



High Power LED

# IR Edixeon™ Emitter

1W Edixeon™

Approved By Customer	Designer	Checker	Approval

Date : 2006/06/01

Version : 2.0

Device No. : 3-RD-01-E0009  
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# IR Edixeon<sup>TM</sup>



IR Edixeon emitters are one of the highest power LEDs in the world by Edison Opto. IR Edixeon emitters are designed to satisfy more and more Solid-State lighting High Power LED applications for brilliant world such as CCTV.

## **Features**

- Low voltage operated
- Instant light
- Long operating life

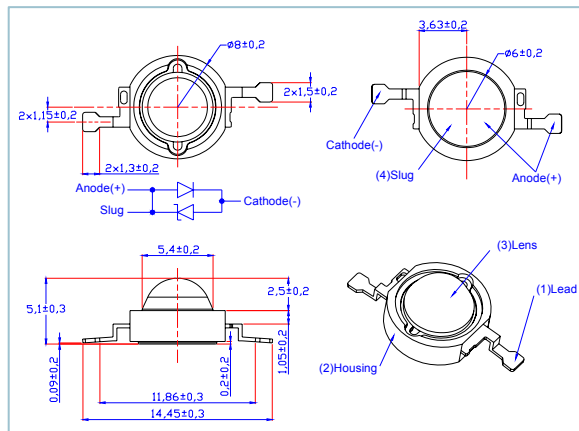
## **Typical Applications**

- CCTV
- Wireless communication

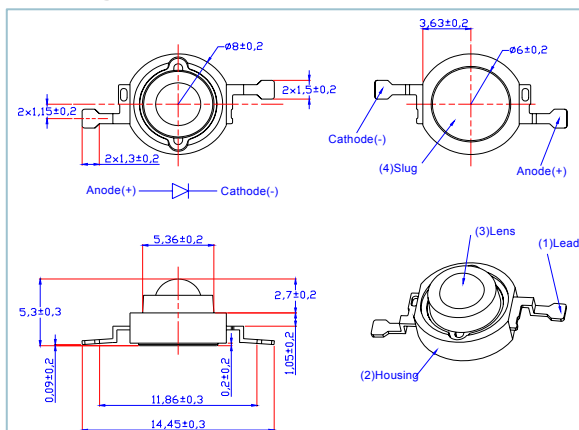


## Package Outlines

### Lambertian



### Focusing



### Notes:

1. All dimensions are in mm.
2. Drawings are not to scale.
3. It is strongly recommended that the temperature of lead be not higher than  $55^{\circ}\text{C}$ .
4. Lambertian series slug has polarity as anode.
5. It is important that the slug can't contact aluminum surface, It is strongly recommended that there should coat a uniform electrically isolated heat dissipation film on the aluminum surface.

## Absolute Maximum Ratings

Parameter	Symbol	Rating	Units
DC Forward Current	$I_F$	700	mA
Peak pulse current;(tp ≤ 100μs, Duty cycle=0.25)	$I_{pulse}$	2000	mA
Reverse Voltage	$V_R$	5	V
Reverse Current @ $V_R=5V$	$I_R$	50	μA
LED junction Temperature @ 700 mA	$T_j$	125	°C
Operating Temperature	$T_{opr}$	-30 ~ +110	°C
Storage Temperature	$T_{stg}$	-40 ~ +120	°C
Manual Soldering Time at 260°C (Max.)	$T_{sol}$	5	seconds

## EDEI-1LA3 Optical & Electrical Characteristics at $I_F=700mA(T_a=25°C, T_{opr}=100ms)$ :

Parameter	Symbol	Values			Units
		Min.	Typ.	Max.	
Viewing angle at 50% $I_v$	$2\theta_{1/2}$	--	120	--	deg.
Viewing angle at 50% $I_v$ (with Collimator)	$2\theta_{1/2}$	--	25	--	deg.
Forward voltage	$V_F$	1.5	1.9	2.4	V
Radiant Power	Power	--	200	--	mW
Radiant Intensity	$I_v$	--	60	--	mW/Sr
Radiant Intensity (with Collimator)	$I_v$	--	500	--	mW/Sr
Peak Wavelength	$\lambda_P$	--	850	--	nm
Thermal Resistance Junction to Board	$R\theta_{J-C}$	--	15	--	°C/W
Temperature Coefficient Of Forward Voltage	$\Delta V_F/\Delta T$	--	-2	--	mV/°C

## EDEI-1FA3 Optical & Electrical Characteristics at $I_F=700mA(T_a=25°C, T_{opr}=100ms)$ :

Parameter	Symbol	Values			Units
		Min.	Typ.	Max.	
Viewing angle at 50% $I_v$	$2\theta_{1/2}$	--	50	--	deg.
Forward voltage	$V_F$	1.5	1.9	2.4	V
Radiant Power	Power	--	180	--	mW
Radiant Intensity	$I_v$	--	150	--	mW/Sr
Peak Wavelength	$\lambda_P$	--	850	--	nm
Thermal Resistance Junction to Case	$R\theta_{J-C}$	--	15	--	°C/W
Temperature Coefficient Of Forward Voltage	$\Delta V_F/\Delta T$	--	-2	--	mV/°C

