
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

<u>2</u> X1		<u>E</u> X2		<u>S1</u> X3		<u>0x</u> X4		<u>xW</u> X5		<u>xx</u> X6		<u>000</u> X7		<u>xxx</u> X8	
X1		X2		X3		X4		X5							
Type		Component		Series		Wattage		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		X7		X8	
Internal code		PCB Board		Serial Number	
00	-	000	-	-	-

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
Manual Soldering Time at 260°C(Max.)	-	5	Sec.

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	λ_d	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 angle is measured with an accuracy of ± 5%.

Luminous Flux Characteristic

Luminous Flux Characteristics at $I_f=350\text{mA}$, $T_j=25^\circ\text{C}$.

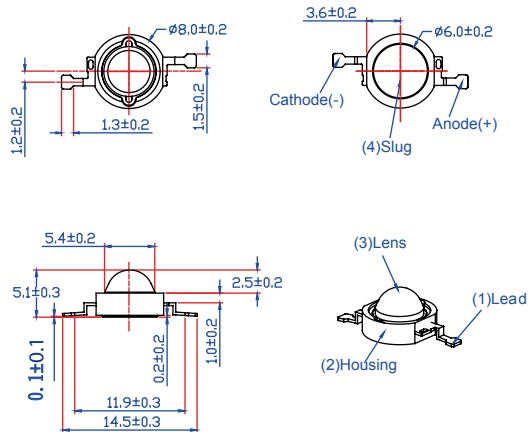
Color	Wattage (W)	Group	Min. Luminous Flux(lm)	Max. Luminous Flux(lm)	Forward Current (mA)	Order Code
Red	1	R0	39.4	51.2	350	2ES101RX00000001
		S0	51.2	66.5		
	3	U0	86.5	110	700	2ES103RX00000001
V0	110	160				
True Green	1	S0	51.2	66.5	350	2ES101TX00000001
		T0	66.5	86.5		
	3	U0	86.5	110	700	2ES103TX00000001
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:

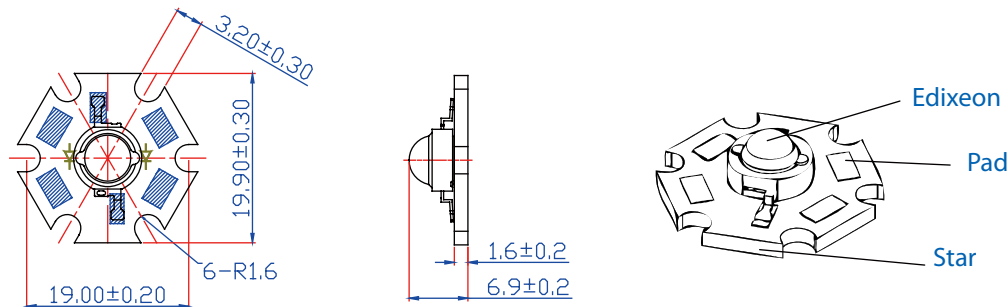
1. Flux is measured with an accuracy of $\pm 10\%$.
2. All Cool White, Neutral White, Warm White, True Green and Blue emitters are built with InGaN.
3. All Red emitters are built with AlGaInP.

Mechanical Dimensions

Emitter Type Dimension



Star Dimensions

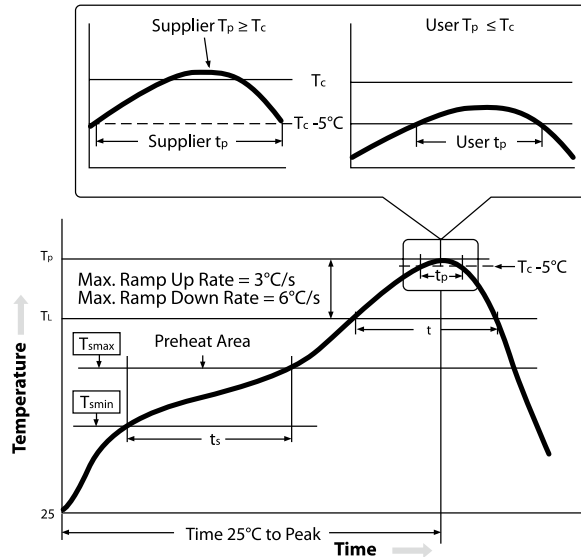


Notes:

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.

