

Device Number: \_\_\_\_\_

REV: 1.0

## 5.0mm Round Type LED Lamps

Model No.: IE-5R4FE13D-9C

ECN: \_\_\_\_\_

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### ■ Features :

- High radiant intensity
- Choice of various viewing angles
- Reliable and robust

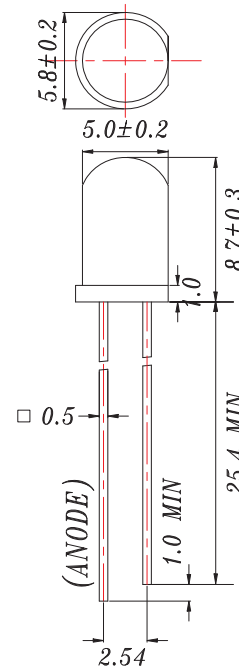
### ■ Descriptions :

- The series is specially designed for applications requiring higher brightness.
- The led lamps are available with different colors, intensities epoxy colors, etc.

### ■ Applications :

- TV set
- Monitor
- Telephone
- Computer

### ■ Package Dimensions:



- Notes:**
1. All dimensions are in millimetres
  2. An epoxy meniscus may extend about 1.5mm(0.059") down to the lead.
  3. Tolerances unless Dimension  $\pm 0.25$ mm.

PART NO.	Chip		Lens Color
	Material	Emitted Color	
5R4FE13D-9C-M05	AlGaInP	RED	Tinted Diffused

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■ Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit
Forward Current	I <sub>F</sub>	20	mA
Operating Temperature	T <sub>opr</sub>	-40 to +85	°C
Storage Temperature	T <sub>stg</sub>	-40 to +100	°C
Soldering Temperature	T <sub>sol</sub>	260 ± 5	°C
Power Dissipation	P <sub>d</sub>	50	mW
Peak Forward Current	I <sub>F(Peak)</sub>	50	mA
Reverse Voltage	V <sub>R</sub>	5	V

Note: \*1:IFP Conditions --Pulse Width ≤ 1msec and Duty ≤ 1/10.

\*2:Soldering time ≤ 5 seconds.

**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20 mA	/	1.8	2.1	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5 V	/	/	1	μA
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> = 20 mA	3900	/	5000	mcd
Viewing Angle	2 θ 1/2	I <sub>F</sub> = 20 mA	/	40	/	deg
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> = 20 mA	/	622	/	nm
Dominant Wavelength	λ <sub>d</sub>	I <sub>F</sub> = 20 mA	620	/	625	nm
Spectrum Radiation Bandwidth	Δ λ	I <sub>F</sub> = 20 mA	/	15	/	nm

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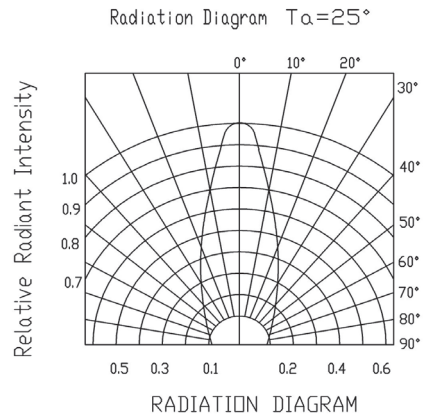
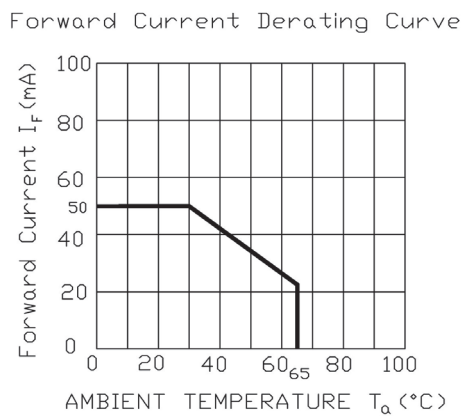
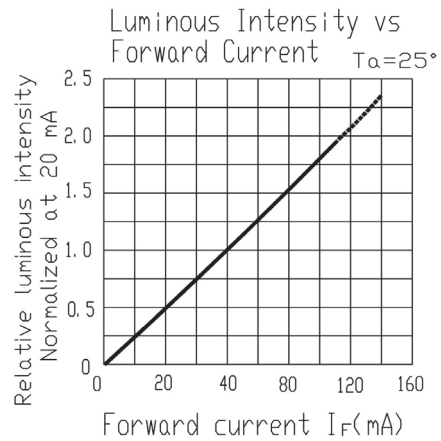
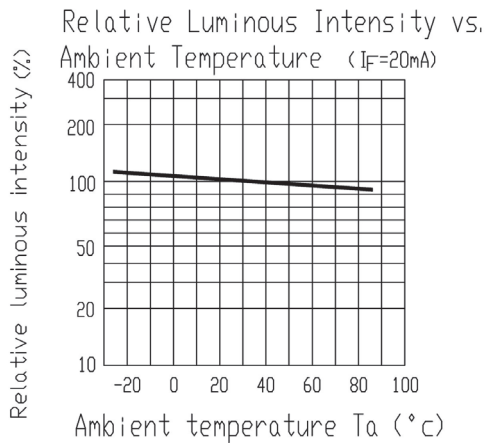
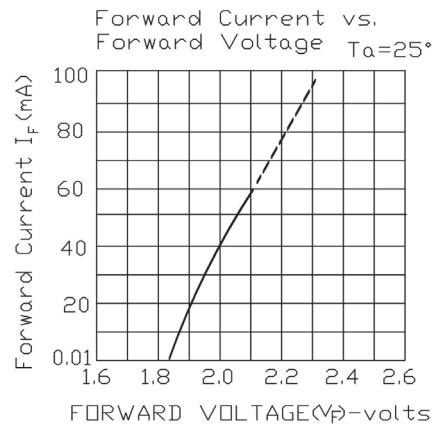
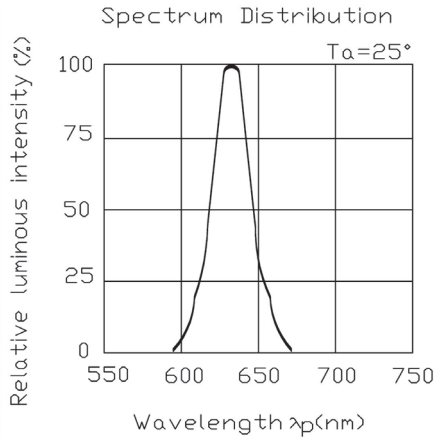
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■ Typical Electro-Optical Characteristic Curves:



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■ Reliability test items and conditions:

NO	Item	Test Conditions	Test Hours/Cycle	Sample	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	10 SEC	76 PCS	0/1
2	Temperature Cycle	H : +100°C 15min ∫ 5 min L : -40°C 15min	300 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +85°C 5min ∫ 10 sec L : -10°C 5min	300 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 If = 20mA	1000 HRS	76 PCS	0/1
7	High Temperature/ High Humidity	85°C / 85% RH	1000 HRS	76 PCS	0/1