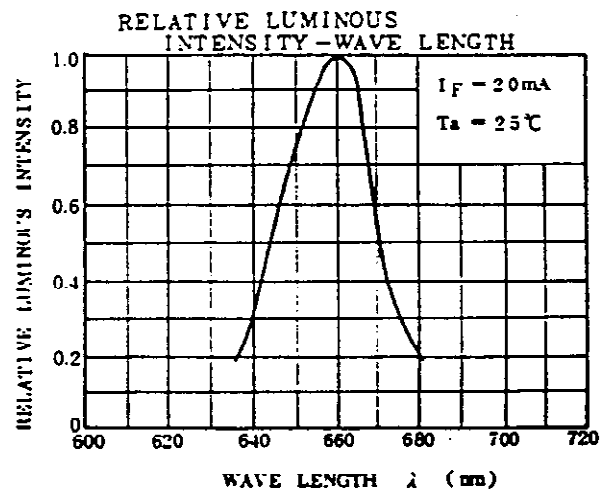
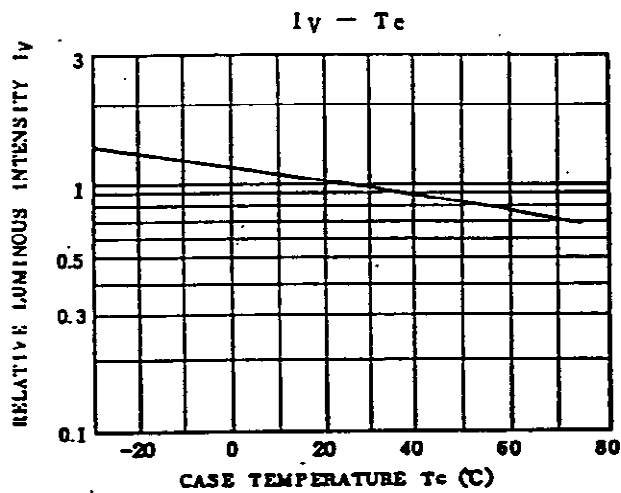
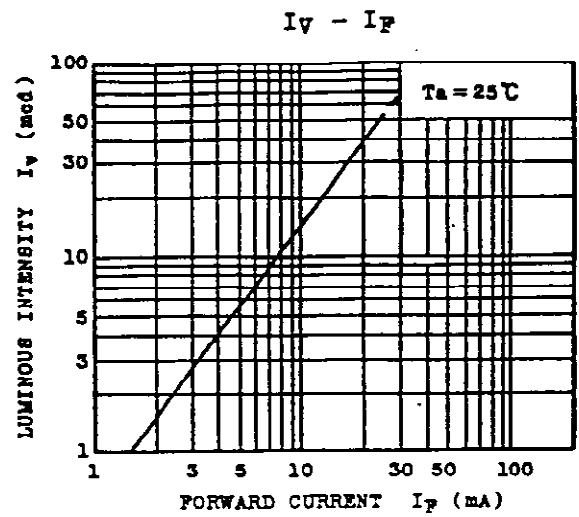
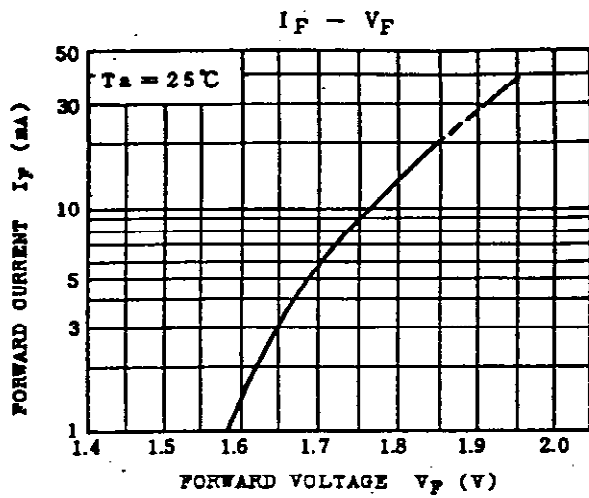
Maximum Ratings (T_a = 25°C)

Product Name	Forward Current (DC) I _F (mA)	Reverse Voltage V _R (V)	Power Dissipation P _D (mW)	Operating Temperature T _{opr} (°C)	Storage Temperature T _{stg} (°C)
TLPG1002	25	4	65.0	-25 ~ 80	-30 ~ 85
TLG1002	25	4	62.5		
TLGD1002	25	4	62.5		
TLYE1002	25	4	62.5		
TLOE1002	25	4	60.0		
TLS1002	25	4	65.0		
TLRA1002	25	4	60.0		

Electro-Optical Characteristics (T_a = 25°C)

