EDISON
Lighting Design Manufacturing Service

Edixeon S1 Single Color Series Datasheet

Features :

- Various colors
- More energy efficient than incandescent and most halogen lamps
- Low voltage operation
- Instant light
- Long operating life

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General Information

Introduction

Edixeon S1 series emitters are one of the highest flux LEDs in the world by Edison Opto. Edixeon S1 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. Unlike most fluorescent sources, Edixeon Opto contains no mercury and has more energy efficient than other incandescent light source.

Ordering Code Format

2	E	S 1	0 x	x W	x x	0 0 0	x x x
X1	X2	X3	X4	X5	X6	X7	X8

X1 Type		X2 Component		X3 Series		X4 Wattage		X5 Color	
2	Emitter	E	Edixeon	S1	S1 Series	01	1W	CW	Cool White
						03	3W	NW	Neutral White
								WW	Warm White
								RX	Red
								TX	True Green
								BX	Blue
								AX	Amber
								DX	Dentle Blue

X6 Internal code		X7 PCB Board		X8 Serial Number	
00	-	000	-	-	-

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Absolute Maximum Ratings

Parameter		Symbol	Value	Units
DC Forward Current[1]	(1W) (3W)	I_F	350 700	mA
Peak Pulsed Current; (tp≤100μs, Duty cycle=0.25) [2]	(1W) (3W)	I_{pulse}	500 1000	mA
Reverse Voltage		V_R	5	V
Drive Voltage		V_D	5	V
LED Junction Temperature[3]		T_J	125	°C
Operating Temperature		-	-30 ~ +110	°C
Storage Temperature		-	-40 ~ +120	°C
ESD Sensitivity (HBM)		-	2,000	V

Notes:
1. Proper current derating must be observed to maintain junction temperature below the maximum at all time.
2. tp: Pulse width time
3. Allowable reflow cycles are 3 times for each LED.

Characteristics

Parameter		Symbol	Value	Units
Viewing Angle	(White Series/R/A) (T/B)	$2\Theta_{1/2}$	135 150	Degree
Forward voltage	(Typ.)	V_F	1W - R/A : 2.4 1W - T/B : 3.4 3W - R/A : 2.7 3W - T/B : 3.7	V
Thermal resistance		-	11	°C/W
$\Delta V_F/\Delta T$		$\Delta V_F/\Delta T$	-2	mV/ °C
CCT/Wavelength		λd	R: 620-630 A: 585-595 T: 515-535 B: 455-475	K

Notes:
1. Wavelength is measured with an accuracy of ± 0.5nm.
2. CCT is measured with an accuracy of ± 5%.
3. Viewing anlge is measured with an accuracy of ± 5%.

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Luminous Flux Characteristic

Luminous Flux Characteristics at I_F=350mA, T_j=25°C.

Color	Wattage (W)	Group	Min. Luminous Flux(lm)	Max. Luminous Flux(lm)	Forward Current (mA)	Order Code
Red	1	R0	39.4	51.2	350	2ES101RX00000001
		S0	51.2	66.5		
	3	U0	86.5	110	700	2ES103RX00000001
		V0	110	160		
True Green	1	S0	51.2	66.5	350	2ES101TX00000001
		T0	66.5	86.5		
	3	U0	86.5	110	700	2ES103TX00000001
		V0	110	160		
Blue	1	N0	17.9	23.3	350	2ES101BX00000001
		P0	23.3	30.3		
		Q0	30.3	39.4		
	3	Q0	30.3	39.4	700	2ES103BX00000001
		R0	39.4	51.2		
Amber	1	N0	17.9	23.3	350	2ES101AX00000001
		P0	23.3	30.3		
		Q0	30.3	39.4		
	3	U0	86.5	110	700	2ES103AX00000001
		V0	110	160		

Notes:
1. Flux is measured with an accuracy of ± 10%.
2. All Cool White, Neutral White, Warm White, True Green and Blue emitters are built with InGaN.
3. All Red emitters are built with AlGaInP.

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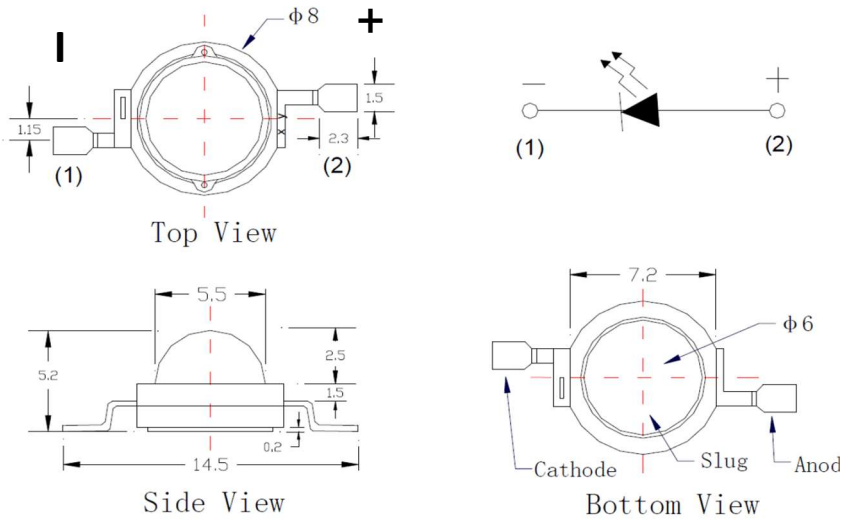
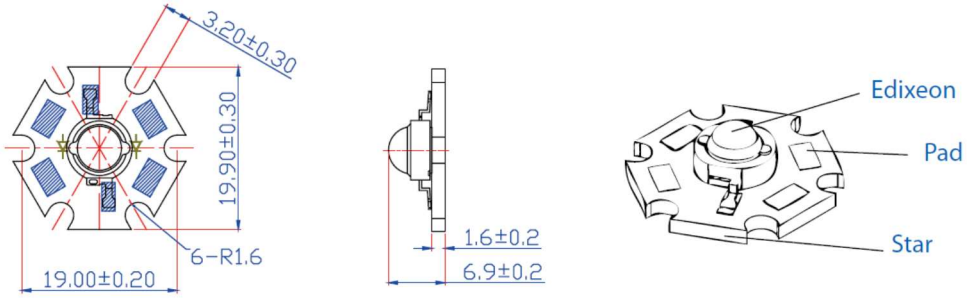
Mechanical Dimensions