**EDEI-ALA3 Optical & Electrical Characteristics at  $I_F=350\text{mA}$  ( $T_a=25^\circ\text{C}$ ,  $T_{opr}=100\text{ms}$ ):**

Parameter	Symbol	Values			Units
		Min.	Typ.	Max.	
Viewing angle at 50% $I_v$	$2\theta_{1/2}$	--	<b>120</b>	--	deg.
Forward voltage	$V_F$	<b>1.2</b>	<b>1.6</b>	<b>2.1</b>	V
Radiant Power	Power	--	<b>100</b>	--	<i>mW</i>
Radiant Intensity	$I_v$	--	<b>30</b>	--	<i>mW/Sr</i>
Peak Wavelength	$\lambda_P$	--	<b>850</b>	--	nm
Thermal Resistance Junction to Case	$R\theta_{J-C}$	--	<b>15</b>	--	$^\circ\text{C/W}$
Temperature Coefficient Of Forward Voltage	$\Delta V_F/\Delta T$	--	<b>-2</b>	--	$\text{mV}/^\circ\text{C}$

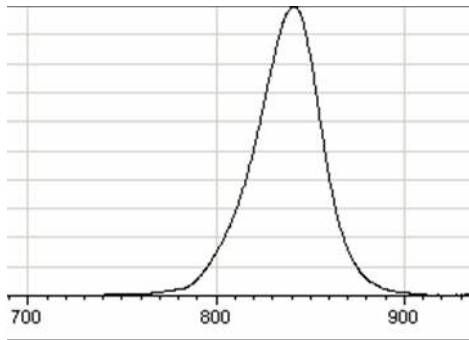
**EDEN-1LA3 Optical & Electrical Characteristics at  $I_F=700\text{mA}$  ( $T_a=25^\circ\text{C}$ ,  $T_{opr}=100\text{ms}$ ):**

Parameter	Symbol	Values			Units
		Min.	Typ.	Max.	
Viewing angle at 50% $I_v$	$2\theta_{1/2}$	--	<b>140</b>	--	deg.
Forward voltage	$V_F$	<b>1.5</b>	<b>1.9</b>	<b>2.4</b>	V
Radiant Power	Power	--	<b>70</b>	--	<i>mW</i>
Radiant Intensity	$I_v$	--	<b>35</b>	--	<i>mW/Sr</i>
Peak Wavelength	$\lambda_P$	--	<b>940</b>	--	nm
Thermal Resistance Junction to Case	$R\theta_{J-C}$	--	<b>15</b>	--	$^\circ\text{C/W}$
Temperature Coefficient Of Forward Voltage	$\Delta V_F/\Delta T$	--	<b>-2</b>	--	$\text{mV}/^\circ\text{C}$

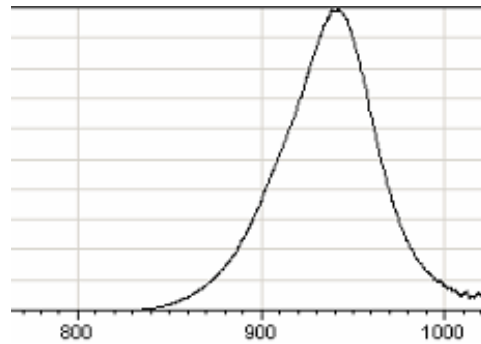
**Note**

1. Radiometric is measured with an accuracy of  $\pm 10\%$ .
2. Forward Voltage is measured with an accuracy of  $\pm 0.1\text{V}$
3. Wavelength is measured with an accuracy of  $\pm 2\text{nm}$