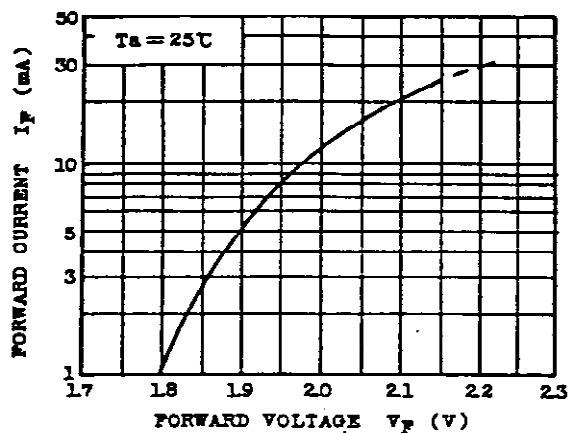
Product Name	Emission Spectrum			Luminous Intensity			Forward Voltage			Reverse Current	
	λ _p	Δλ		I _V			V _F			I _R	
	Typ.	Typ.	I _F	Min.	Typ.	I _F	Typ.	Max.	I _F	Max.	V _R
TLPG1002	555	20	20	0.85	2.0	20	2.15	2.6	20	5	4
TLG1002	567	25	20	2.72	9.0	20	2.15	2.5	20	5	4
TLGD1002	570	25	20	4.76	15.0	20	2.1	2.5	20	5	4
TLYE1002	590	13	20	27.2	60.0	20	2.1	2.5	20	50	4
TLOE1002	612	15	20	27.2	60.0	20	2.0	2.4	20	50	4
TLS1002	635	40	20	1.53	5.0	20	2.05	2.6	20	50	4
TLRA1002	660	25	20	15.3	40.0	20	1.85	2.4	20	50	4
UNIT	nm		mA	mcd		mA	V		mA	μA	V

TLRA1002

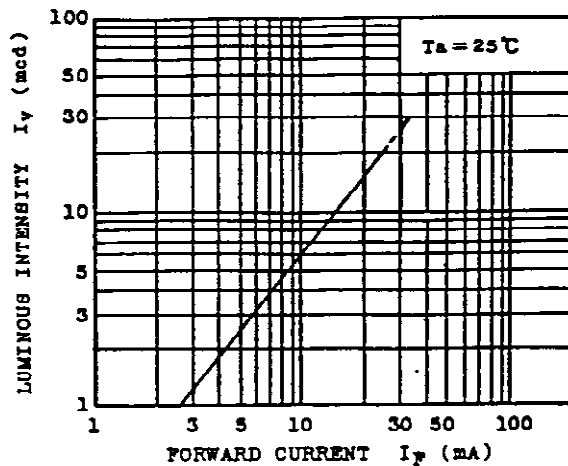


TLGD1002

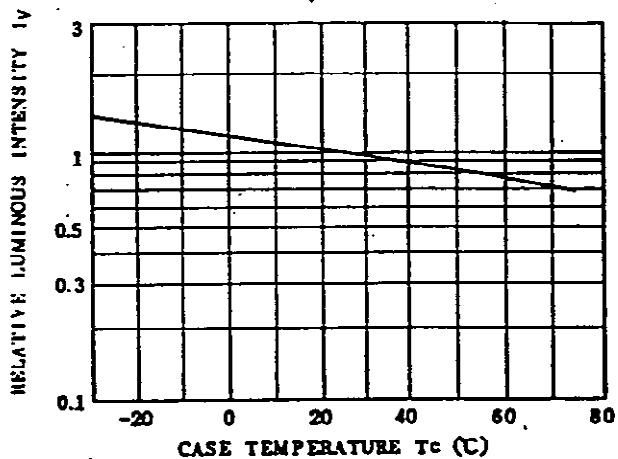
$I_F - V_F$



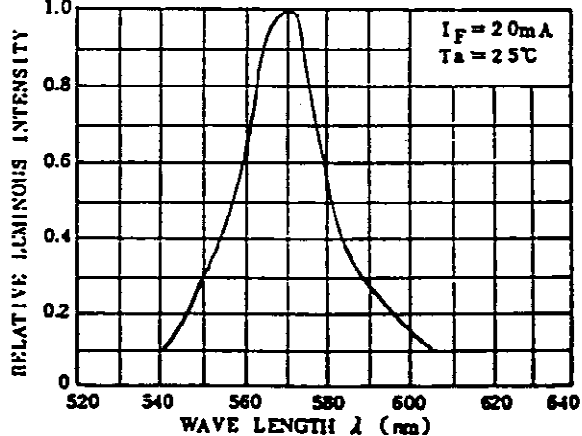
$I_V - I_F$



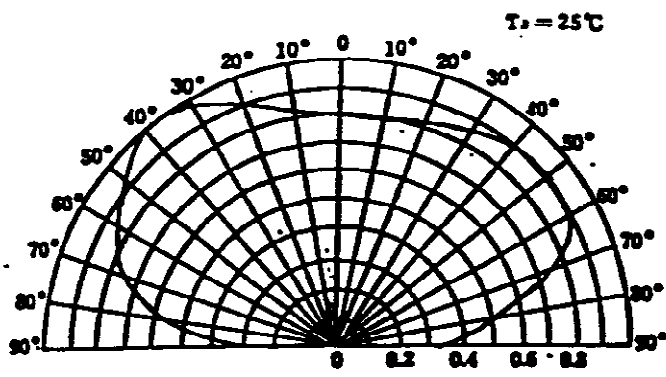
$I_V - T_c$



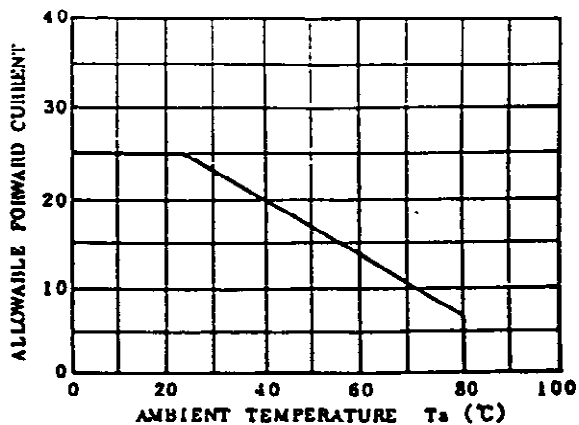
RELATIVE LUMINOUS INTENSITY
- WAVE LENGTH