Emitter Type Dimension



Star Dimensions



Notes:

1. All dimensions are in mm.
2. It is strongly recommended that the temperature of lead doesn't exceed 55°C.
3. Lambertian and side emitting series slug has polarity as anode.
4. 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.

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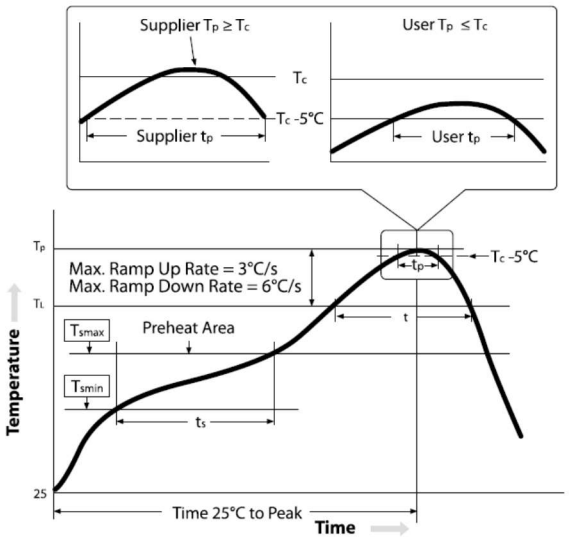
Reflow Profile

The following reflow profile is from IPC/JEDEC J-STD-020D which provided here for reference.



Classification Reflow Profiles

Profile Feature	Low-Temp, Pb-Free Assembl
Preheat/Soak Temperature Min (T_{smin}) Temperature Max (T_{smax}) Time (ts) from (T_{smin} to T_{smax})	 80° C 110° C 60-120 seconds
Ramp-up rate (TL to T_P)	2° C/ seconds max.
Liquidous temperature (TL) Time (tL) maintained above TL	138° C 20-50 seconds
Peak package body temperature (T_P) (1)	155° C~160° C
Classification temperature (T_C)	160° C
Time (tp) within 5° C of the specified classification temperature (Tc) (2)	30 seconds
Average ramp-down rate (T_p to T_{smax})	3° C/second max.
Time 25° C to peak temperature	6minutes max

Notes:
1. Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum.
2. Tolerance for time at peak profile temperature (tp) is defined as a supplier minimum and a user maximum.

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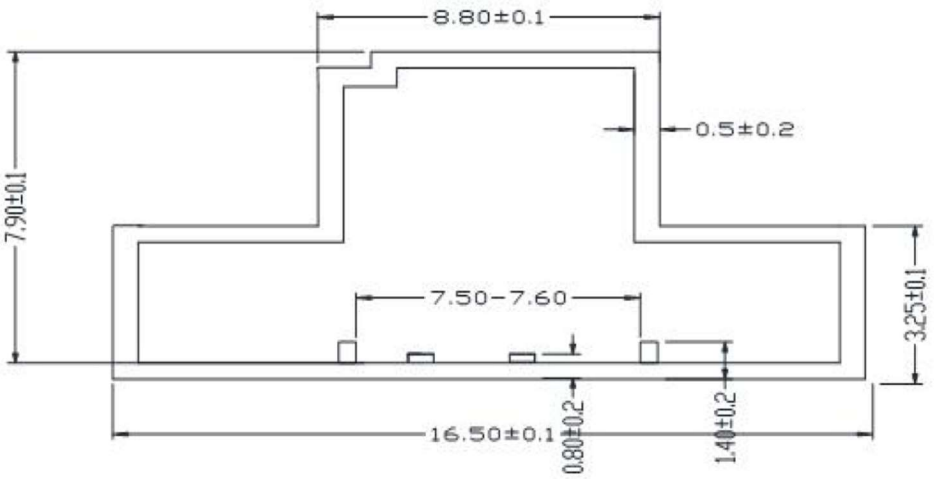
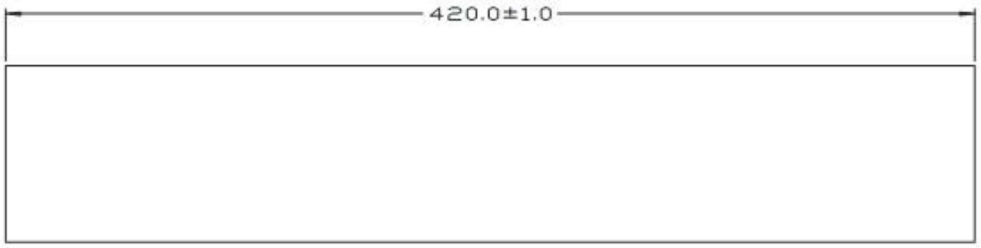
Product Packaging Information

Tape and Reel Dimension





Electrostatic bag specification　静电袋规格