

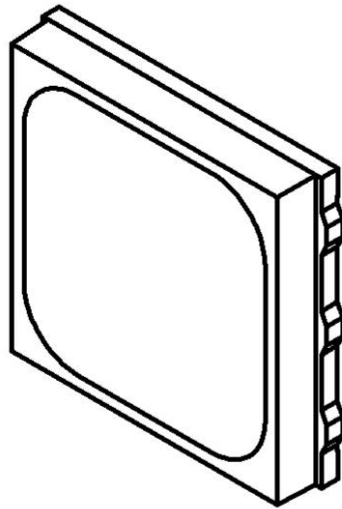
## Datasheet

YL-5050F(120)-770nm+860nm+940nm

## YL-5050F(120)-770nm+860nm+940nm

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770nm\_860nm\_940nm HIGH POWER LED



### Features

- Chip size : 1.0×1.0mm
- Number of Chips : 1pc
- Peak Wavelength : 770nm、860nm、940nm
- Optical efficiency (typ.) : 1100mW
- Viewing half angle : 60°
- Package : SMD Resin package
- Lens : Silicone Resin

### Applications

- Machine Vision System
- Light source for in-vehicle camera

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## Maximum Ratings (Tc=25°C)

Parameter	Symbol	Values	Unit
Power Dissipation	P <sub>D</sub>	4000	mW
Forward Current	I <sub>F</sub>	1000	mA
Pulse Forward Current	I <sub>FP</sub>	3000	mA
Reverse Voltage	V <sub>R</sub>	5	V
Junction Temperature	T <sub>j</sub>	115	°C
Operating Temperature	T <sub>opr</sub>	-40~100	°C
Storage Temperature	T <sub>stg</sub>	-40~100	°C
Thermal Resistance	R <sub>thjs</sub>	10	K/W

※Pulse Forward Current Condition : Duty 1% and Pulse Width=10us.

※Soldering condition : Soldering condition must be completed with 5 seconds at below 260°C