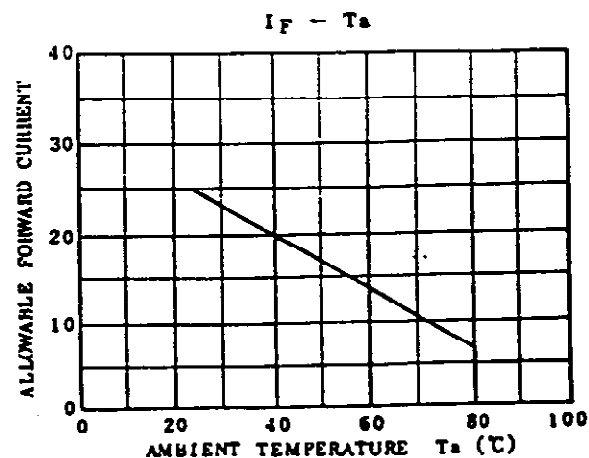
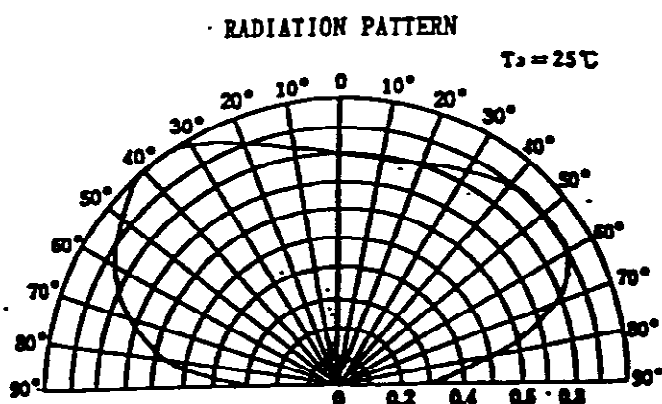
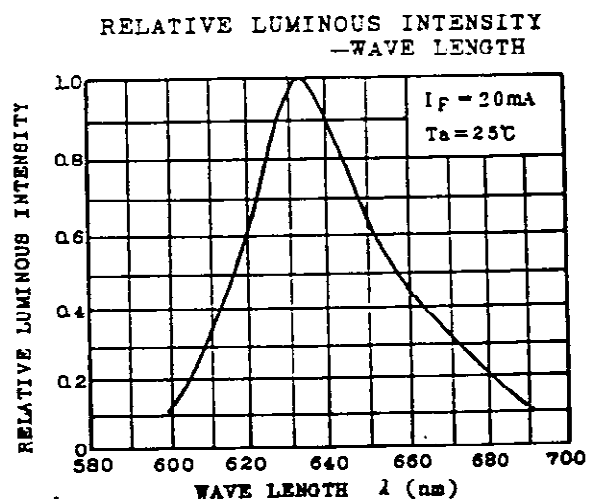
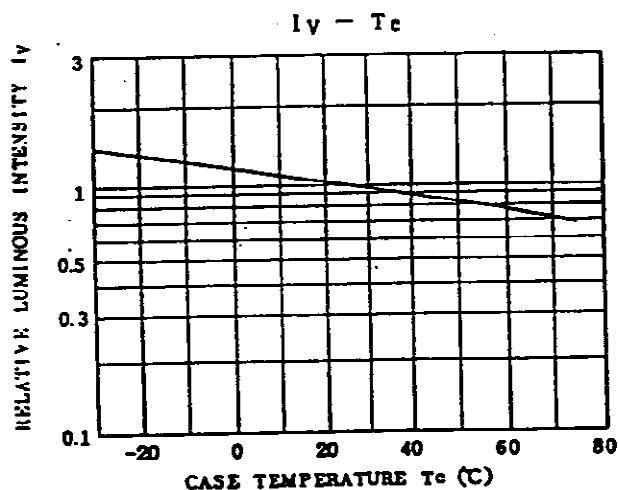
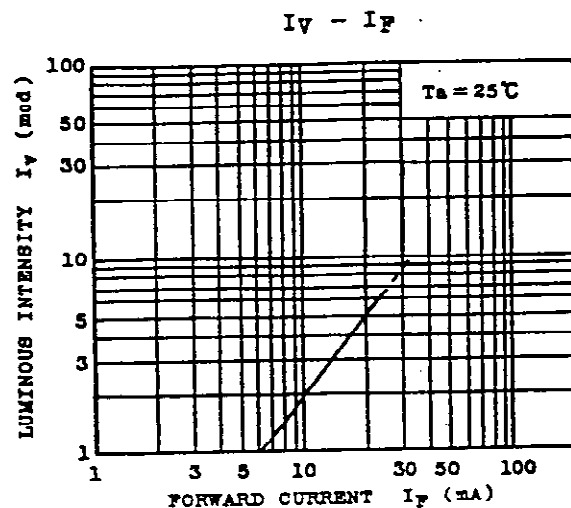
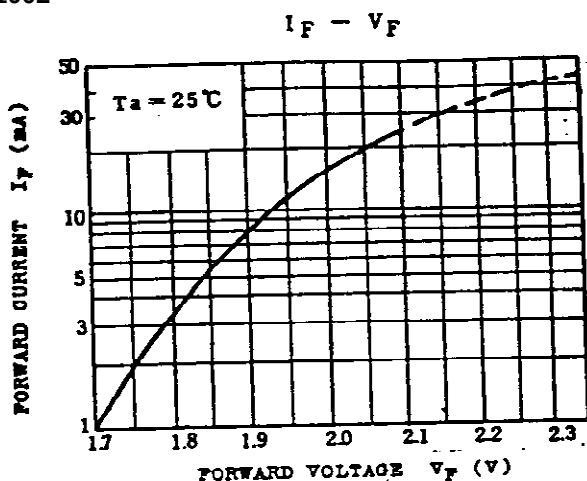
RADIATION PATTERN



