SPECIFICATION

REFOND P/N

RF-A4E27-R30F-R4

□R&D

■Mass Production

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Contents

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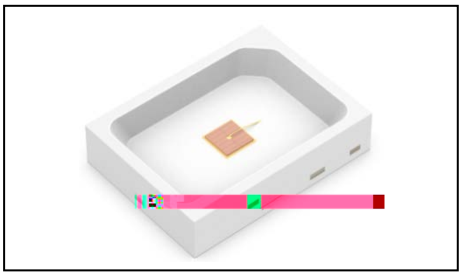
1. Description

1.1GeneralDescription



The Red source color devices are made with AlGalnp on Substrate Light Emitting Diode .

Product Package:2.7mmX2.0mmX0.6mm.

LED AlGaInp 2.7mmX2.0mmX0.6mm.

1.2Features

yEMC Package.EMC

yExtremely wide viewing angle.

ySuitable for all SMT assembly and solder process . SMT

yAvailable on tape and reel .

yMoisture sensitivity level: Level 2 . Level2

yRoHS compliant. RoHS

yQualifications: The product qualification test plan is based on the guidelines of AEC -Q102 Stress Test Qualification for Automotive Grade Discrete Semiconductors

AEC-Q102

1.3Application

yAutomotive Lighting Interior and Exterior.

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1.4Package Dimension

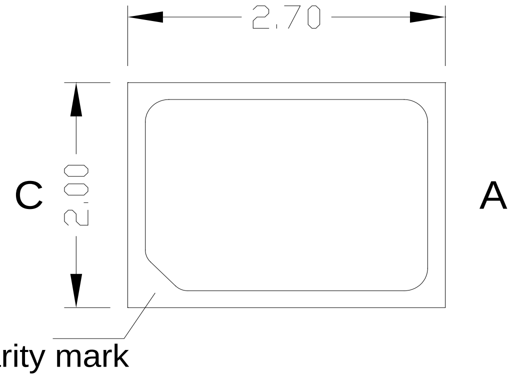

Fig.1-1 Top View

Fig.1-2SideView

Fig.1-3BottomView

Fig.1-4Polarity

Fig.1-5Soldering Patterns

Notes

1. All dimensions units are millimeters.

2. All dimensions tolerances are r0.05mm unless otherwise noted. ± 0.05

1.5Product Parameters

Table 1-1 Electrical / Optical Characteristics at Ts=25°C

Item	Symbol	Test Condition	Value			Unit
			Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=200mA	1.8	---	2.4	V
Reverse Current	I_R	V_R=5V	---	---	10	uA
Dominant Wavelength	D	I_F=200mA	627.5	---	635	nm
Luminous Flux	-	I_F=200mA	24.2	---	37	lm
Viewing Angle		I_F=200mA	---	120	---	deg
Thermal Resistance.	R_{THJ-S}	I_F=200mA	---	---	22	/W

Table 1-2 Absolute Maximum Ratings at Ts=25°C

Parameter	Symbol	Rating	Units
Power Dissipation	P_D	576	mW
Forward Current	I_F	240	mA
Peak Forward Current	I_{FP}	300	mA
Reverse Voltage	V_R	5	V
Electrostatic Discharge (HBM)	E_{SD}	2000	V
Operating Temperature	T_{OPR}	-40 ~ +125	-
Storage Temperature	T_{STG}	-40 ~ +125	-
Junction Temperature	T_J	150	-

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Notes

1. 1/10 Duty cycle, 10ms pulse width. 10ms, 1/10.

2. The above forward voltage measurement allowance tolerance is ±0.1V. ± 0.1V.

3. The above color coordinates measurement allowance tolerance is ±0.005. ± 0.005.

4. The above luminous intensity measurement allowance tolerance ±10%.
± 10%.

5. Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product.

