Lighting Design Manufacturing Service

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High Power LEDs

Edixeon® EDEx-1LSC-xR Series Datasheet

Features :

- More energy efficient than incandescent and most halogen lamps
- Low voltage operation
- Instant light
- Long operating life
- Reflow process compatible.

 version : 1

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General Information

Introduction

Edixeon® EDEx-1LSC-xR Series emitters are one of the highest flux LEDs in the world by Edison Opto. Edixeon® EDEx-1LSC-xR Series emitters are designed to satisfy more and more Solid-State lighting High Power LED applications for brilliant world such as flash light, indoor and outdoor decoration light. Edixeon® EDEx-1LSC-xR Series emitters are designed by particular package for reflow process application. 1W Edixeon® EDEx-1LSC-xR Series white has typical 135 lumens @350mA.
Unlike most fluorescent sources, Edixeon® EDEx-1LSC-xR Series contains no mercury and has more energy efficient than other incandescent light source.

Product Nomenclature

The following table describes the available color, power, and lens type. For more flux and forward voltage information, please consult the Bin Group document.

Table 1. Edixeon® EDEx-1LSC-xR Series nomenclature

ED	E	x	-	1	L	S	C	-	x	R	-	A	B	16
X1	X2	X3		X4	X5	X6	X7		X8	X9		X10	X11	X12

X1 LED Item		X2 Module		X3 Emitting Color		X4 Power		X5 Lens Item	
Code	Type	Code	Type	Code	Type	Code	Type	Code	Type
ED	Edixeon®	E	Emitter	W	Cool White	1	1W	L	Lambertan(140°)
		S	Star	X	Warm White				

X6~X9 Shape Item		X10 Al PCB Type		X11 Al PCB Color		X12 PCB Thickness	
Code	Type	Code	Type	Code	Type	Code	Type
--	--	A	Star	B	Black	10	1.0mm
		B	Square(25x25mm)			16	1.6mm
		C	Square(30x30mm)			20	2.0mm

Mechanical Dimensions

Emitter Dimensions

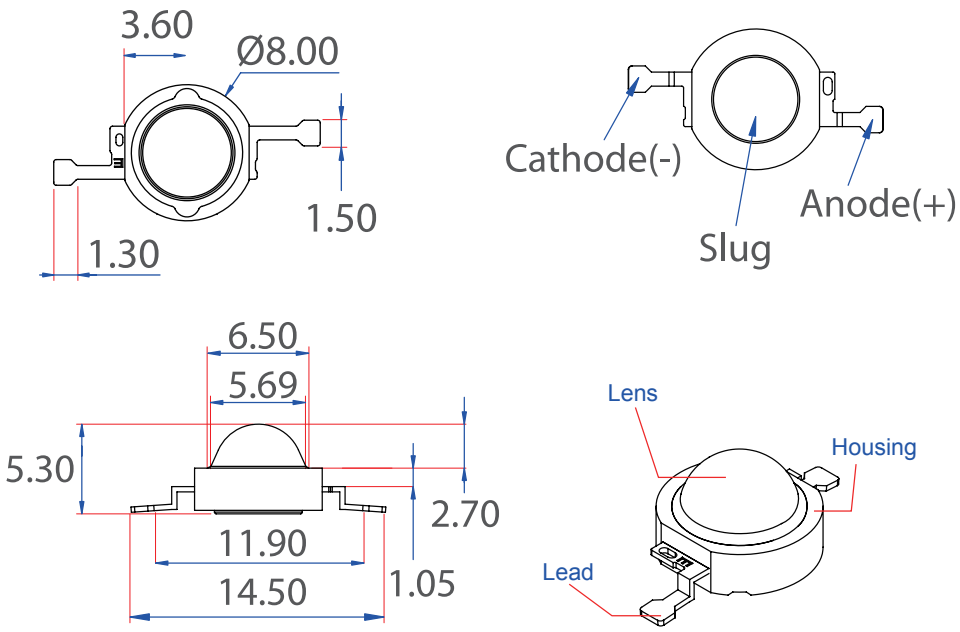

Figure 1. Edixeon® EDEx-1LSC-xR Series dimensions.

Notes:
1. All dimensions are in mm.
2. Drawings are not to scale.
3. It is strongly recommended to apply on electrically isolated heat conducting film between the slug and contact surfaces.

Star Dimensions

EDSx-1LSC-xR-Ax16

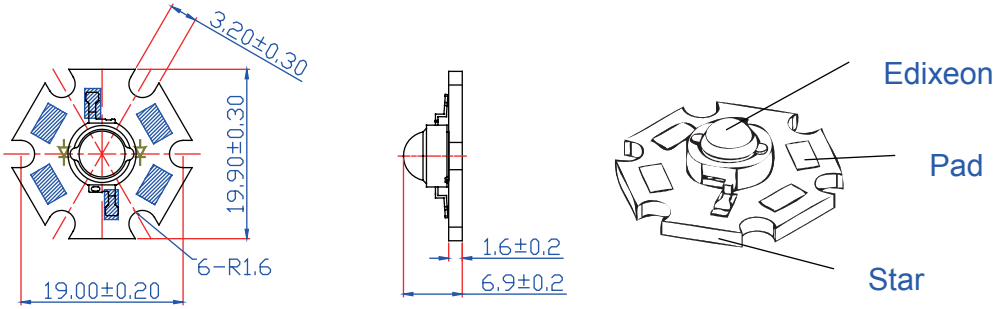

Figure 2. Edixeon® star dimensions

Note:
All dimensions are in mm.

