

SAMSUNG

LED Module

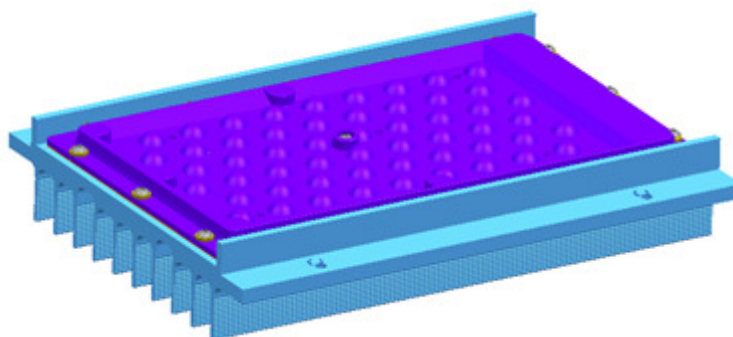
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SPECIFICATION



LED Module for Outdoor Engine Series	
Model Name	54 LED Module
Type	CRI : Min. 70 CCT : Nominal 5000K Power Consumption : Typ. 83W Luminous Flux : Typ. 6800lm Light Distribution : BA 65
Parts No.	STOIMW750809I65E31

SAMSUNG ELECTRONICS CO.,LTD.



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This is a product specification of [STOIMW750809I65E31](#), one of [STOIMWvwwxylzzE31](#).
 Please refer to relevant [General and Special Application Notes](#) for thermal, optical, electrical, mechanical design and reliability information.



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1. APPLICATION

54 LED Module is designed as a core component in **LED Outdoor Engine Series** for street light, road light and flood light application. This document especially specifies **54 LED Outdoor Module**.

1-1 LED Outdoor Engine

LED Outdoor Engine Series is composed of **LED Module**, **LED Driver** and **Extension Cable**.

1-1-1 LED Module

There are two different types of heat sink designs for LED Outdoor Module, intended for thermal management either by engine or by fixture.

This document especially specifies **54 LED Module**.



(a) 36 LED Module



(b) 54 LED Module

1-1-2 LED Driver

LED Driver feed current to LED Module.



(a) 60/90W LED Driver



(b) 120/180W LED Driver

1-1-3 Extension Cable

Extension Cable is available to feed current to LED modules from separated LED Driver.



(a) 7M Extension Cable



(b) 15M Extension Cable



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1-2 LED Outdoor Engine Series

Typical operating current for 54 LED module is set at 1350mA. Typical luminous flux is **6800lm**.

1-2-1 Lumen with LED Driver(Engine : Typ. 82lm/W)

	Power Consumption (W)	Driver Output Channels (ea)	Operating Current (mA)	Lumen Output (lm)	Related Products STOIMWvwvwxylzzE31
36 LED Module	55	1	900	4500	STOOPY19060Z058Szz STOOPY190A2Z058Szz STOICR12266221Pxx0
54 LED Module	83	1	1350	6800	STOOPY21390Z058Szz STOOPY213A8Z058Szz STOICR12266221Pxx0

1-2-2 Using LED Module and Driver.

LED Driver feed current to LED Module. If LED Driver is far from LED Module, Extension Cable is possible to connect them.



(a) without Extension Cable

(b) with Extension Cable

1-2-3 Optic Solutions

Application	Light Distribution	Solutions	Material
Street Light	IESNA Type I	Short(1), Medium(1)	PC
	IESNA Type II	Short(2), Medium(2)	PC
	IESNA Type III	Short(2), Medium(2)	PC
	IESNA Type IV	Short(2), Medium(1)	PC
	IESNA Type V	Short(1), Medium(1)	PC
Flood Light	Narrow	Circular(BA15/25/40)	PC
	Medium	Circular(BA50/65), Rectangular(BA50x80), Batwing(BA85)	PC
	Wide	Circular(BA100), Batwing(BA120) Rectangular(BA90x130)	PC

* BA : Beam Angle, PC : Polycarbonate



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2. FUNDAMENTAL SPECIFICATIONS OF MODULE