$I_F - T_a$

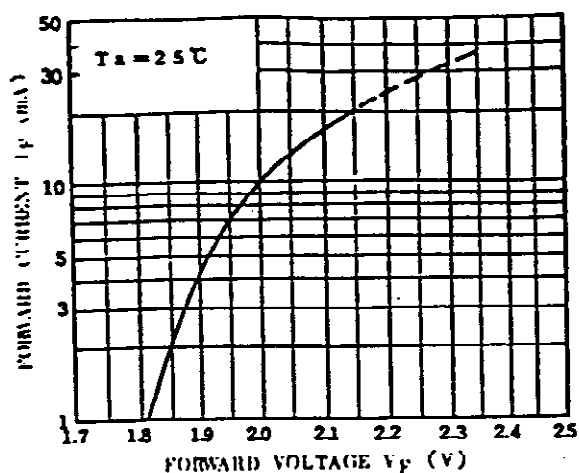


TLS1002

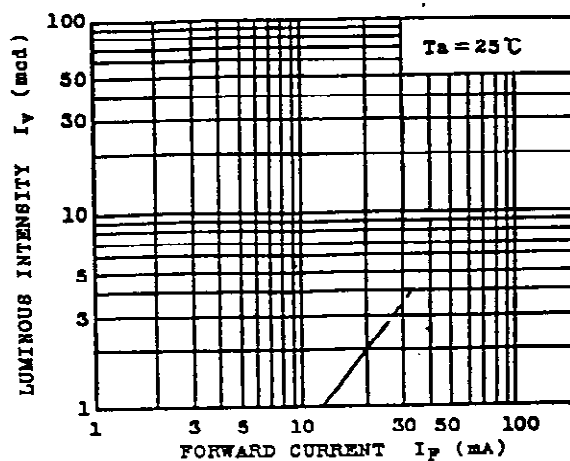


TLPG1002

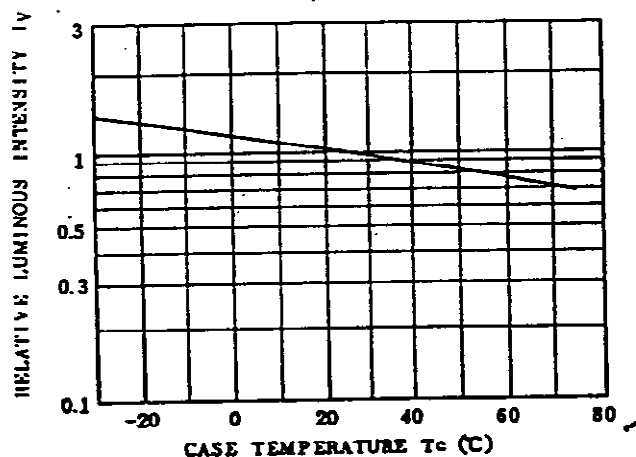
$I_F - V_F$



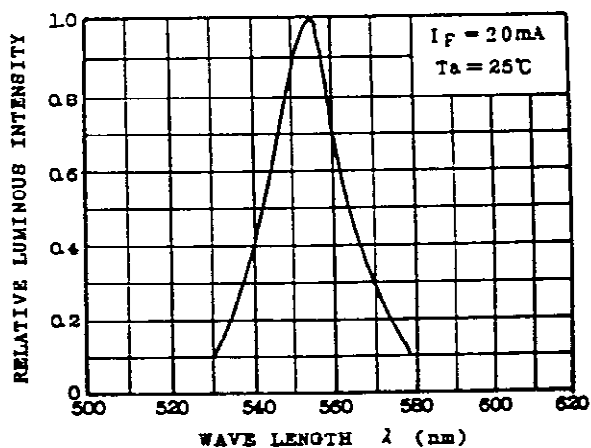
$I_V - I_F$



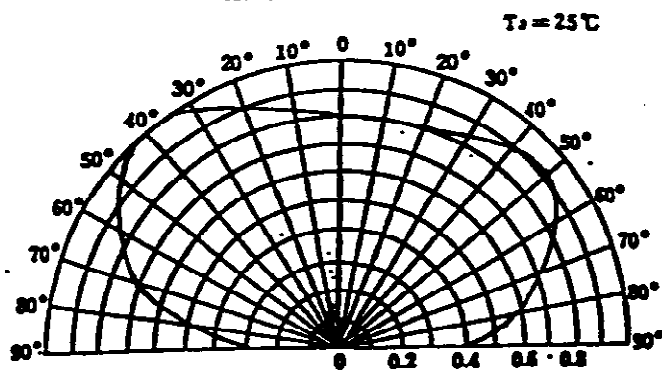
$I_V - T_c$



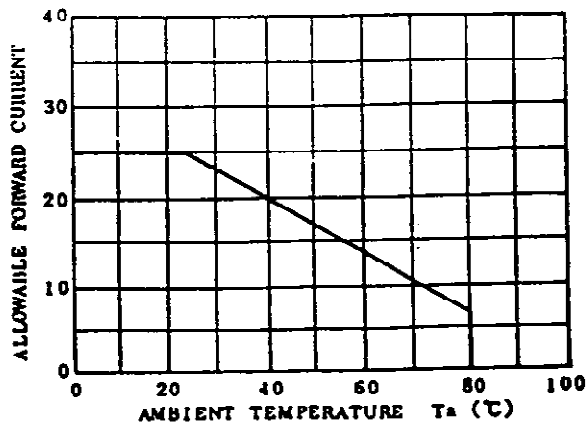