## Optical and Electrical Characteristics (Tc=25°C)

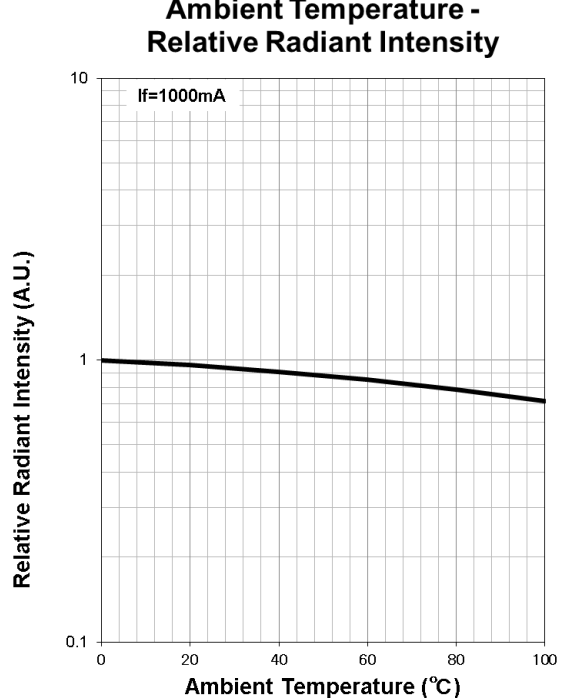
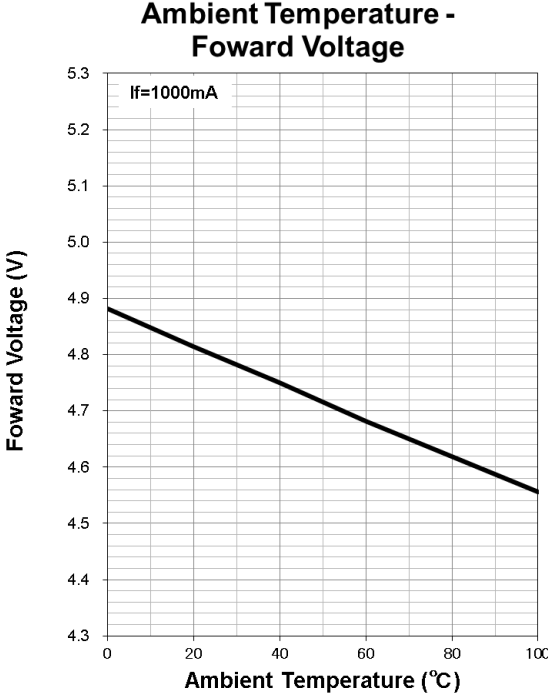
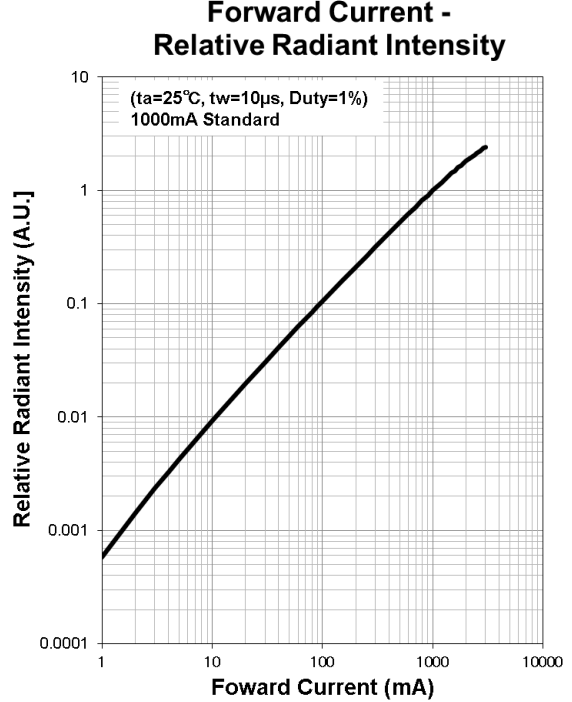
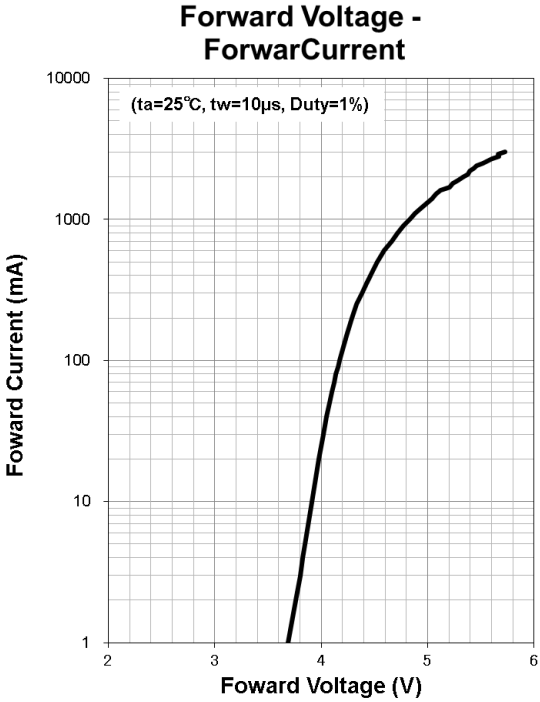
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	V <sub>F</sub>		4.8	5.3	V	I <sub>F</sub> =1A
	V <sub>FP</sub>		5.3		V	I <sub>FP</sub> =3A
Radiated Power	P <sub>O</sub>		1100		mW	I <sub>F</sub> =1A
			3620		mW	I <sub>FP</sub> =3A
Peak Wavelength 1	λ <sub>p1</sub>		770		nm	I <sub>F</sub> =1A
Peak Wavelength 2	λ <sub>p2</sub>		860		nm	I <sub>F</sub> =1A
Peak Wavelength 3	λ <sub>p3</sub>		940		nm	I <sub>F</sub> =1A
Half Width	Δλ		—		nm	I <sub>F</sub> =1A
Viewing Half Angle	θ 1/2		±60		deg	I <sub>F</sub> =100mA

※Radiated Power is measured by S3584-08.

