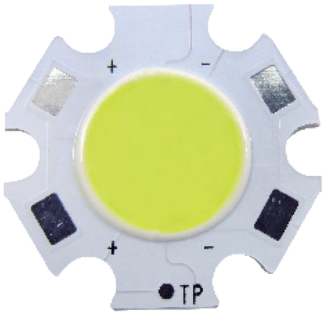
EdiPower® II Star Series Datasheet



Features :

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

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General Information

Introduction

EdiPower® II Star 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.

Ordering Code Format

2	P	LC	xx	xW	xx	Pxx	xxx
X1	X2	X3	X4	X5	X6	X7	X8

X1 Type		X2 Component		X3 Series		X4 Wattage		X5 Color	
2	L1	P	EdiPower II	LC	LC Series	06	6W	CW	Cool White
						10	10W	NW	Neutral White
								WW	Warm White

X6 Internal code		X7 PCB Board		X8 Serial Number	
--	--	P05	Star	--	--

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Absolute Maximum Ratings

Parameter		Symbol	Value	Units
DC Forward Current[1]	(4~6W) (6W) (6~10W)	I_F	700 250 1000	mA
Max Forward Current	(4~6W) (6W) (6~10W)	I_F	1000 300 1500	mA
Peak pulse current (tp≤100μs,Duty cycle=0.25)	(4~6W) (6W) (6~10W)	I_{Pulse}	125 125 150	mA
Reverse Voltage[2]		V_R	Note 2	V
Operating Temperature		-	-40 ~ +110	°C
Storage Temperature		-	-40 ~ +120	°C
ESD Sensitivity		V_B	2,000	V
Isolation Voltage		-	1,000	V

Absolute maximum ratings (T_j=25°C)

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.

Characteristics

Parameter		Symbol	Value	Units
Viewing Angle	(Typ.)	$2\theta_{1/2}$	105~120	Degree
Forward voltage	(4~6W / 6~10W) (6W)	V_F	9.6 26.5	V
λd/CCT	(Cool White) (Neutral White) (Warm White)	-	5000 - 10000 3800 - 5000 2670 - 3800	K
Thermal resistance	(4~6W) (6W) (6~10W)	$R\theta_{J-B}$	3.6 1.4 3.0	°C/W
$\Delta V_F/\Delta T$	(4~6W) (6W) (6~10W)	-	-2 to -6 -8 to -14 -2 to -8	mV/°C

Note:
$2\theta_{1/2}$ is the off-axis angle where the luminous intensity is half of the axial luminous intensity.

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Luminous Flux Characteristic

Luminous Flux Characteristics T_J=25˚C

Color	Wattage (W)	Group	Min Luminous Flux(lm)@350mA	Max Luminous Flux(lm)@700mA	Forward Current (mA)	Order Code
Cool White	6W	C0	500	600	700	2PLC06CW06P05001
	10W	C2	700	800	1000	2PLC10CW06P05001
		C3	800	900		
Neutral White	6W	B7	450	500	700	2PLC06NW05P05001
Warm White	6W	B4	300	350	700	2PLC06WW05P05001
		B5	350	400		
		B6	400	450		
	10W	C0	500	600	1000	2PLC10WW05P05001
		C1	600	700		

Notes:
1. 6W/ 10W : Forward Voltage has ±0.9V tolerance.
2. 6W : Forward Voltage has ±2.4V tolerance.

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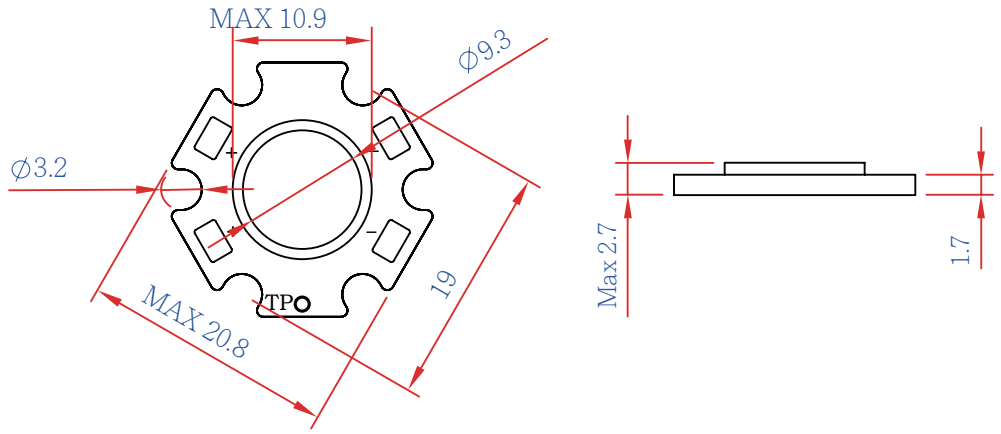
Mechanical Dimensions