RELATIVE LUMINOUS INTENSITY
- WAVE LENGTH



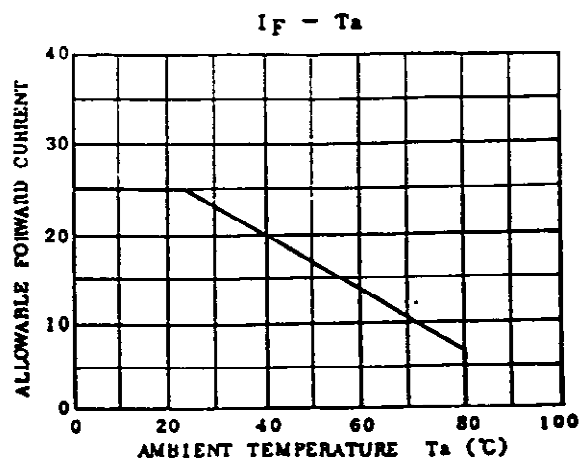
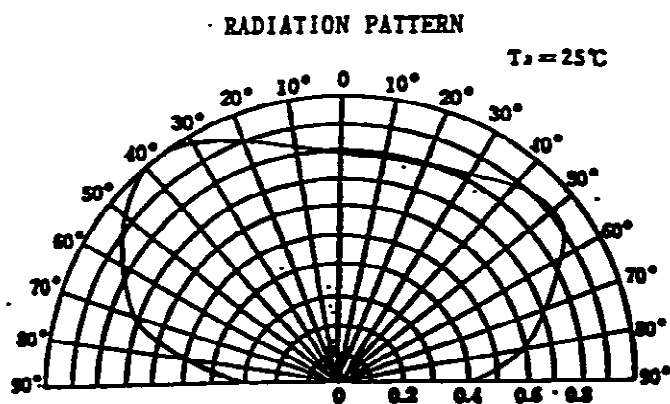
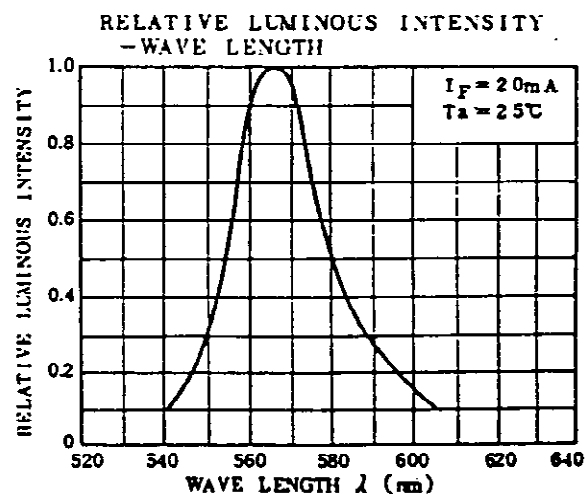
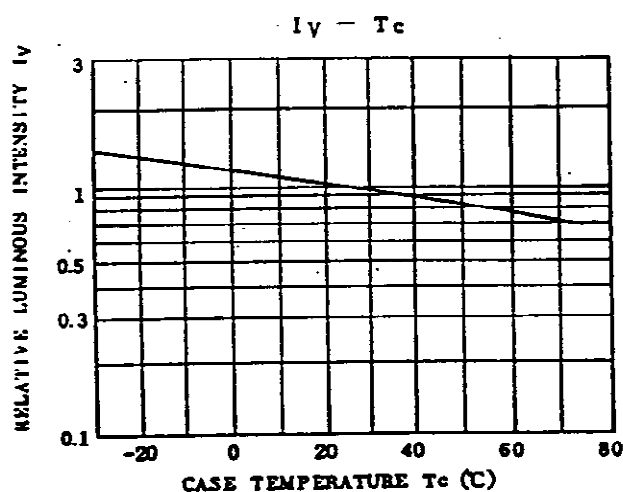
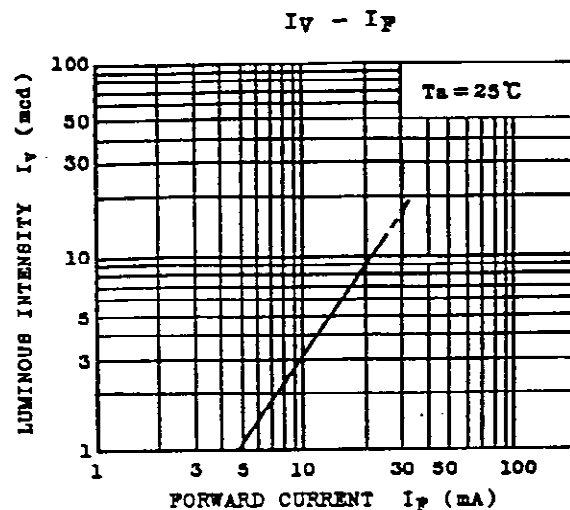
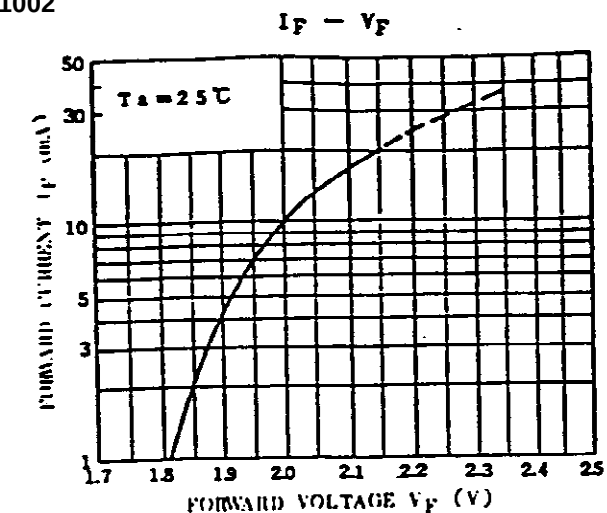
RADIATION PATTERN