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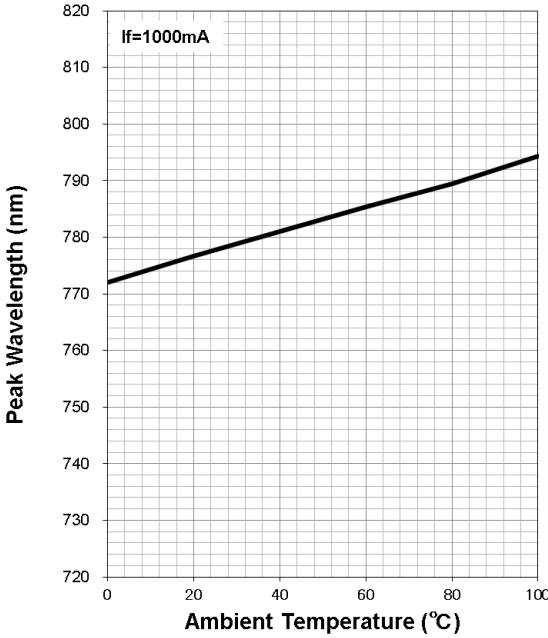
### Typical Characteristic Curves



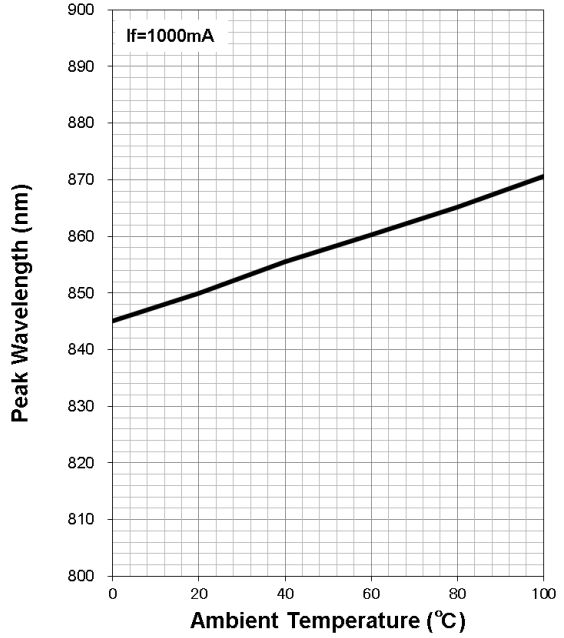
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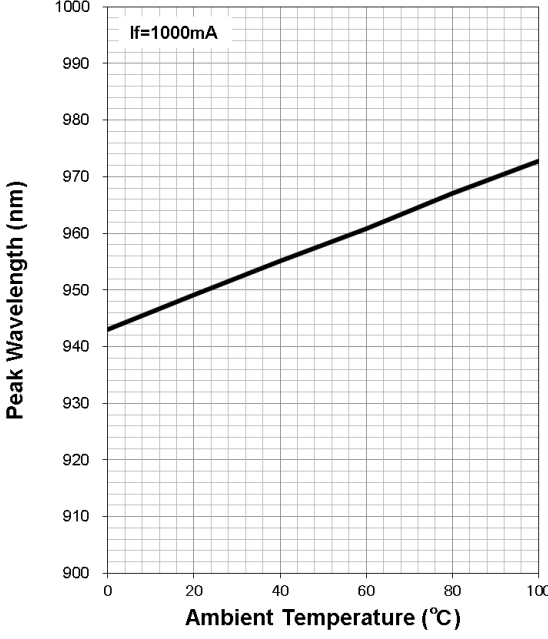
### Ambient Temperature - Peak Wavelength 1