Emitter Dimensions

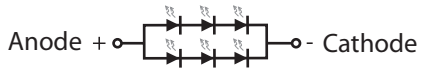
6-10W Emitter Dimensions



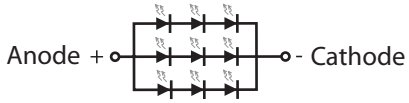
6-10W EdiPower II Star Series Dimensions

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

6W Emitter Circuit Layout



10W Emitter Circuit Layout



EdiPower II Star Series Circuit Layout

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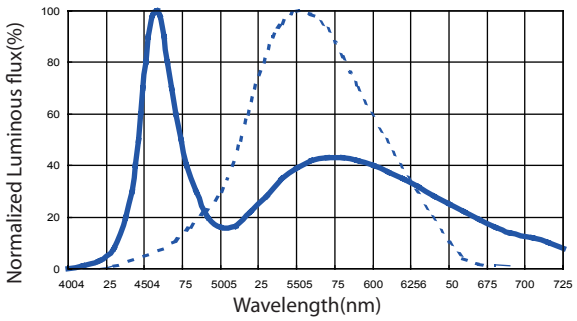
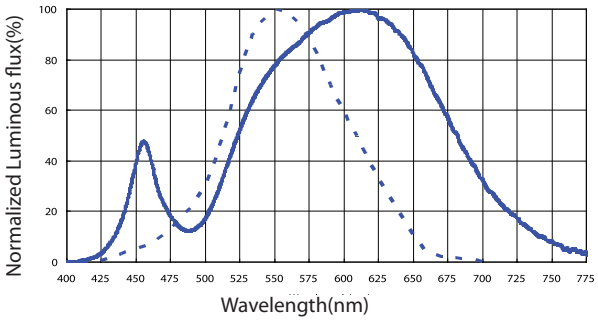
Characteristic Curve

Spectrum

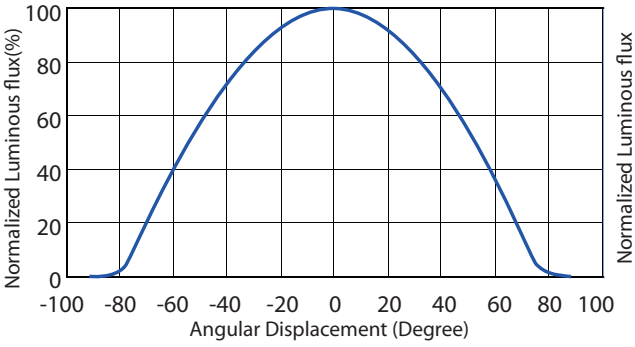


Color spectrum for EdiPower® II Star series Cool White



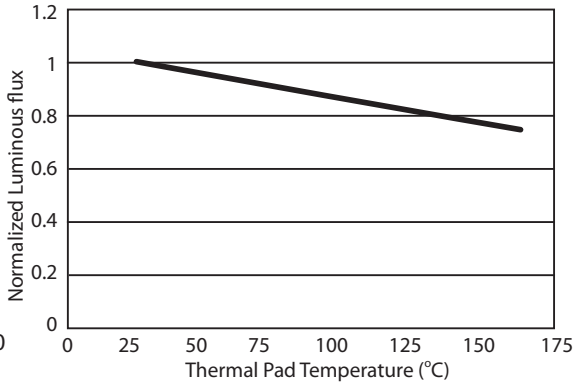
Color spectrum for EdiPower® II Star series Warm White

Radiation Diagram



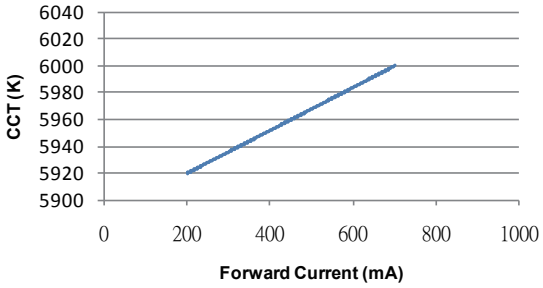
Lambertain at TJ=25°C for EdiPower® II Star series