Absolute Maximum Ratings

The following tables describe the characteristics of Edixeon® EDEx-1LSC-xR Series under various current.

Table 2. Absolute maximum ratings for Edixeon® EDEx-1LSC-xR Series

Parameter	Rating(1W)	Unit	Symbol
DC Forward Current(1W)	350	mA	I_F
Peak pulse current; (tp<=100μs, Duty cycle=0.25)	500	mA	-
Reverse Voltage	5	V	V_R
Drive Voltage	5	V	V_D
LED junction Temperature	125	˚C	T_J
Operating Temperature	-30 ~ +110	˚C	-
Storage Temperature	-40 ~ +120	˚C	-
Soldering Temperature	260	˚C	-
ESD Sensitivity	2,000	V	V_B
Manual Soldering Time at 360˚C(Max.)	5	Sec.	-

Notes:
1. Proper current derating must be observed to maintain junction temperature below the maximum at all time.
2. LEDs are not designed to be driven in reverse bias.
3. Allowable reflow cycles are 3 times for each LED.
4. tp: Pulse width time.

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Luminous Flux Characteristic

The following tables describe flux of Edixeon® EDEx-1LSC-xR Series under various current and different color.

Table 3. Luminous Flux characteristic at I_F=350mA and T_J=25°C

Power Item	Part Name	Color	Min Luminous Flux @350mA		Unit
			Group	Flux(lm)	
1W	EDEW-1LSC-FR	Cool White	V2	129.4	lm
			W1	146.2	
	EDEX-1LSC-JR	Warm White	U3	100	
			V1	112.5	

Note:
Flux is measured with an accuracy of ± 10%

Characteristics

Optical Characteristics

Table 4. Optical characteristics at I_F=350mA and T_J=25°C

Power Item	Part Name	Color	V_F(V)	CRI	Viewing Angle (Degree)
			typ.		
1W	EDEW-1LSC-FR	Cool White	3.4	68	130
	EDEX-1LSC-JR	Warm White		80	

Notes:
1. Forward voltage is measured with an accuracy of ± 0.1V
2. CRI is measured with an accuracy of ± 5
3. Emission angle is measured with an accuracy of ±10 degree

Electrical Characteristics

Table 5. Electrical Characteristics at T_J=25°C

Lens Item	Part Name	Color	CCT (K)		Thermal Resistance (°C/W)
			Min.	Max.	
Lambertian	EDEW-1LSC-xR	Cool White	5,000	10,000	10
	EDEX-1LSC-JR	Warm White	2,670	3,800	10

Note:
CCT is measured with an accuracy of ±5%

Characteristic Curve

Spectrum

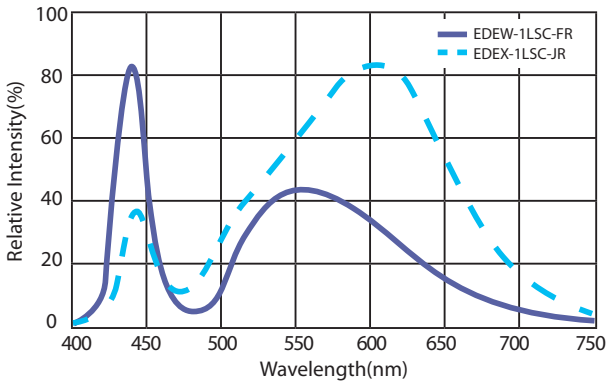

Figure 3. Cool white and Warm white color spectrum at T_J =25˚C.

Radiation Diagram

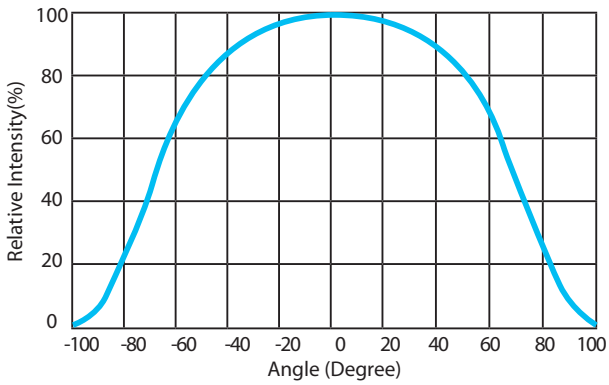

Figure 4. Emission angle.

