Lighting Design Manufacturing Service

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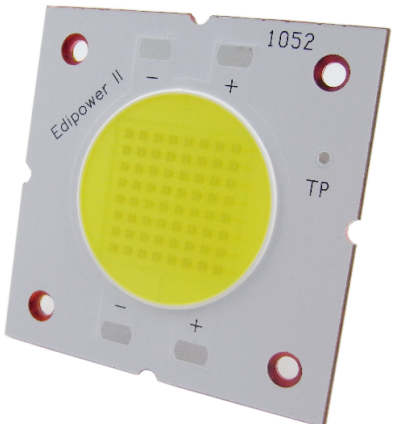
EdiPower® II Series

EdiPower®II 50-60W / 100-120W Datasheet



Features :

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

 version : 4

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General Information

Introduction

EdiPower II 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, emitter types and circus series etc. For more flux and forward voltage information, please consult the Bin Group document.

Table 1. EdiPower® II 50-60W / 100-120W Series Nomenclature

EP	S	x	-	V	x	8	8
X1	X2	X3		X4	X5	X6	X7

X1 LED Item		X2 Emitter Type		X3 Emitting Color		X4-X5 Serial Number		X6 Circus Series		X7 Circus Parallel	
Code	Type	Code	Type	Code	Type	Code	Type	Code	Type	Code	Type
EP	EdiPower®II	S	Square	W	Cool White	-	-	1-9	1-9 Series	1-9	1-9 Parallel
				H	Neutral White			0	10 Series	0	10 Parallel
				X	Warm White					A	11 Parallel
										B	12 Parallel