Luminous Flux & Junction Temperature

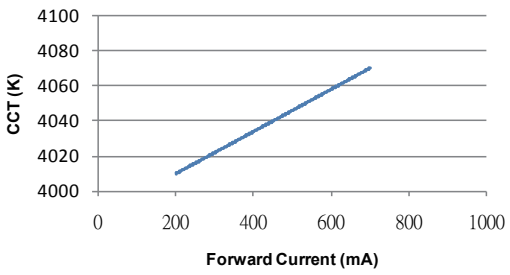


Luminous flux vs. thermal pad temperature

CCT & Forward Current



CCT shift for 6W Cool White



CCT shift for 6W Neutral White

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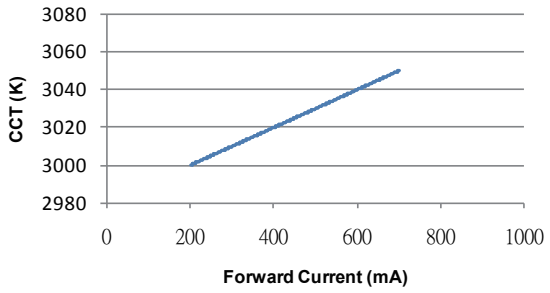
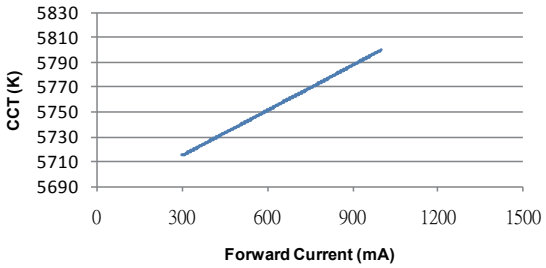
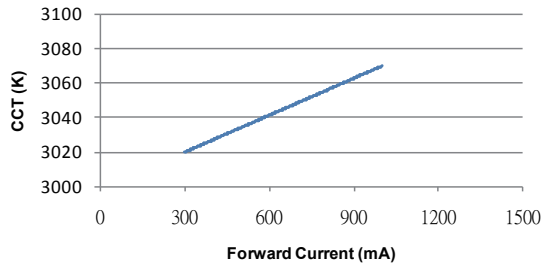
CCT & Forward Current



CCT shift for 6W Warm White

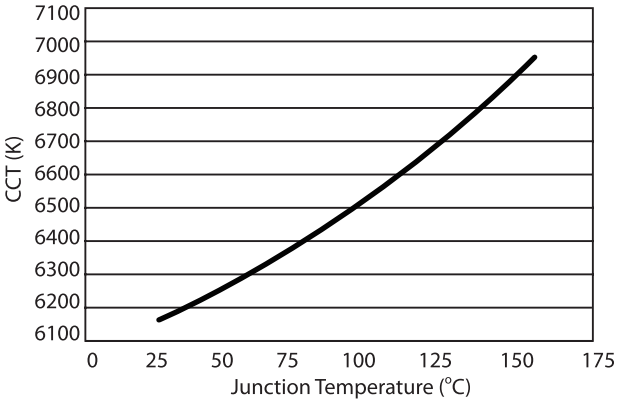


CCT shift for 10W Cool White



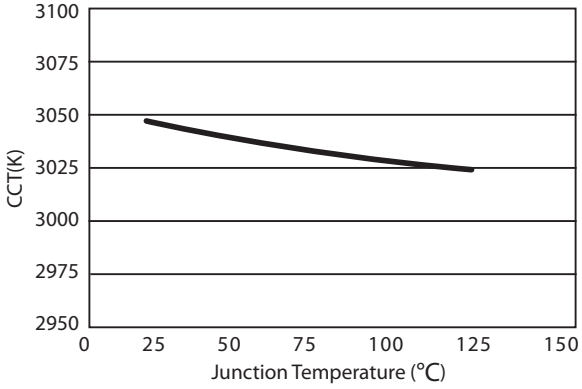
CCT shift for 10W Warm White

CCT & Junction Temperature



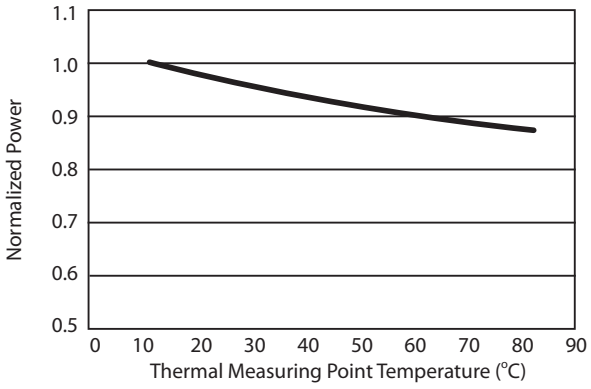
Typical CCT vs. junction temperature for Cool White

