



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 EdixeonTM



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

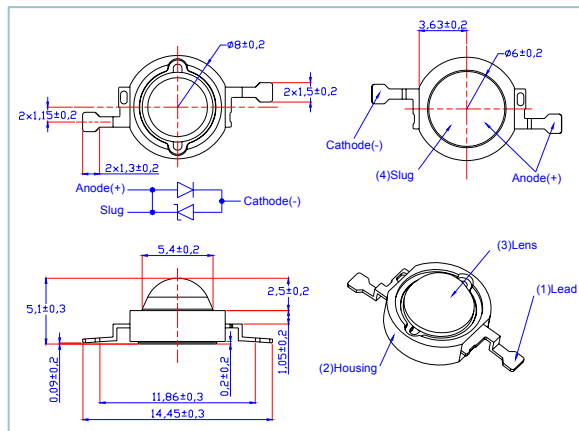
Typical Applications

- CCTV
- Wireless communication

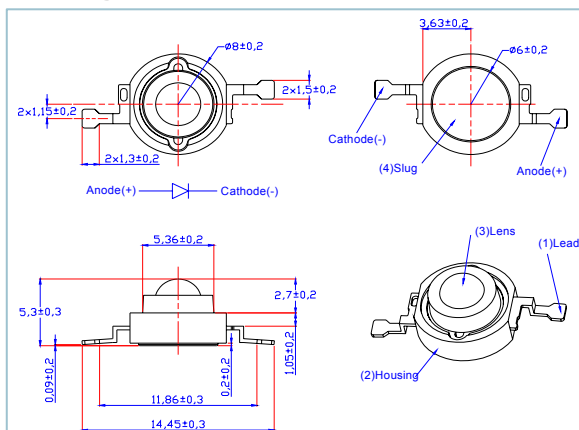


Package Outlines

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°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 | λ_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 | λ_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 | $2\theta_{1/2}$ | -- | 120 | -- | deg. |
| Forward voltage | V_F | 1.2 | 1.6 | 2.1 | V |
| Radiant Power | Power | -- | 100 | -- | <i>mW</i> |
| Radiant Intensity | I_v | -- | 30 | -- | <i>mW/Sr</i> |
| Peak Wavelength | λ_P | -- | 850 | -- | nm |
| Thermal Resistance Junction to Case | $R\theta_{JC}$ | -- | 15 | -- | $^\circ\text{C/W}$ |
| Temperature Coefficient Of Forward Voltage | $\Delta V_F/\Delta T$ | -- | -2 | -- | $\text{mV}/^\circ\text{C}$ |

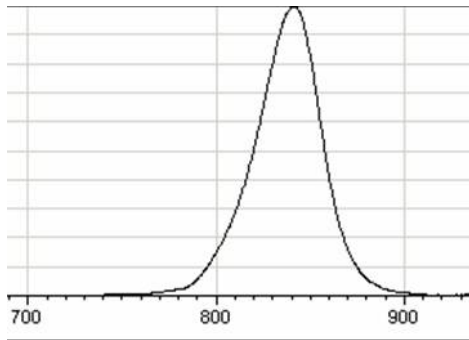
EDEN-1LA3 Optical & Electrical Characteristics at $I_F=700\text{mA}$ ($T_a=25^\circ\text{C}$, $T_{opr}=100\text{ms}$):