$I_F - T_a$

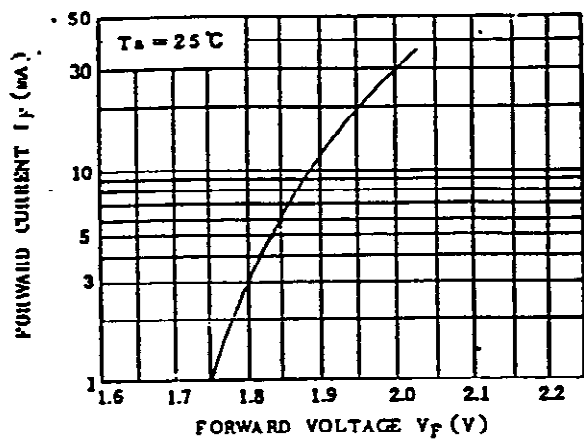


TLG1002

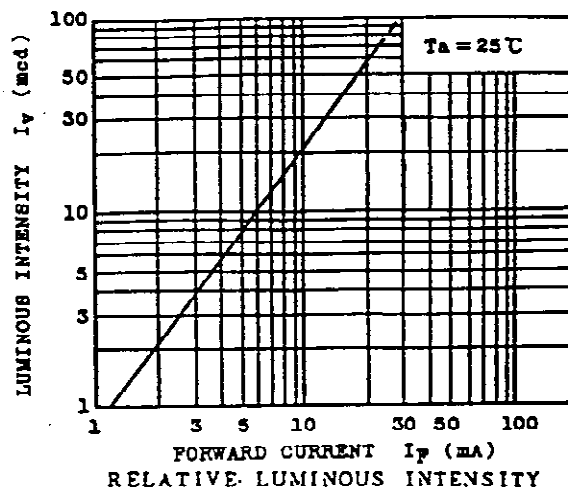


TLOE1002

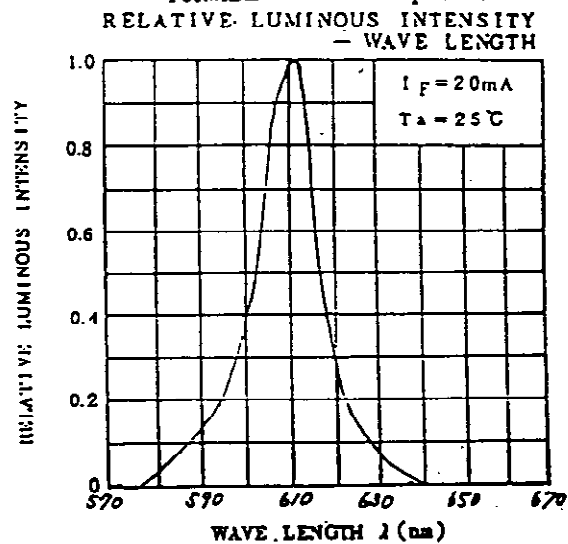
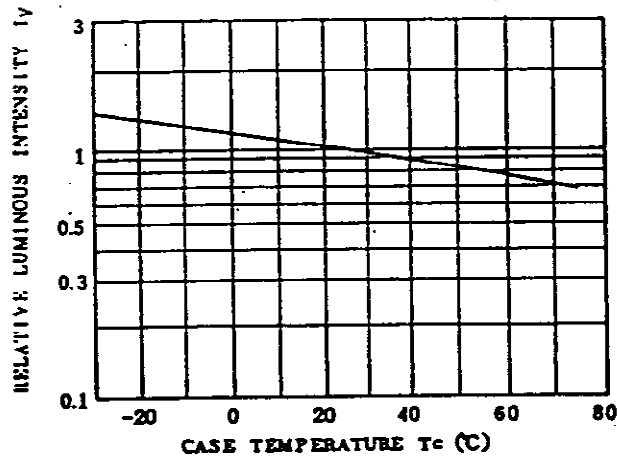
$I_F - V_F$