Mechanical Dimensions

Emitter Dimensions

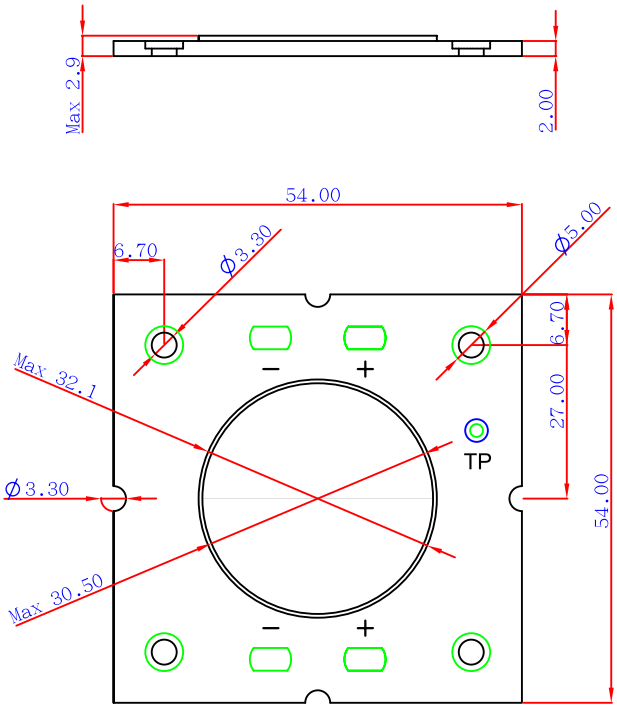

Figure 1. EdiPower®II 50-60W / 100-120W Series Dimensions

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

50-60W Emitter Circuit Layout

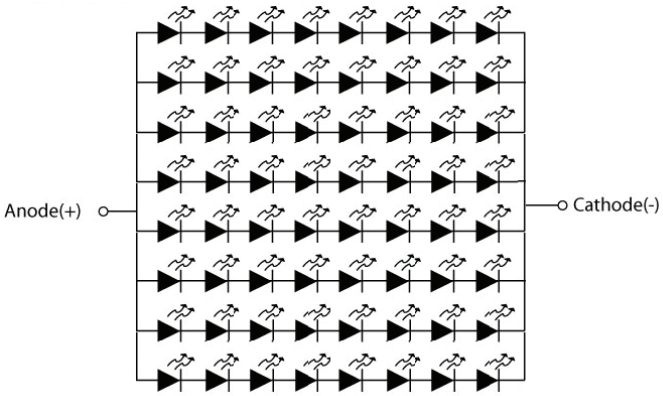

Figure 2. 50-60W EdiPower® II Circuit Layout

100-120W Emitter Circuit Layout

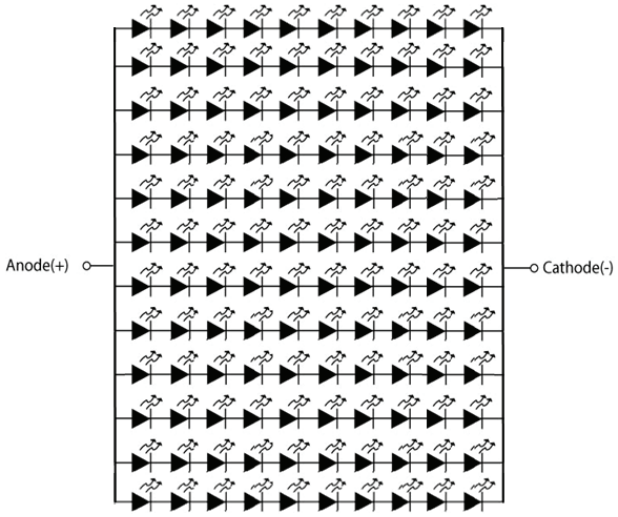

Figure 3.100-120W EdiPower® II Circuit Layout

Absolute Maximum Ratings

The following table describes absolute maximum ratings of EdiPower® II 50-60W/ 100-120W series.

Table 2. EdiPower® II 50-60W/ 100-120W series absolute maximum ratings

Test	EPSx-Vx88	EPSx-Vx0B	Unit	Symbol
DC Forward Current[1]	2000~2400	3000~3600	mA	I_F
Peak pulse current (tp≤100μs,Duty cycle=0.25)	3000	4000	I_{Pulse}	mA
Reverse Voltage2	Note 2		V	V_R
Viewing Angle(FWHM)	105~120			Degree
LED junction Temperature3	150		°C	T_J
Operating Temperature	-40 ~ +110		°C	
Storage Temperature	-40 ~ +120		°C	
Thermal Measurement Point (TP)	<80		°C	T_S
ESD Sensitivity	2000		V	V_B
Isolation Voltage	1000		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 flux of EdiPower® II 50-60W/ 100-120W series under various current and different color.

Table 3. Luminous flux characteristics at T_J=25˚C for EdiPower® II 50-60W/ 100-120W series.

Color	Part Name	Typical Luminous Flux(lm) T_P=60°C	Typical Luminous Flux(lm) T_J=25°C	Typical Forward Voltage V_F (V)	Forward Current (mA)	CRI
Cool White	EPSW-VF88	4420	4850	25.4	2,000	70
		4960	5500	26.0	2,400	
	EPSW-VF0B	7270	8080	31.5	3,000	
		8830	9800	33.0	3,600	
Neutral White	EPSH-VF88	3980	4410	25.4	2,000	75
		4520	5050	26.0	2,400	
	EPSH-VF0B	6590	7325	31.5	3,000	
		7970	8800	33.0	3,600	
Warm White	EPSX-VF88	3180	3510	25.4	2,000	80
		3750	4150	26.0	2,400	
	EPSX-VF0B	5620	6240	31.5	3,000	
		7000	7500	33.0	3,600	

Notes:
1. EPSx-VF88:Forward Voltage has ±2.4V tolerance.
2. EPSx-VF0B:Forward Voltage has ±3.0V tolerance.

Characteristics

Thermal Resistance Characteristics

Table 4. Temperature Coefficient of Forward Voltage & Thermal Resistance Junction to Case Characteristics at T_J=25˚C for EdiPower® II 50-60W/ 100-120W series

Part Name	Test Current (mA)	$\Delta V_F/\Delta T$		$R\theta_{J-B}$	
		Typ.	Unit	Typ.	Unit
EPSx-Vx88	2,400	-8 to -18	mV/˚C	0.20	˚C/W
EPSx-Vx0B	3,600	-10 to -22	mV/˚C	0.15	˚C/W