6. All measurements were made under the standardized environment of Refond.

7.When the LEDs are in operation the maximum current should be decided after measuring the package temperature,junction temperature should not exceed the maximum rate. LED

8. ESD yield is over 90% at 2000V ESD (HBM). ESD protection during products handing is needed. 90% LED
ESD2000V ,

1.6Bin Range Of Forward Voltage and Luminous Flux (IF=200mA)

BIN (IF=200mA)

Table 1-3

V_F	B0	C0	D0	
	2.0-2.2	2.2-2.4	2.4-2.6	
3 Hm	LA	LB	MA	MB
	24.2-26.9	26.9-30	30-33.4	33.4-37
WD(nm)	F2	G1	G2	
	627.5-630	630-632.5	632.5-635	

1.7 Typical Optical Characteristics Curves

Fig. 1-7 Forward Voltage Vs Forward Current

Fig. 1-8 Forward Current Vs Relative Intensity

Fig. 1-9 Solder Temperature Vs Relative Intensity

Fig. 1-10 Solder Temperature Vs N¼ ÷'q

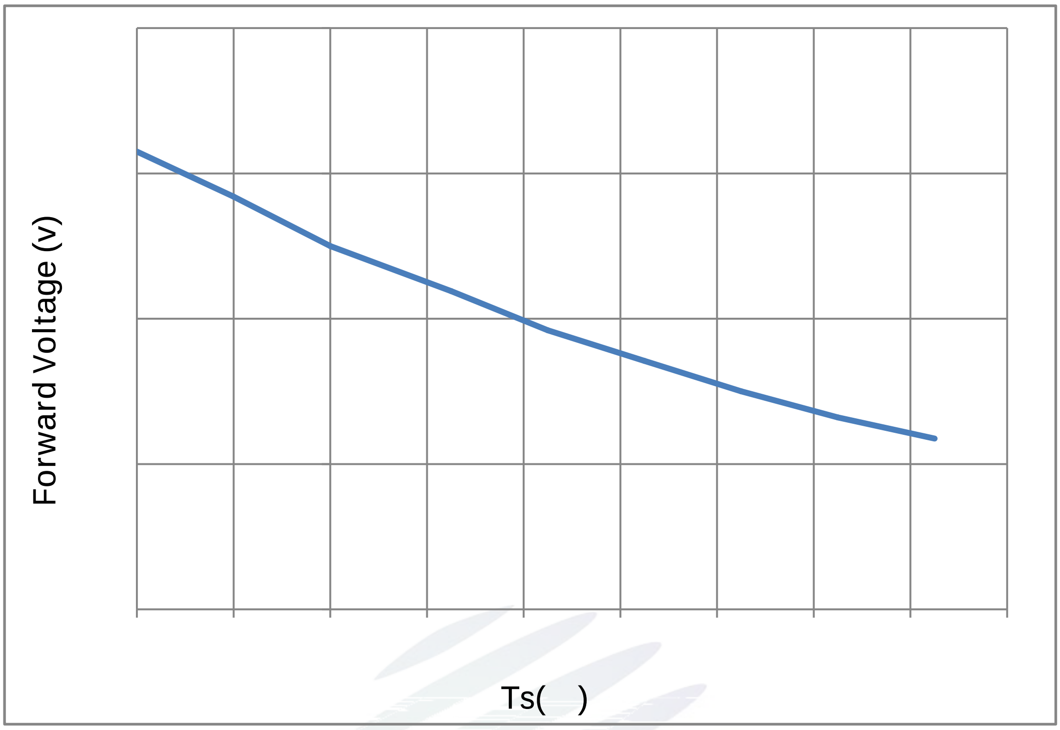

Fig. 1-11 Forward Voltage Vs Solder Temperature

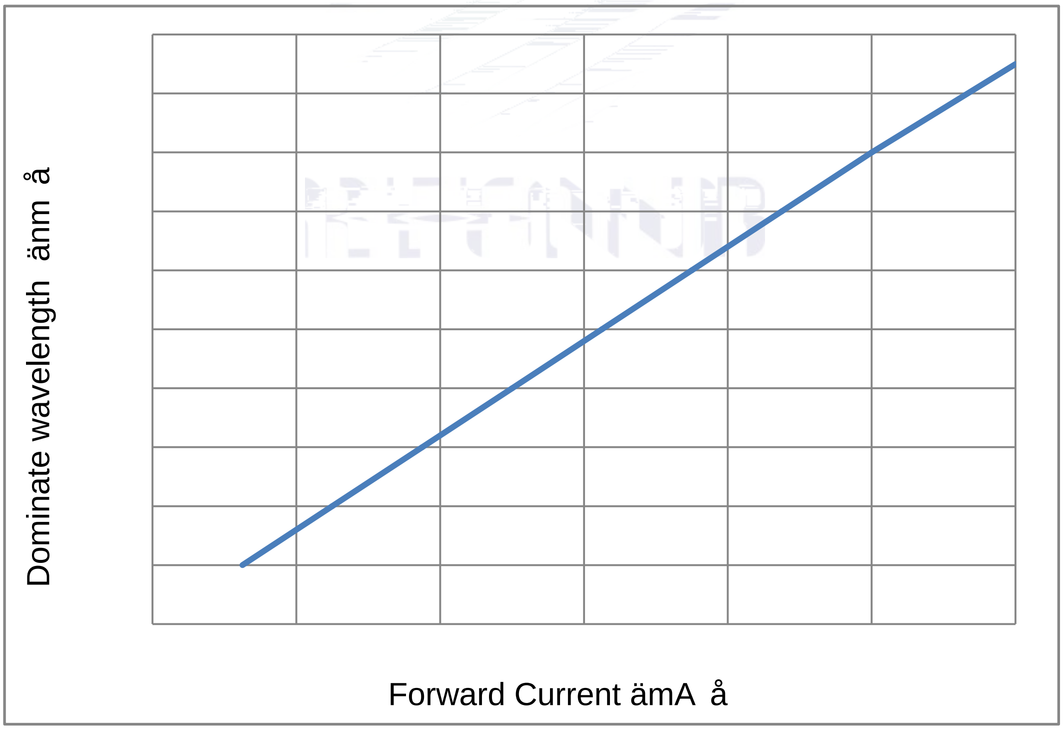

Fig. 1-12 Forward current vs.　　(Ts=25°C)

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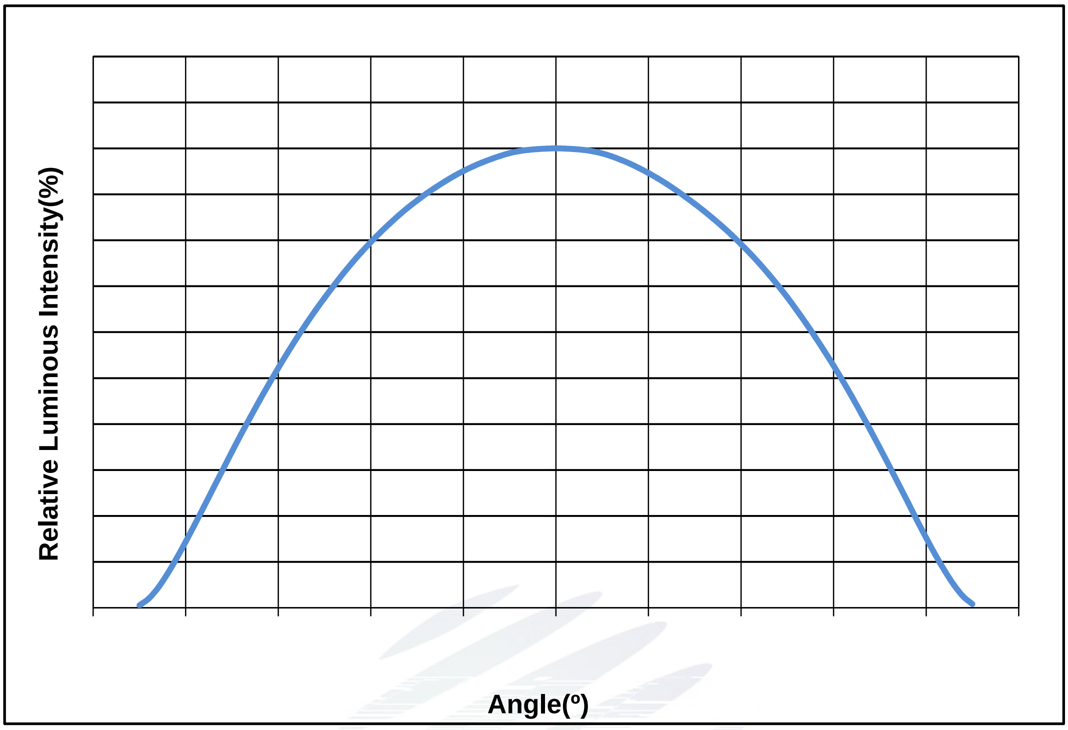