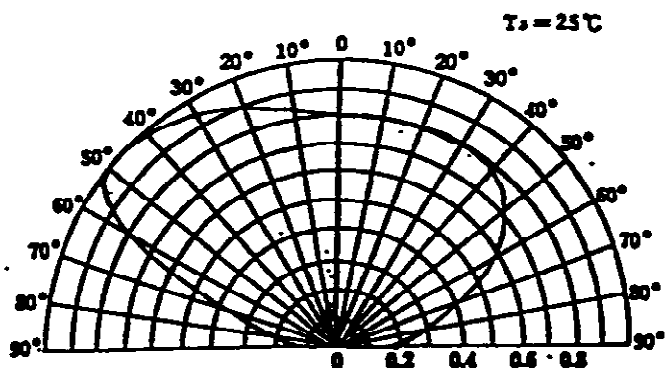
$I_V - I_F$



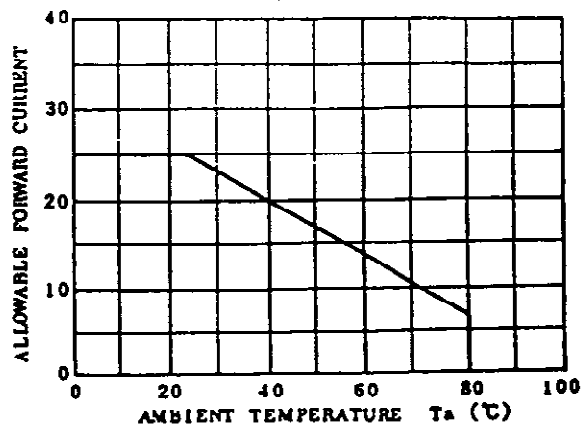
$I_V - T_c$



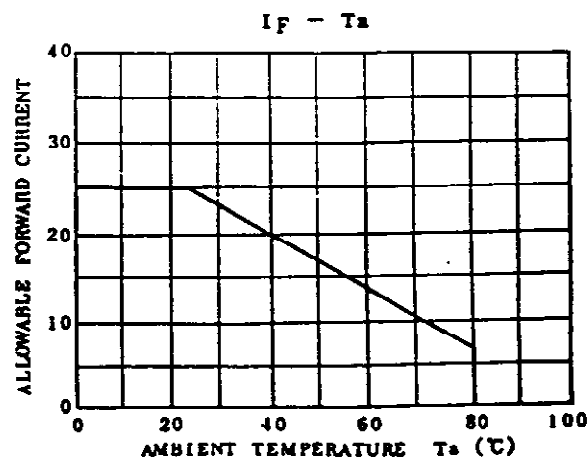
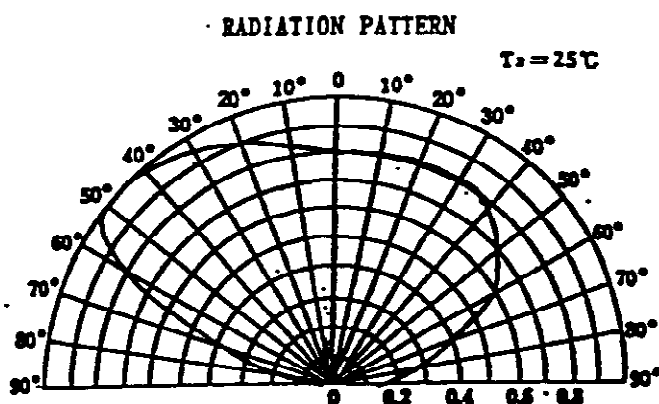
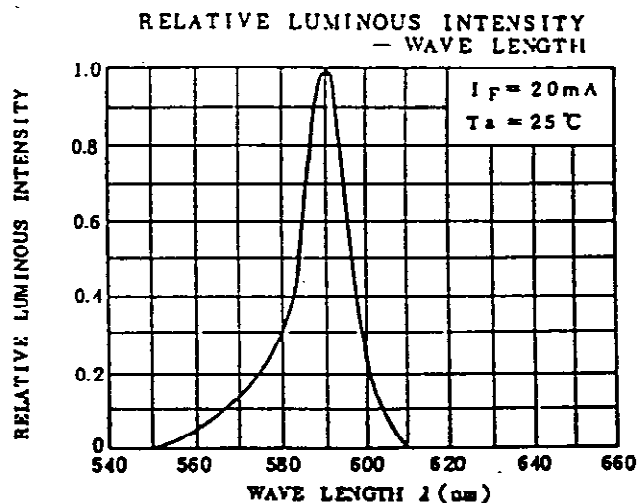
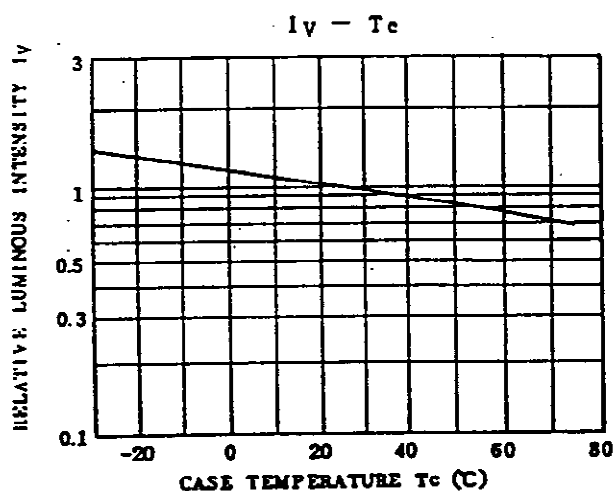
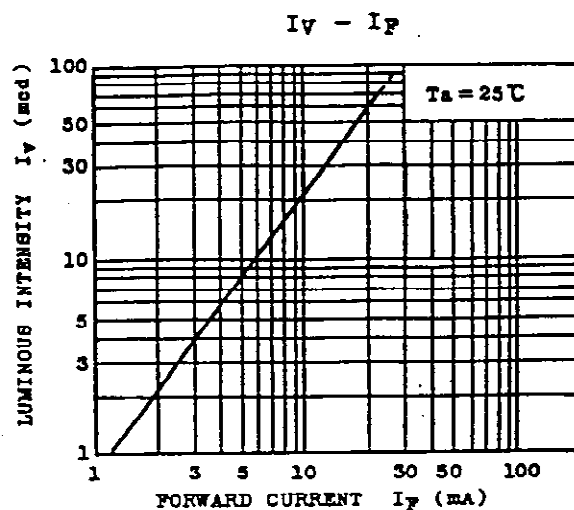
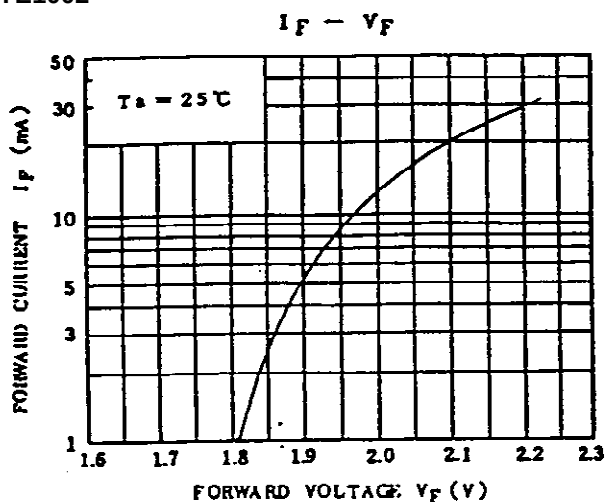
RADIATION PATTERN



