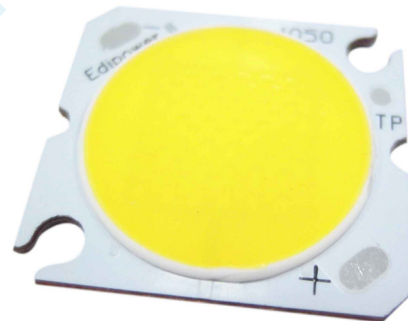


EdiPower® II Series

EdiPower II HR Series Datasheet



Features :

- LED light engine
- High power operation
- Instant on
- Long lifetime



Lighting Design Manufacturing Service

Table of Contents

General Information.....	3
Introduction.....	3
Product Nomenclature.....	3
Mechanical Dimensions.....	4
4W Emitter Dimensions.....	4
10W Emitter Dimensions.....	4
13W Emitter Dimensions.....	4
24/35W Emitter Dimensions.....	5
Emitter Circuit Layout.....	5
4W Emitter Circuit Layout.....	6
10W Emitter Circuit Layout.....	6
13W Emitter Circuit Layout.....	6
24 Emitter Dimensions.....	7
35 Emitter Dimensions.....	7
Absolute Maximum Ratings.....	8
Luminous Flux Characteristics.....	9
Thermal Resistance Characteristics.....	10
Revision History.....	11
About Edison Opto.....	11



Lighting Design Manufacturing Service

General Information

Introduction

EdiPower II HR Series can provide different operating powers and different colors. They serve as optical engine and can be utilized in general lighting and special lighting applications, such as MR16 and projectors. Furthermore, the high CRI options allow the customers to optimize the effect in various fields such as interior architecture.

Product Nomenclature

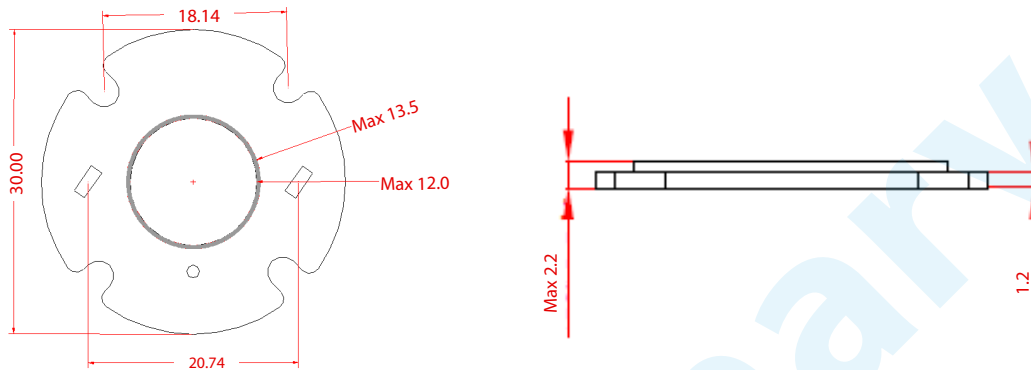
The following table describes the available colors, powers, and lens types. For more flux and forward voltage information, please consult the Bin Group document.

Table 1. EdiPower II HR Series Nomenclature

E P		S	X	-	H	R	T	1				
X1		X2	X3		X4	X5	X6	X7				
X1 LED Item		X2 Module		X3 Emitting Color		X4 Serial No.1		X5 Serial No.2		X6 Circuit Series		
Code	Type	Code	Type	Code	Type	Code	Type	Code	Type	Code	Type	
EP	EdiPower®	S	Square	W	Cool White	--	--	--	--	1-9	1-9 Series	
		C	Star	H	Neutral White					0~B	10~12 Series	
				X	Warm White					C~N	13~24 Series	
X7 Circuit Parallel												
Code	Type											
1-9	1~9 Parallel											
0~B	10~12 Series											
C~N	13~24Series											

Mechanical Dimensions

4W Emitter Dimensions



Notes:

1. Unit : mm
2. Tolerance : ± 0.2 mm
3. Drawings are not to scale
4. TP : Thermal measurement point

Figure 1. 4W EdiPower II HR Series Dimensions

9W Emitter Dimensions

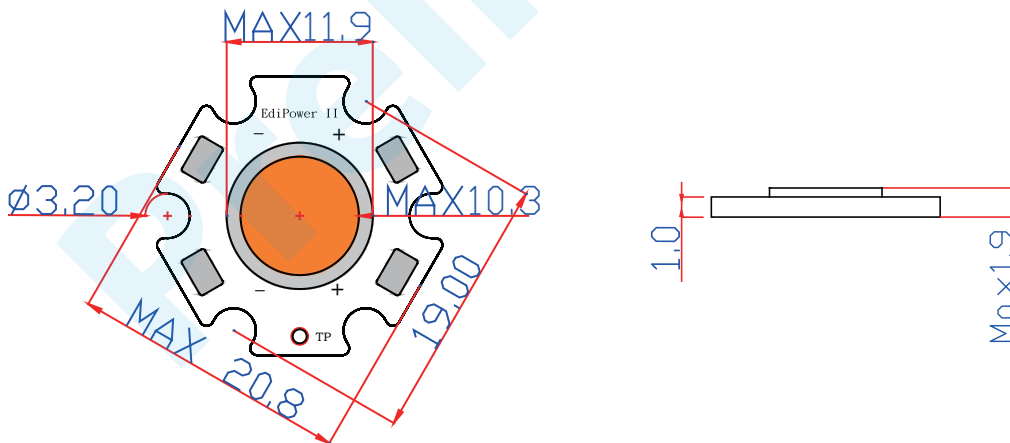


Figure 2. 9W EdiPower II HR Series Dimensions

Notes:

1. Unit : mm
2. Tolerance : ± 0.2 mm

13W Emitter Dimensions

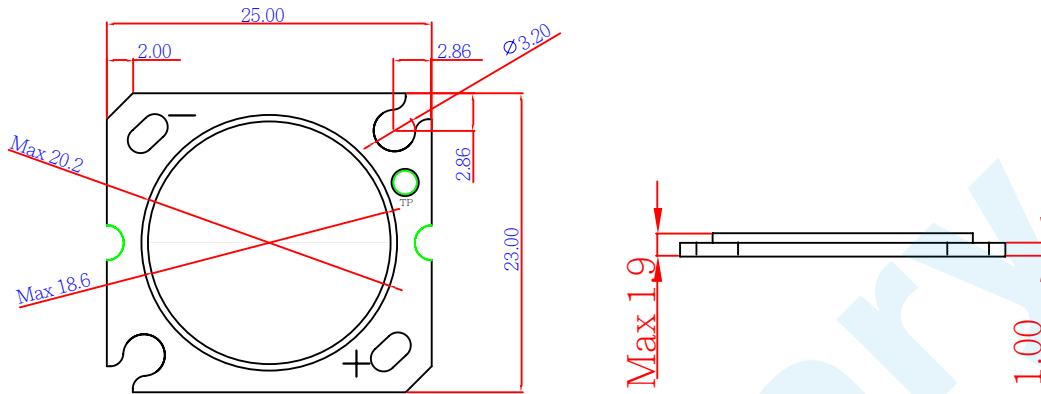


Figure 3. 13W EdiPower II HR Series Dimensions

Notes:

1. Unit : mm
2. Tolerance : ± 0.2 mm
3. Drawings are not to scale
4. TP : Thermal measurement point

24/35W Emitter Dimensions

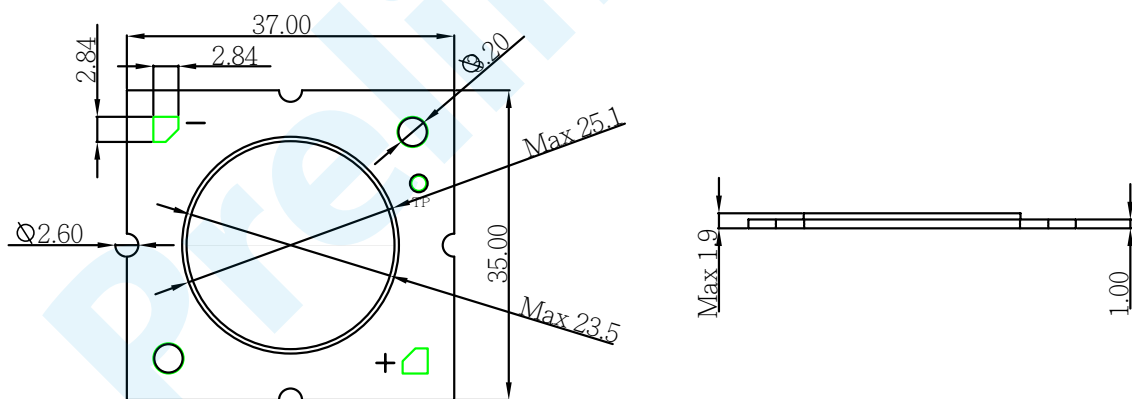


Figure 4. 24/35W EdiPower II HR Series Dimensions

Notes:

1. Unit : mm
2. Tolerance : ± 0.2 mm
3. Drawings are not to scale
4. TP : Thermal measurement point

Emitter Circuit Layout

4W Emitter Circuit Layout

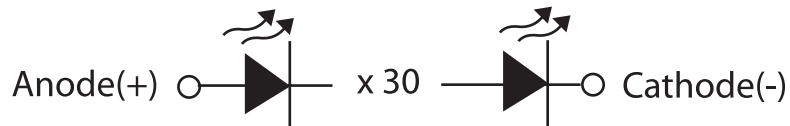


Figure 5.4W EdiPower II HR Series Circuit Layout

9W Emitter Circuit Layout

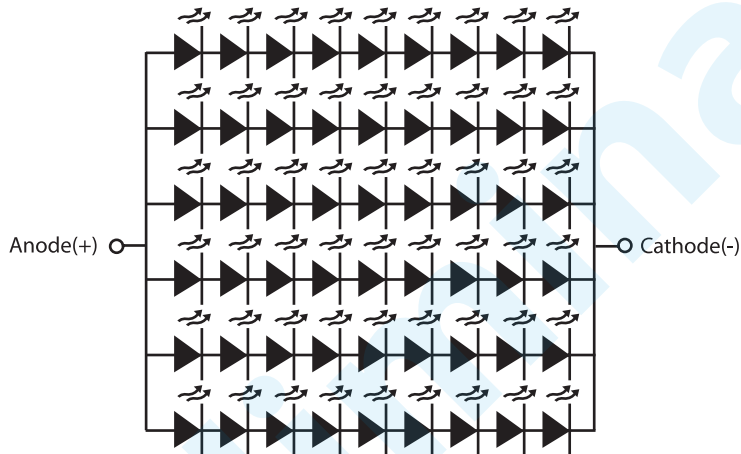


Figure 6.9W EdiPower II HR Series Circuit Layout

13W Emitter Circuit Layout

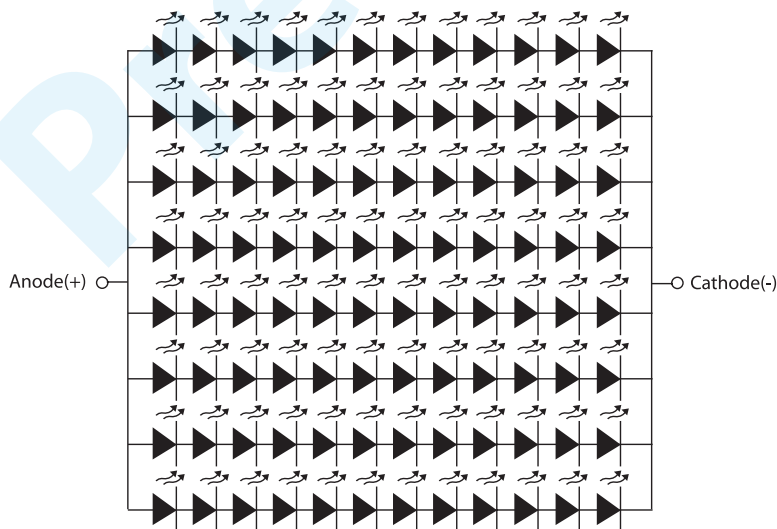


Figure 7.13W EdiPower II HR Series Circuit Layout

24W Emitter Circuit Layout

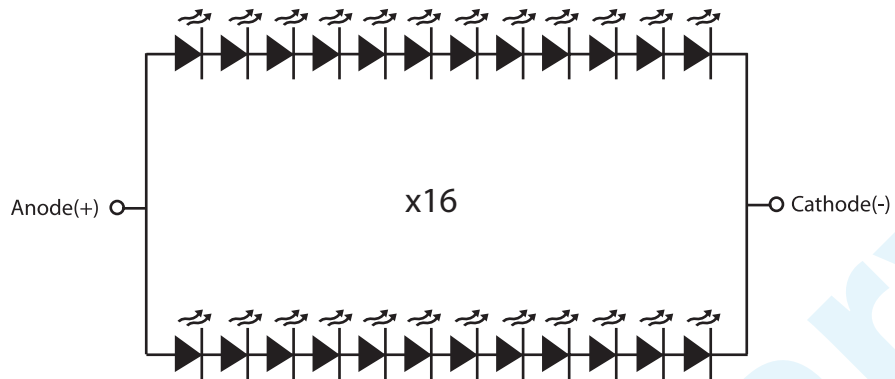


Figure 8.24W EdiPower II HR Series Circuit Layout

35W Emitter Circuit Layout

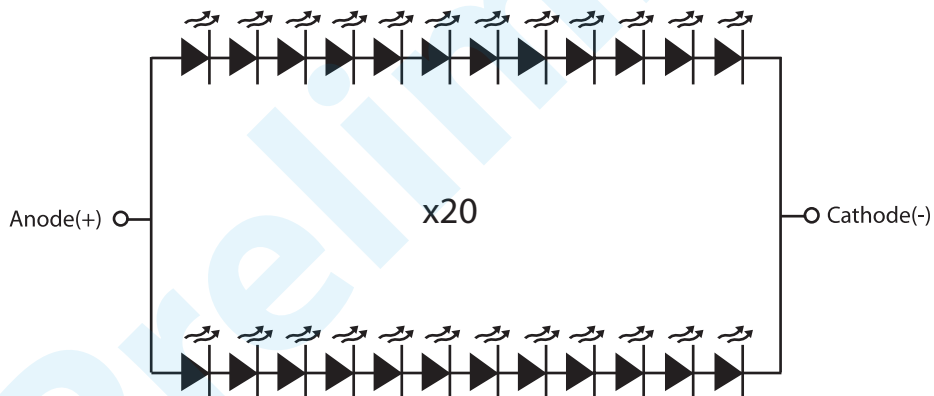


Figure 9.35W EdiPower II HR Series Circuit Layout

Absolute Maximum Ratings

The following table describes absolute maximum ratings of EdiPower II HR Series.

Table 2. Absolute maximum ratings for EdiPower II HR Series

Test	EPSx-HRB8	EPSx-HRBF	EPSx-HRBJ	Unit	Symbol
DC Forward Current ¹	350	700	1000	mA	I_F
Max Forward Current	500	1000	1200	mA	I_F
Reverse Voltage ²	Note 2			V	V_R
LED junction Temperature ³	150			°C	T_J
Reverse Voltage ²	-40 ~ +110			°C	
Storage Temperature	-40 ~ +120			°C	
Thermal Measurement Point (T_p)	<80			°C	T_s
ESD Sensitivity	2,000			V	V_B
Isolation Voltage	1,000			V	

Test	EPCx-HRT1	EPCx-HR96	Unit	Symbol
DC Forward Current ¹	40	350	mA	I_F
Max Forward Current	60	350	mA	I_F
Reverse Voltage ²	Note 2		V	V_R
LED junction Temperature ³	150		°C	T_J
Operating Temperature	-40 ~ +110		°C	
Storage Temperature	-40 ~ +120		°C	
Thermal Measurement Point (T_p)	<80		°C	T_s
ESD Sensitivity	2,000		V	V_B
Isolation Voltage	1,000		V	

Notes:

1. DC forward current should not exceed LED's operating current; the current tolerance should be kept within a range of 5%.
2. LEDs are not designed to be driven in reverse bias.
3. Proper current derating must be observed to maintain junction temperature below the maximum at all time.