## Electrical & Optical Curves-Spectrum

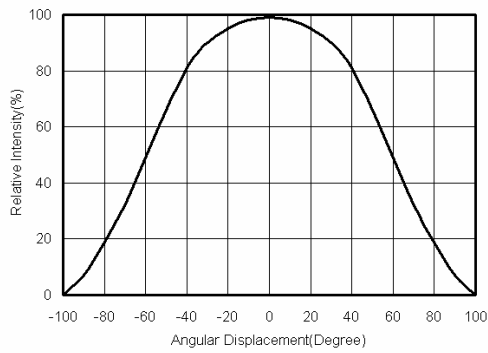


EDEI-xxA3 spectrum

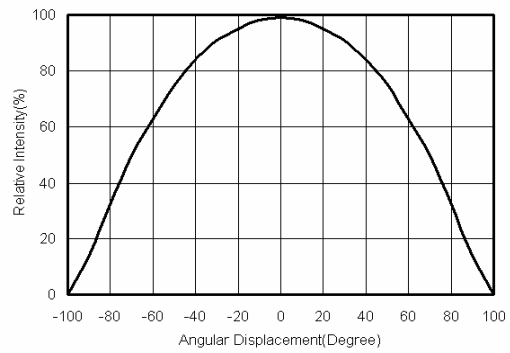


EDEN-xxA3 spectrum

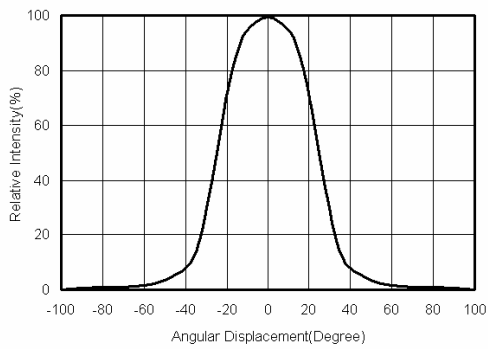
## Typical Radiation Pattern for



EDEI-1LA3 & EDEI-ALA3

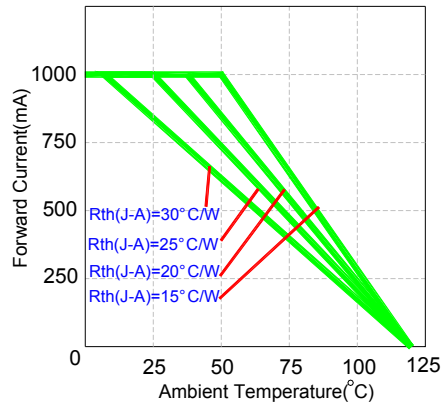


EDEN-1LA3

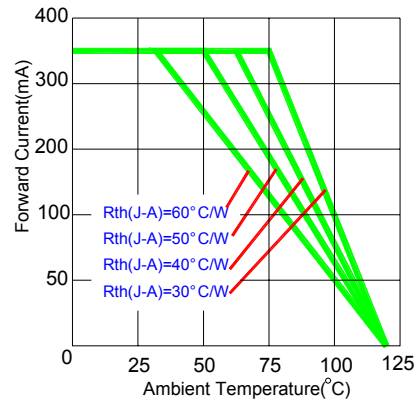


EDEI-1FA3

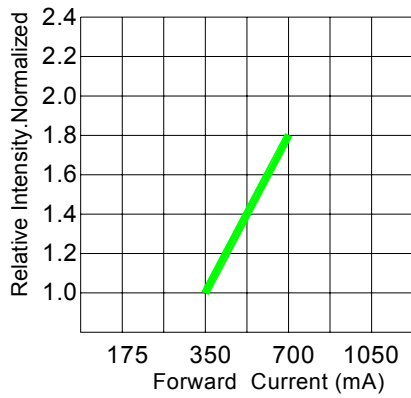
## Typical Optical and Electrical Curves



Operating Current & Ambient Temperature  
For EDEX-1LA3

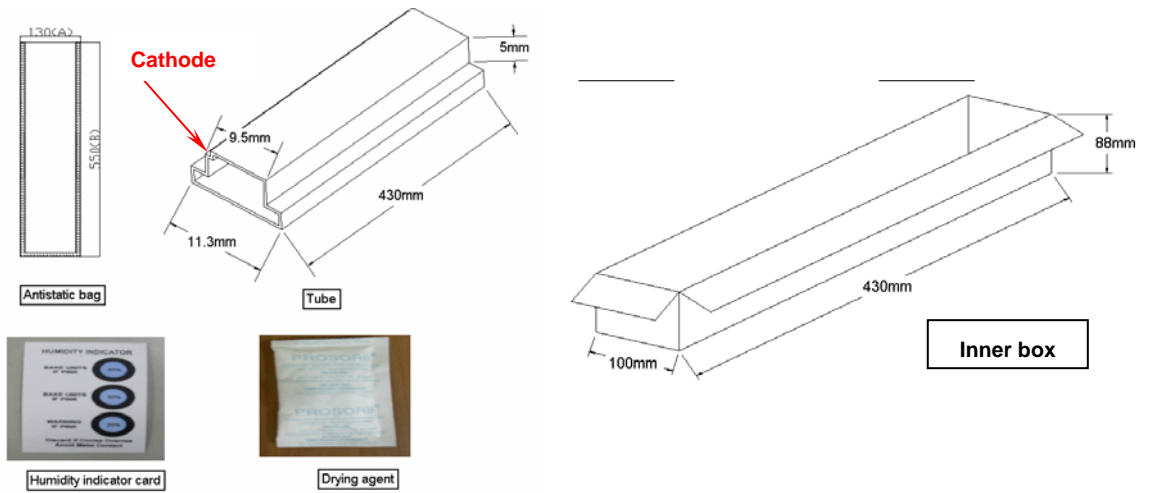


Operating Current & Ambient Temperature  
For EDEX-ALA3



Forward Current & Luminous Flux

## Package Specifications



### Note

1. All dimensions are in mm.
2. There are 50pcs emitters in a tube
3. There are 20 tubes in a bag
4. There are 2 bags in a inner box
5. A bag contains one humidity indicator card and drying agent