Fig. 1-13 Radiation diagram

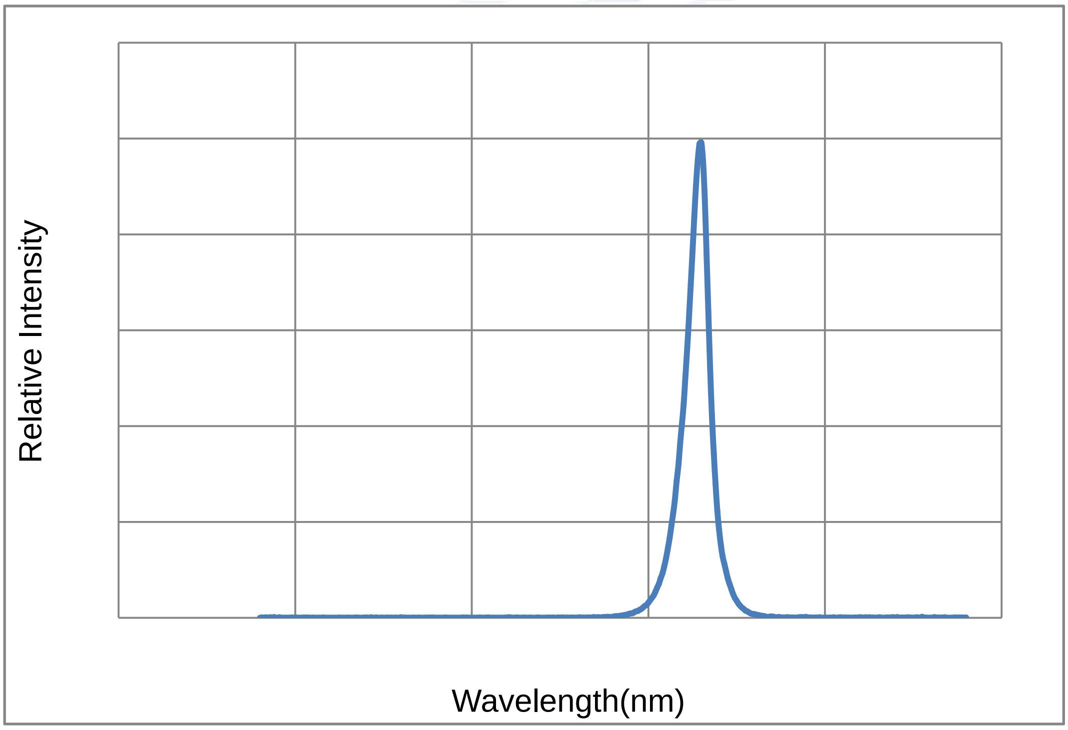

Fig. 1-14 Spectrum Distribution

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