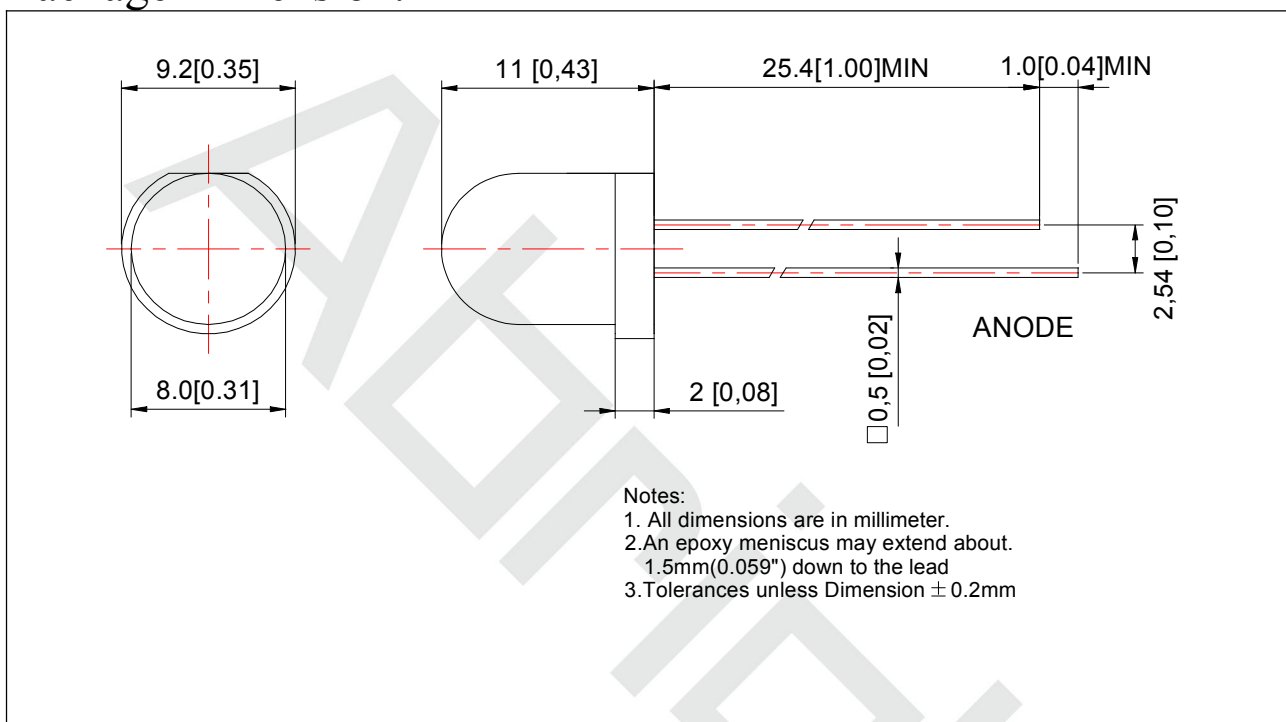


Part No.	AL-813IR-85045C1		Test NO	
8	mm	Infrared	Type:	LED Lamps

## Package Dimension:



### ■ Features:

- Choice of various viewing angle.
- Available on tape and reel.
- Reliable and robust

### ■ Descriptions

- The series is specially designed for application requiring higher brightness.
- The LED lamps are available with different colors, intensity, epoxy colors etc.

### ■ Applications:

- Free air transmission system
- Infrared remote control units with high power requirement
- Smoke detector Infrared applied system

PART NO.	Chip		Lens Color
	Material	Emitted Color	
AL-813IR-85045C1	AlGaAs/AlGaAs	Infrared	Water Clear

■ Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Forward Current	$I_F$	100	mA
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +85	°C
Soldering Temperature	Tsol	260 ±5	°C
Electrostatic Discharge	ESD	1000	V
Power Dissipation	$P_D$	180	mW
Forward pulse Current (1/10 Duty Cycle, 300msec pulse Width)	$I_F$ (Peak)	300	mA
Reverse Voltage	$V_R$	5	V

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiated Output Power	$P_O$	60	90	/	mW/sr	$I_F=80mA$
Viewing Angle	2θ1/2	/	45	/	deg	$I_F = 80mA$
Peak Wavelength	$\lambda_p$	830	850	860	nm	$I_F=80mA$
Spectrum Radiation Bandwidth	$\Delta \lambda$	/	45	/	nm	$I_F=80mA$
Forward Voltage	$V_F$	1.4	1.5	1.8	V	$I_F=80mA$
Reverse Current	$I_R$	/	/	10	μA	$V_R=5V$

## ■ Typical electro-optical characteristics curves :

The data typical and the value are not guaranteed.