Luminous Flux Characteristics

The following tables describe luminous flux of EdiPower II HR Series under various current.

Table 3. Luminous flux characteristics at $T_j=25^{\circ}\text{C}$ for EdiPower II HR Series for cool white

Part Number	Color	Typical Flux(lm) $T_{\text{case}}=60^{\circ}\text{C}$	Typical Flux(lm) $T_j=25^{\circ}\text{C}$	CRI (Min)	Typical Forward Voltage V_f (V)	Forward Current (mA)
EPSW-HRB8	Cool White	1250	1400	85	36	350
		1800	2000	85	37	500
2350		2600	85	36	700	
3350		3700	85	37	1000	
EPSW-HRBJ		3450	3800	85	36	1000
		4100	4550	85	37	1200

Table 4. Luminous flux characteristics at $T_j=25^{\circ}\text{C}$ for EdiPower II HR Series for Neutral white

Part Number	Color	Typical Flux(lm) $T_{\text{case}}=60^{\circ}\text{C}$	Typical Flux(lm) $T_j=25^{\circ}\text{C}$	CRI (Min)	Typical Forward Voltage V_f (V)	Forward Current (mA)
EPSH-HRB8	Neutral White	1250	1400	85	35	350
		1800	2000	85	36	500
2350		2600	85	35	700	
3350		3700	85	36	1000	
EPSH-HRBJ		3450	3800	85	35	1000
		4100	4550	85	36	1200

Table 5. Luminous flux characteristics at $T_j=25^{\circ}\text{C}$ for EdiPower II HR Series for Warm white

Part Number	Color	Typical Flux(lm) $T_{\text{case}}=60^{\circ}\text{C}$	Typical Flux(lm) $T_j=25^{\circ}\text{C}$	CRI (Min)	Typical Forward Voltage V_F (V)	Forward Current (mA)
EPCX-HRT1		360	400	85	85	40
		480	540	85	89	60
EPSX-HR96		830	910	85	25	350
EPSX-HRB8	Warm White	1250	1400	85	34	350
		1800	2000	85	35	500
EPSX-HRBF		2350	2600	85	34	700
		3350	3700	85	35	1000
EPSX-HRBJ		3450	3800	85	34	1000
		4100	4550	85	35	1200

Notes:

- 1.EPxx-HRTx:Forward Voltage has $\pm 9\text{V}$ tolerance.
- 2.EPxx-HR9x:Forward Voltage has $\pm 2.7\text{V}$ tolerance.
- 3.EPxx-HRBx:Forward Voltage has $\pm 3.6\text{V}$ tolerance.

Thermal Resistance Characteristics

 Table 6. Temperature Coefficient of Forward Voltage & Thermal Resistance Junction to Case Characteristics at $T_j=25^{\circ}\text{C}$ for EdiPower II HR Series

Part Name	Test Current (mA)	$\Delta V_F/\Delta T$		$R\theta_{J-B}$	
		Typ.	Unit	Typ.	Unit
EPSx-HRB8	350	-5 to -12	mV/ $^{\circ}\text{C}$	1.2	$^{\circ}\text{C}/\text{W}$
EPSx-HRBF	700	-8 to -16	mV/ $^{\circ}\text{C}$	0.6	$^{\circ}\text{C}/\text{W}$
EPSx-HRBJ	1000	-8 to -18	mV/ $^{\circ}\text{C}$	0.5	$^{\circ}\text{C}/\text{W}$
EPCx-HRT1	40	-8 to -14	mV/ $^{\circ}\text{C}$	3.6	$^{\circ}\text{C}/\text{W}$
EPCx-HR96	350	-8 to -16	mV/ $^{\circ}\text{C}$	3.6	$^{\circ}\text{C}/\text{W}$



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Revision History

Table 7. Revision history of EdiPower II HR Star series datasheet

Version	Description	Release Date
0.1	1.Establish a datasheet	2012/01/04

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

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