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

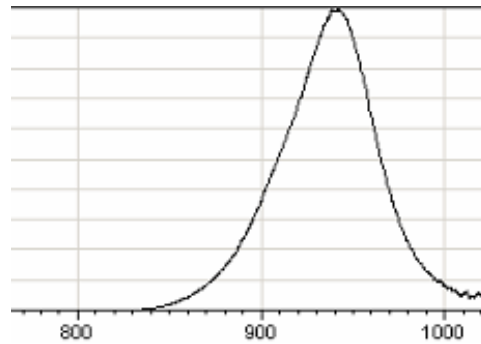
Note

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

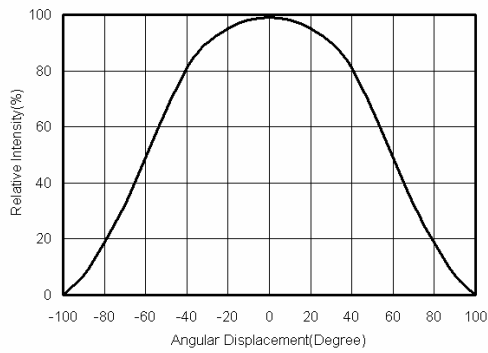


EDEI-xxA3 spectrum

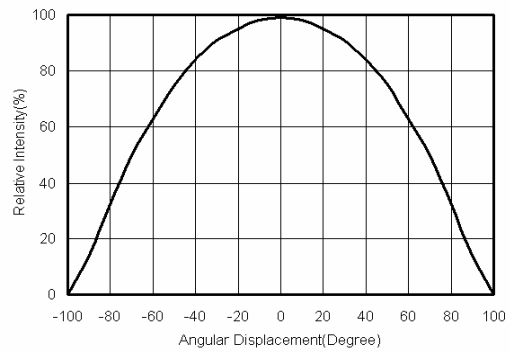


EDEN-xxA3 spectrum

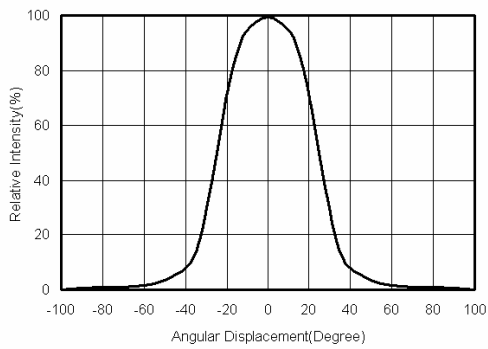
Typical Radiation Pattern for



EDEI-1LA3 & EDEI-ALA3

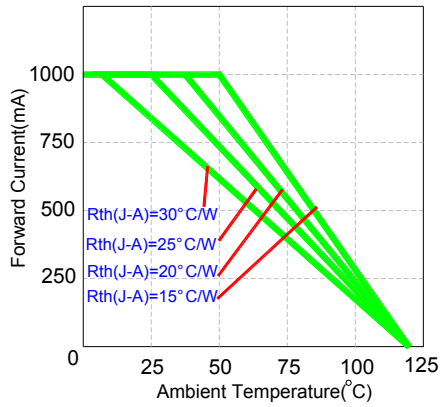


EDEN-1LA3

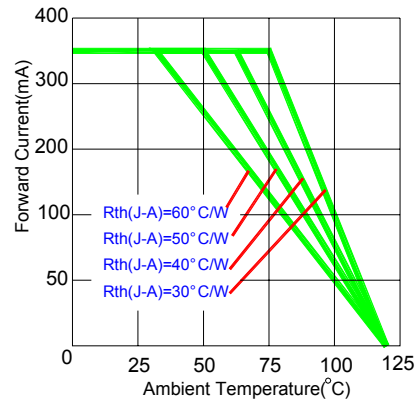


EDEI-1FA3

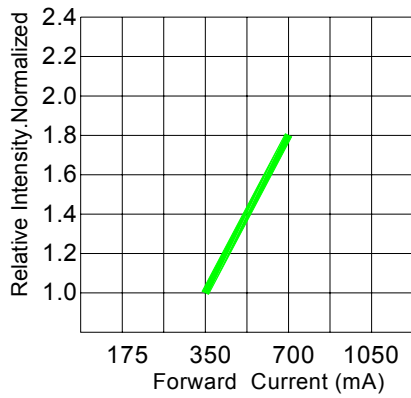
Typical Optical and Electrical Curves



Operating Current & Ambient Temperature
For EDEX-1LA3

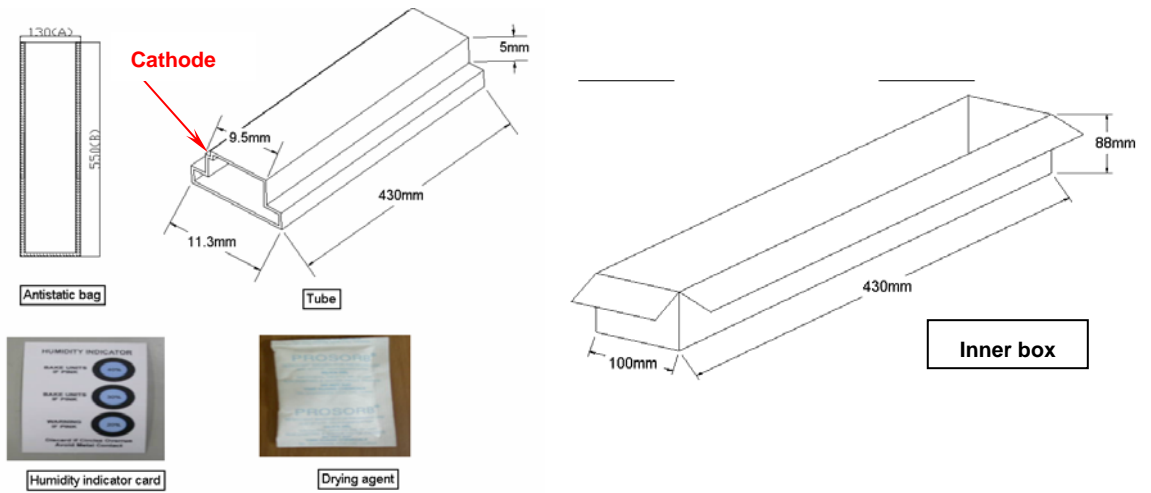


Operating Current & Ambient Temperature
For EDEX-ALA3



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