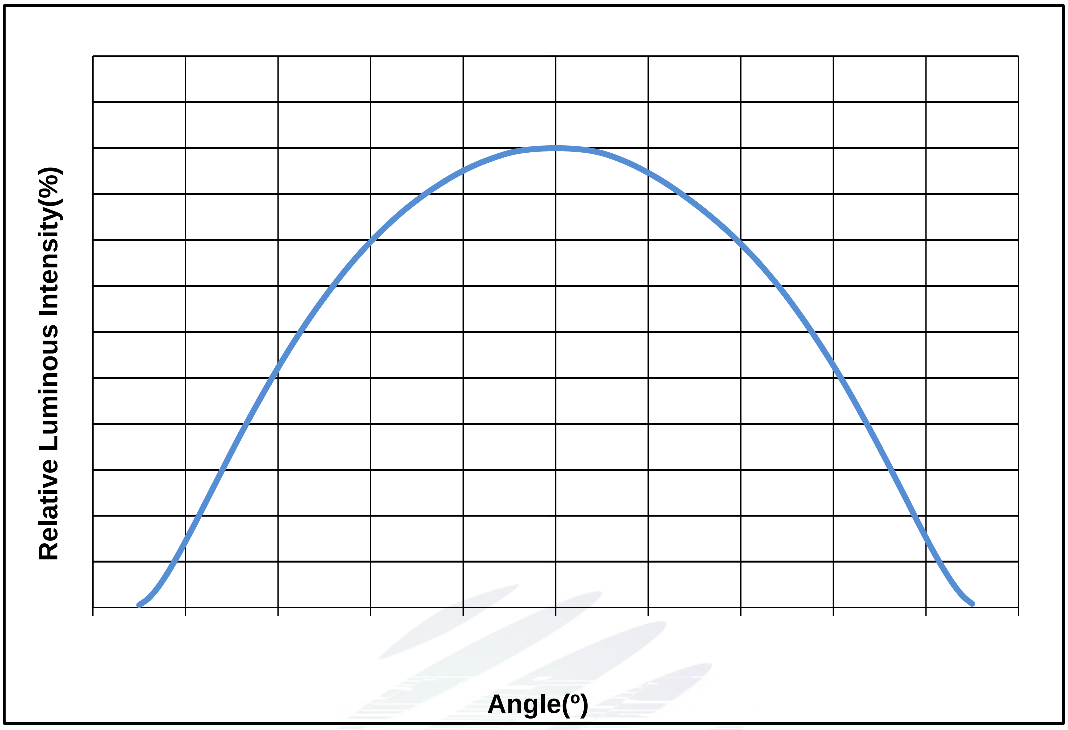
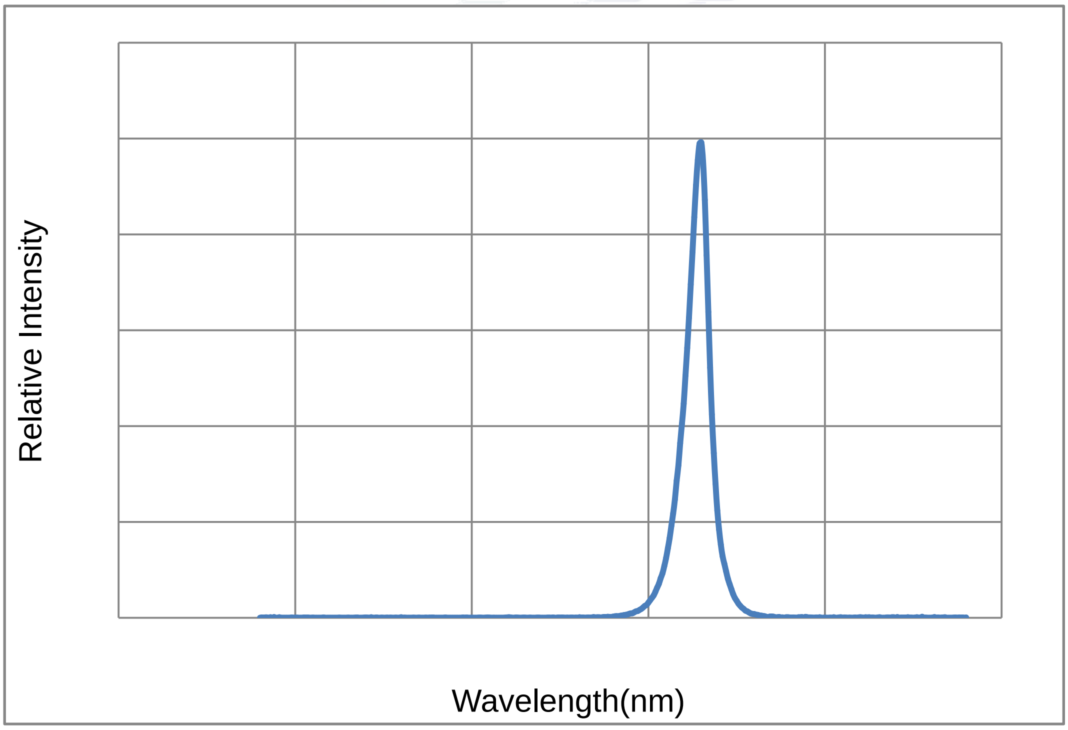


Fig. 1-13 Radiation diagram



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