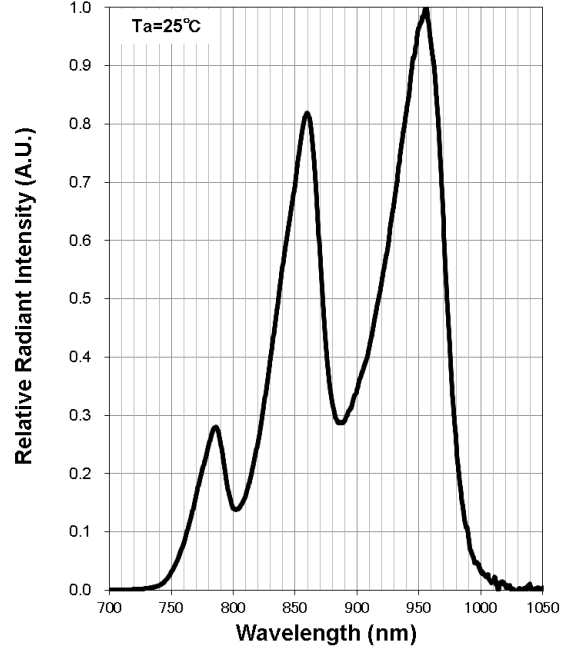
### Ambient Temperature - Peak Wavelength 2



### Ambient Temperature - Peak Wavelength 3

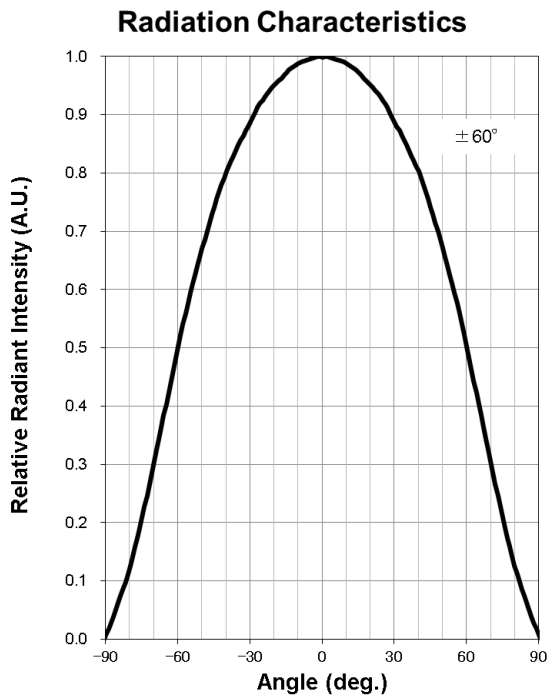
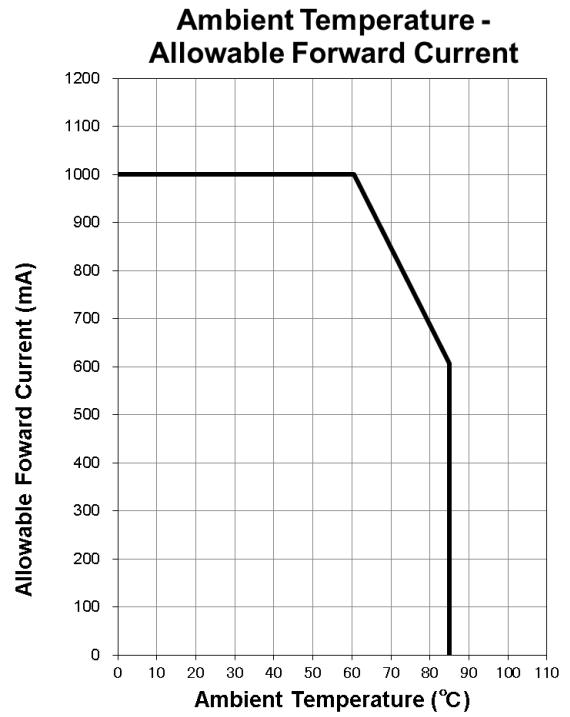
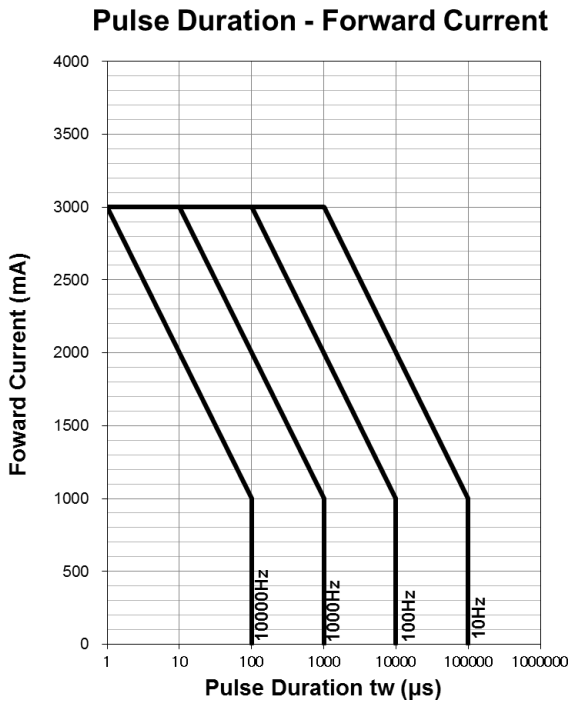