Product Packaging Information

Tray Packing for 50/60W and 100/120W

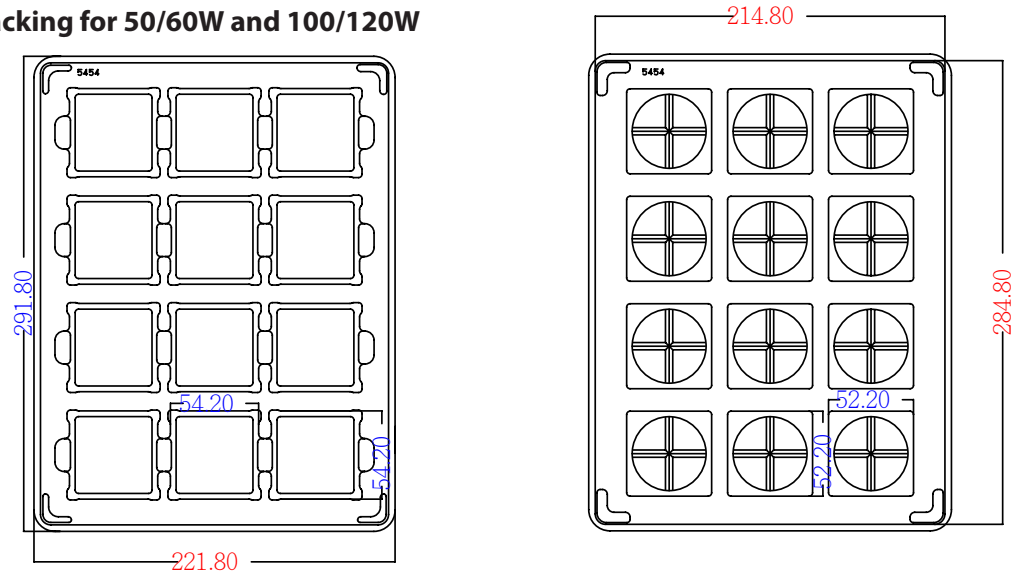

Figure 4. Tray package dimension.

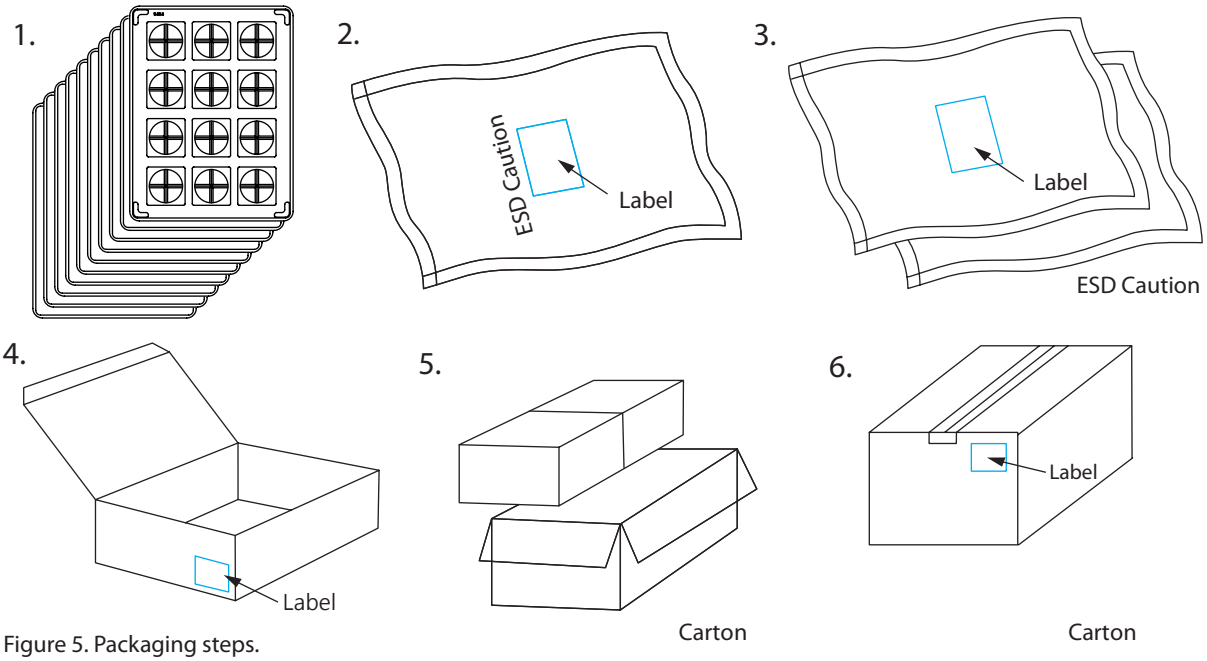

Figure 5. Packaging steps.

Notes:
1. All dimensions are in mm.
2. There are 50/60W and 100/120 emitters in a full tray.
3. There are 10 trays in a bag.
4. There are 2 bags in a boxs.
5. There are 2 inner boxes in a carton.
6. A bag contains one humidity indicator card and drying agent.

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Revision History

Table 5. Revision history of EdiPower II® 50~60W and 100~120W series datasheet

Version	Description	Release Date
3	1. Update the layout of datasheet 2. Update the bin group 3. Update the Luminous flux	2011/07/21
4	1. Update dimensions on p.3 2. Update luminous flux on p.7	2012/01/11

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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