No.	ARTICLE	SPECIFICATIONS					
2-1	Photometric Specification of LED Module @1350mA						
	CCT	Article					
		Symbol					
		MIN					
	TYP	MAX					
	Unit	Equipments					
5000K	Luminous Flux	LF	6225	6800	-	lm	Goniometer
	Color Temperature	CCT	4850	5300	5750	K	Integrating Sphere
	Color Rendering Index	CRI	70	-	-	Ra	Integrating Sphere
		※ Typical values are not necessarily the same as the nominal values.					
		Light Distribution Profile					
		: Beam Angle 65 degree with Optimized Illuminance Uniformity					
		※ The isolux diagram is drawn at the luminaire height of 5m.					
2-2	Dimension	· LED Module : 245(L)×186(W)×45.6(H) [mm] ±1.0[mm]					
2-3	Weight	· LED Lighting Module : {1.66kg ± 0.2kg} * 4ea · Total Weight (including packing box) : 7.5kg ± 0.5kg/1box					
2-4	Operating Temperature	· Case Temperature : +3℃ ~ +80℃ (Tc ~58℃ at Ta ~25℃) · Tc measurement point					
2-5	Storage Temperature	· Ta : -40℃ ~ +85℃					
2-6	Dust-proof Water-proof	· IP66 · Damp Location					



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No.	ARTICLE	SPECIFICATIONS					
2-7	Electrical Specification of LED Module						
	Article	Symbol	MIN	TYP	MAX	Unit	Remarks
	Power Consumption	P	74.7	83	91.3	W	After 2hr aging
	Operating Current	Iop	1283	1350	1417	mA	per 1 Module [450mA /PKG 1EA,Typ.]
	Operating Voltage	Vdc	52	-	64	V	per 1 Module [3.2V/PKG 1EA, Typ..] 18 LEDs in Series
Electrical Circuit	Maximum of 2 modules can be in parallel connection with one LED driver.						
※ The power consumption for a specific module is dependent on the operating voltage. The maximum operating current means the highest limit in any operating condition.							

3. PARTS SPECIFICATIONS

No.	ARTICLE	SPECIFICATIONS
3-1	Lens Cover Screw	<ul style="list-style-type: none"> Material : Stainless Steel with Teflon Washer Location : between the array lens and heat sink
3-2	Array Lens Cover	<ul style="list-style-type: none"> Material : Polycarbonate Lens Type : Beam Angle 65 degree
3-3	Seal Rubber	<ul style="list-style-type: none"> Material : Molded Silicone
3-4	LED Board	<ul style="list-style-type: none"> LED : Ceramic PKG, CRI min. 70 Material : MCPCB, Aluminum Thickness : 1.6 mm Stainless Steel Screws : 8ea
3-5	Harness	<ul style="list-style-type: none"> Material : PVC Wires : UL2464, 22 AWG Length(wires) : 300 mm Connector Plug : IP66
3-6	Heat Sink	<ul style="list-style-type: none"> Material : Extruded Aluminium Thermal Pad between the PCB and Heat Sink



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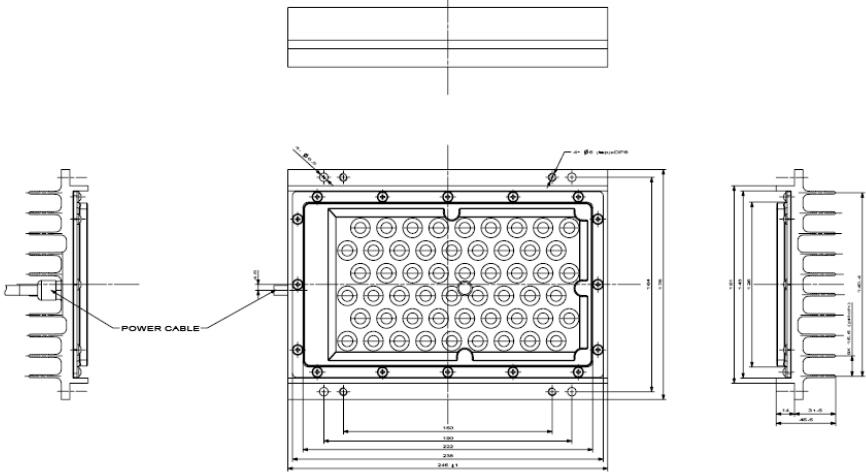