Fig.1 Radiation diagram

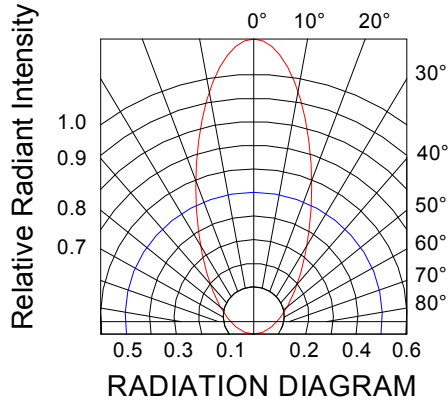


Fig.2 Relative intensity vs. Wavelength

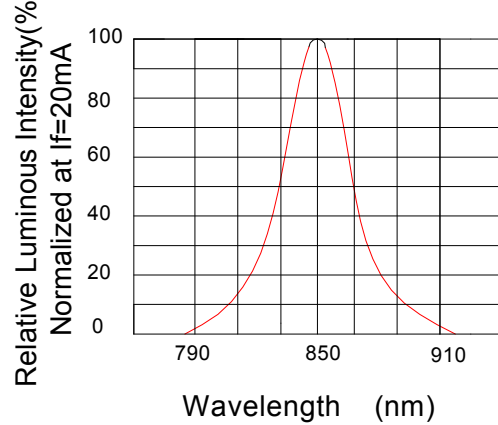


Fig.3 Relative luminous intensity vs. Ambient temperature

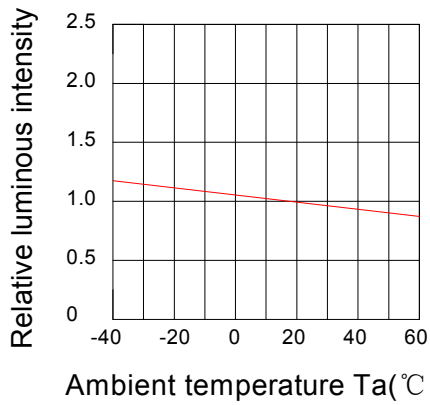


Fig.4 Forward current vs. Forward voltage

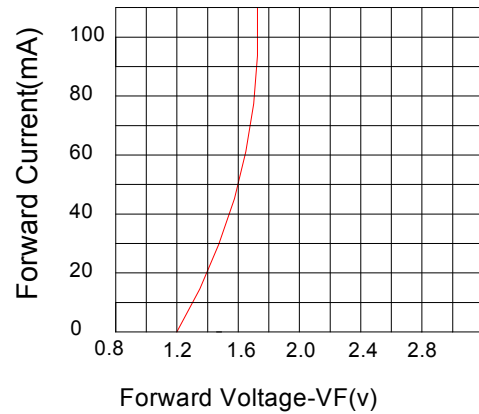
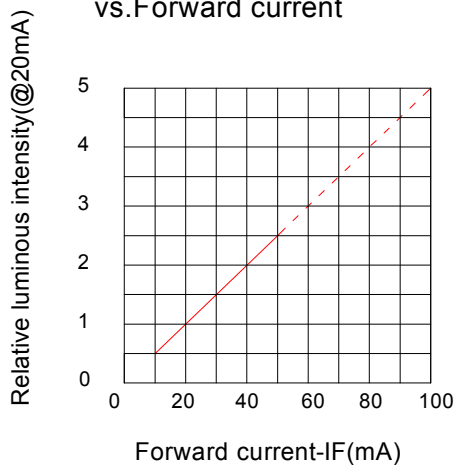


Fig.5 Relative luminous intensity vs. Forward current



■ Reliability test items and conditions :

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260°C ±5°C	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : +85°C 30min ┆ 5min L : -40°C 30min	50 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +85°C 5min ┆ 10set L : -10°C 5min	50 CYCLES	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -40°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	TEMP : 25°C I <sub>F</sub> =80mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 HRS	76 PCS	0/1