Luminous Intensity & Forward Current

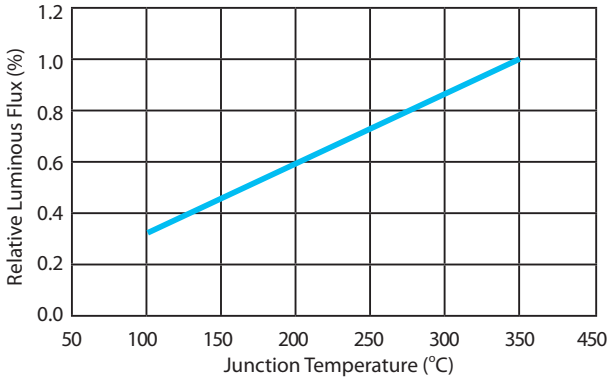

Figure 5. Forward Current & Luminous Intensity at TJ=25˚C

Forward Voltage & Forward Current

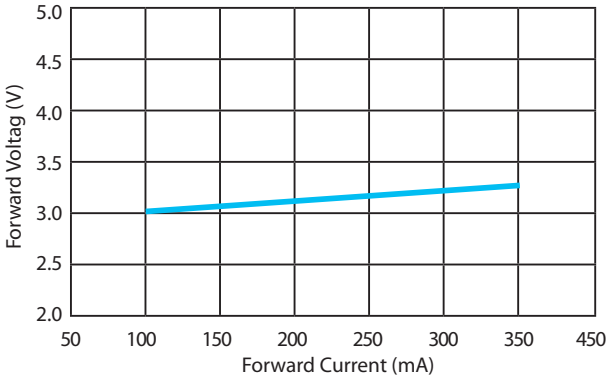

Figure 6. Forward Current & Forward Voltage at TJ=25˚C

Luminous Flux & Junction Temperature

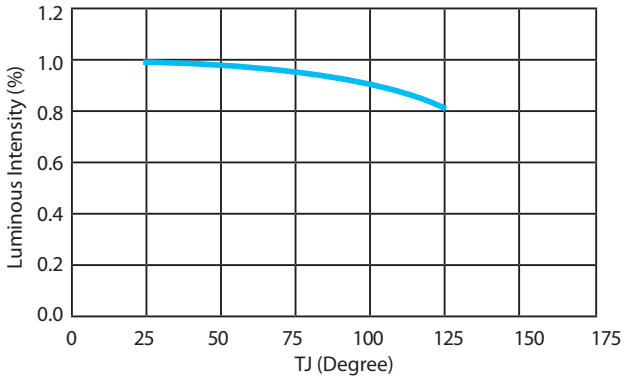

Figure 7. Junction temperature & lumens intensity for Cool White and Warm White

CCT & Junction Temperature

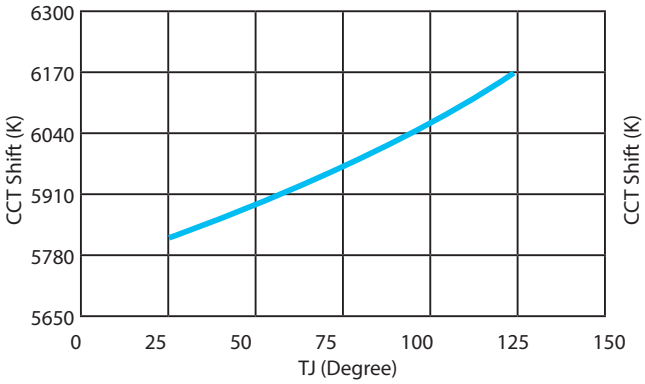

Figure 8. Junction temperature & CCT Shift for Cool White

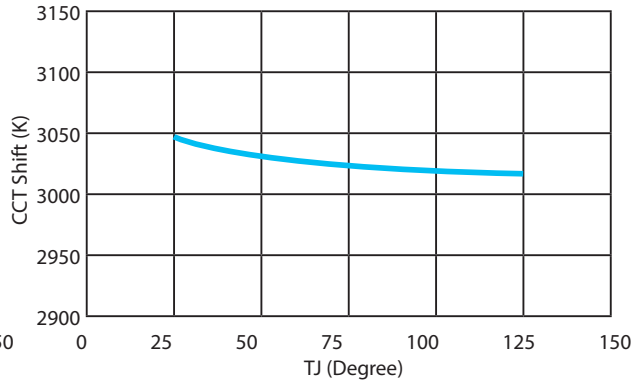

Figure 9. Junction temperature & CCT Shift for Warm White

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Revision History

Table 6. Revision History of EDEx-1LSC-xR.

Versions	Modification	Date
1	1. Establish a Datasheet.	2012/08/21

About Edison Opto

Edison Opto is a leading manufacturer of high power LED and a solution provider experienced in LDMS. LDMS is an integrated program derived from the four essential technologies in LED lighting applications- Thermal Management, Electrical Scheme, Mechanical Refinement, Optical Optimization, to provide customer with various LED components and modules. More Information about the company and our products can be found at www.edison-opto.com

www.edison-opto.com

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