CCT & Junction Temperature



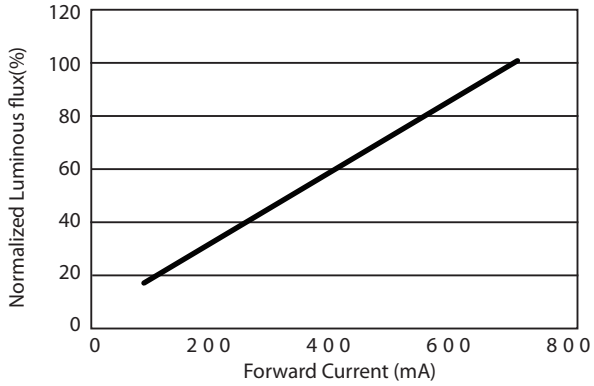
F Typical CCT vs. junction temperature for Warm White

Power Output vs. Thermal Measuring Point Temperature

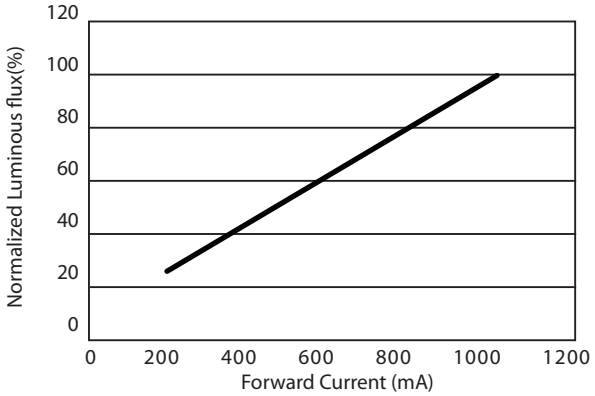


Power output for EdiPower II Star Series

Forward Current vs. Luminous Flux

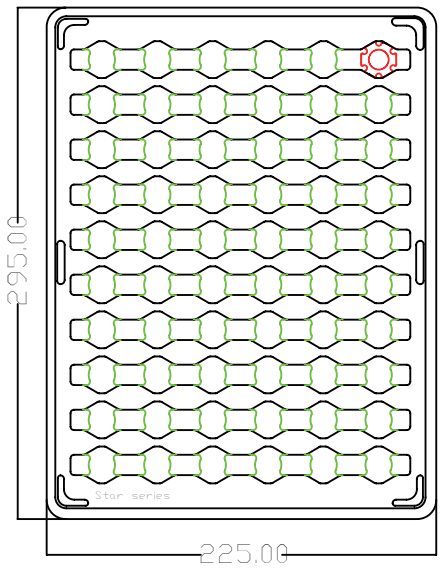


Forward current vs. Luminous flux for 6W

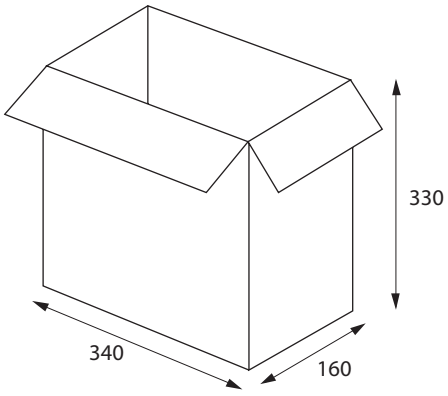


Forward current vs. Luminous flux for 10W

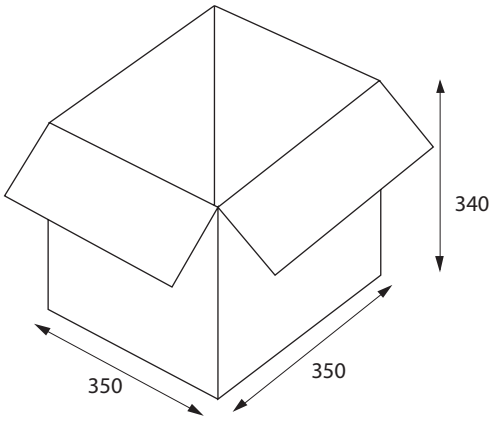
Product Packaging Information



Tray package dimension.



Box



Carton

Packaging steps.

Notes:
1. All dimensions are in mm.
2. There are 60pcs stars in a 6/10W star tray.
3. There are 20 trays in a box.
4. There are 2 inner boxes in a carton.

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Revision History

Versions	Description	Release Date
1	Establish order code information	2012/12/11

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

www.edison-opto.com

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