$I_F - T_a$



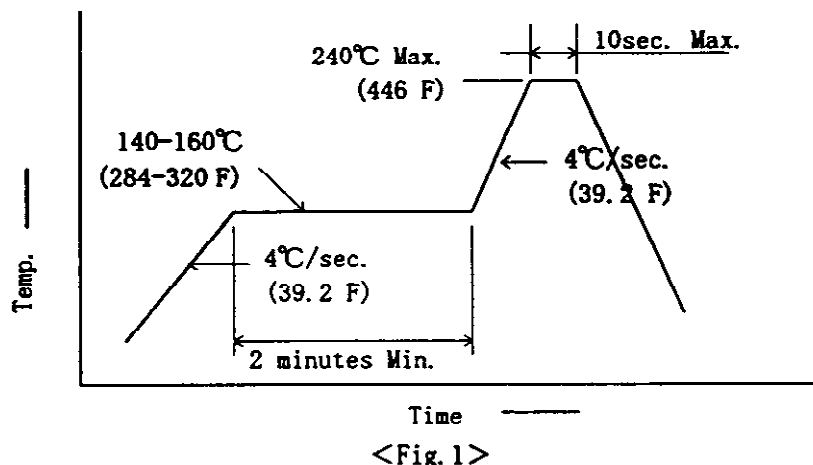
TLYE1002



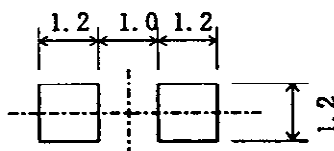
Soldering

1. Reflow soldering:

* It is recommended to use a reflow furnace of the upper and lower heater type.* The temperature profile as shown in Fig. 1 is recommended for soldering LEDs by the reflow furnace.



<Recommend soldering pattern>



Revision by manual soldering	: Soldering iron Temperature Time	Less than 25W Lower than 300°C Within 3 seconds
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2. Post-solder cleaning:

When cleaning after soldering is needed, the following conditions must be adhered to.

- Cleaning solvents: AK225 or Alcohol
- Temperature: 50°C (122°F) MAX. for 30 seconds, or
30°C (86°F) MAX. for 3 minutes MAX.
- Ultrasonic: 300W MAX.

Precaution for Mounting

1. No force to plastic part of LED when LED is under high temperature.
2. No friction using a hard thing to avoid injuring plastic part of LED.
3. No contact between LED and the other parts, when installing an assembled board into the set.