### Relative Spectrum Emission



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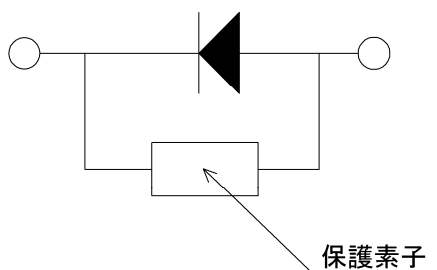
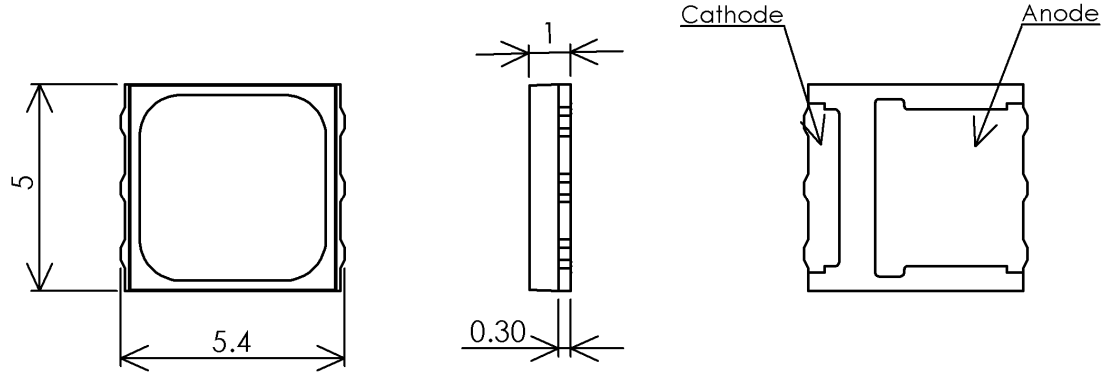
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### Outline and Internal Circuit



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### RECOMMENDED METHODE OF STORAGE AND HANDLING

#### Storage Conditions

##### Before opening the moisture-proof Aluminum Bag

- Please keep at the condition of  $< 30^{\circ}\text{C}$  and  $< 60\% \text{ RH}$
- The maximum storage life is 12 months under these conditions.

##### After opening the moisture-proof Aluminum Bag

- Please store the aluminum bag and silica gel in a drying apparatus.
- The LED should go through the soldering process within 72 hours in a room with the condition of  $5\sim 30^{\circ}\text{C}$  and  $< 50\% \text{ RH}$ .
- Unused remaining LEDs and silica gel should be returned to the original aluminum bag. And please hermetically seal that bag.
- It is recommended to store the re-sealed bag in a drying apparatus at the condition of  $< 30\% \text{ RH}$ .
- 72 hours of long floor life does not included the time period which LEDs are stored in the moisture-proof Aluminum Bag. Even though, it is highly recommended to solder the LEDs as soon as after opening the aluminum bag.