Reflow Profile

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



Classification Reflow Profiles

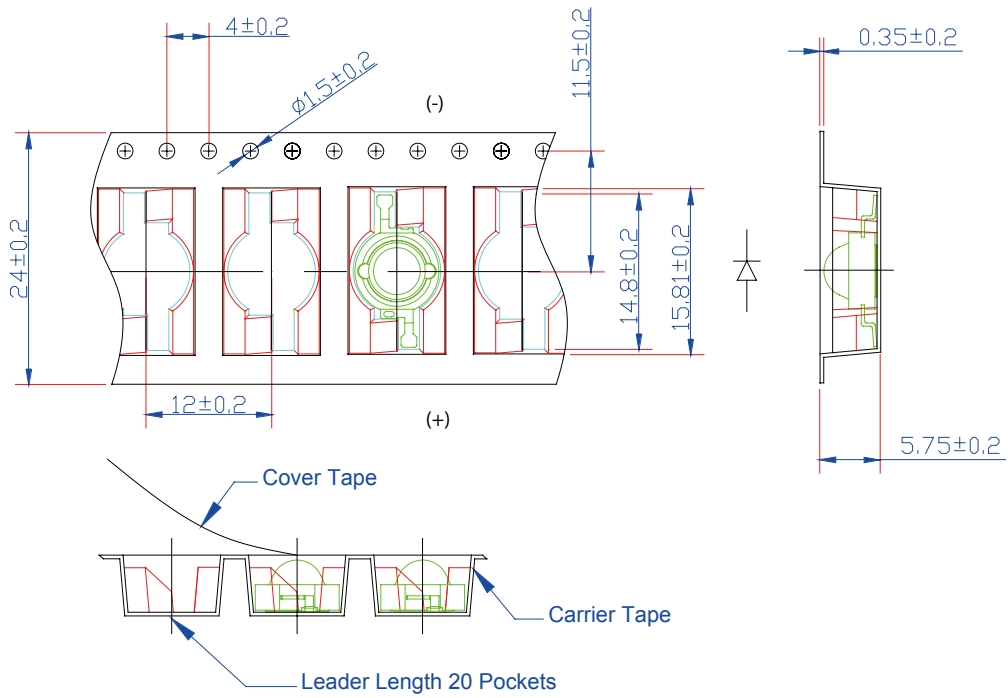
Profile Feature	Low-Temp, Pb-Free Assembl
Preheat/Soak	
Temperature Min (T_{smin})	80°C
Temperature Max (T_{smax})	110°C
Time (t_s) from (T_{smin} to T_{smax})	60-120 seconds
Ramp-up rate (T_L to T_p)	$2^\circ\text{C/seconds max.}$
Liquidous temperature (T_L)	138°C
Time (t_L) maintained above T_L	20-50 seconds
Peak package body temperature (T_p) ⁽¹⁾	$155^\circ\text{C} \sim 160^\circ\text{C}$
Classification temperature (T_c)	160°C
Time (t_p) within 5°C of the specified classification temperature (T_c) ⁽²⁾	30 seconds
Average ramp-down rate (T_p to T_{smax})	$3^\circ\text{C/second max.}$
Time 25°C to peak temperature	6minutes max

Notes:

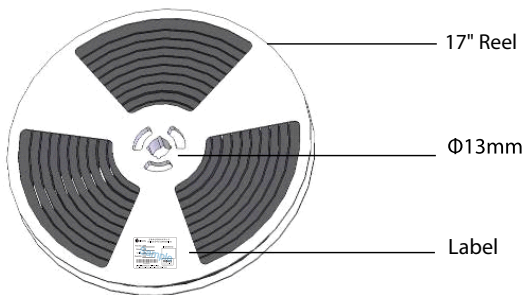
1. Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.
2. Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

Product Packaging Information

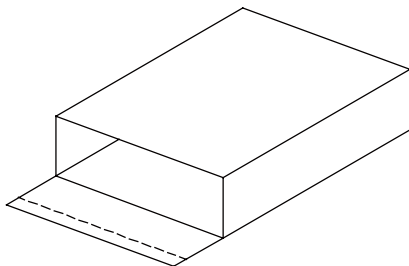
Tape and Reel Dimension



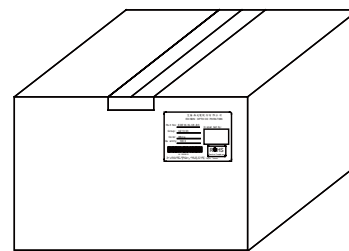
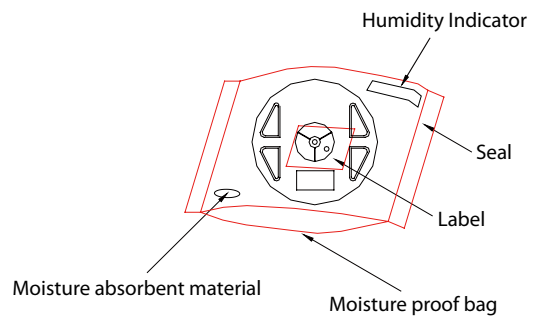
Edixeon Emitter



1000pcs LEDs inside



2 bags in 1 box



5 boxes in 1 carton

Note : 445*410*415 (Tolerance : $\pm 5\text{mm}$)

Revision History

Versions	Description	Release Date
0.2	Establish order code information	2013/10/14

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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