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4. APPEARANCE AND STRUCTURE

No.	ARTICLE	SPECIFICATIONS
4-1	<p>Appearance and Dimension (BA 65)</p>	 <p>※ Appearance is different for various optical solutions depending on the combination of the 54 core lenses. Critical dimensions are all the same for the optical solutions except for the thickness difference at the core lens cross-section.</p>
4-2	<p>Structure (BA 65)</p>	 <ul style="list-style-type: none"> ← Array Lens Cover Screw ← Array Lens Cover Washer ← Array Lens Cover ← MCPCB Screw ← Seal Rubber ← LED Module ← Thermal Pad ← Heat Sink ← Cable Gland
4-3	<p>Labelling (General)</p>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="619 1576 804 1883">  <p>[Module Label]</p> </div> <div data-bbox="887 1648 1410 1845">  <p>[Box Label]</p> </div> </div>



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5. PACKING SPECIFICATION

5-1 Packing Method

5-1-1 Inner Box : 4 modules in one inner box

4 PCs/Inner Box

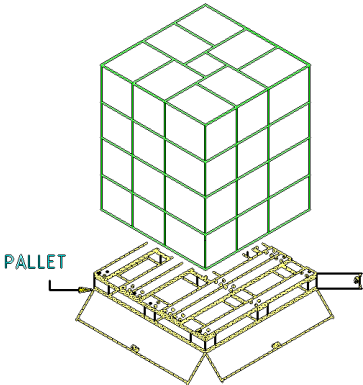


5-1-2 Outer Box : 4 modules on 1 stacks of inner boxes in one outer box

1 Stacks of Inner Boxes
(330 x 323 x 208)



5-2 Pallet : 32 boxes(128 modules) on one pallet



32 OUT BOXES / PALLET
128 EA / PALLET



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[APPENDIX 1] White LED Module Product Codes

STOIMWvwxxylzzE31

CRI(Ra)	Code
60.0~69.9	6
70.0~79.9	7
80.0~89.9	8
90.0~99.9	9
100	A
60.0~64.9	B
65.0~69.9	C
65.0~74.9	D
70.0~74.9	E
75.0~79.9	F
75.0~84.9	G
80.0~84.9	H
85.0~89.9	I
85.0~94.9	J
90.0~94.9	K
95.0~99.9	L

Nominal CCT(K)	Code
6500	65
5700	57
5000	50
4500	45
4000	40
3500	35
3000	30
2700	27

Power Consumption (W)	Code
55	55
80	80

Luminous Flux(lm)	Code
6400~10000	9
4300~6500	8
3200~4400	7
2600~3300	6
2300~2700	5
2150~2400	4
1950~2200	3
1750~2000	2
1600~1800	1
1450~1650	0

Code	Light Distribution	
	Lambertian	without lens
0L	Lambertian	without lens
1S	IESNA Type 1	short
1M	IESNA Type 1	medium
2S	IESNA Type 2	short(l)
2M	IESNA Type 2	medium(l)
7S	IESNA Type 2	short(L)
7M	IESNA Type 2	medium(L)
3S	IESNA Type 3	short(l)
3M	IESNA Type 3	medium(l)
8S	IESNA Type 3	short(l)
8M	IESNA Type 3	medium(L)
4S	IESNA Type 4	short(l)
4M	IESNA Type 4	medium(l)
9S	IESNA Type 4	short(L)
5S	IESNA Type 5	short
5M	IESNA Type 5	medium
15	15 deg	circular
25	25 deg	circular
40	40 deg	circular
50	50 deg	circular
65	65 deg	circular
85	85 deg	circular batwing
A0	100 deg	circular
C0	120 deg	circular batwing
58	50 x 80 deg	rectangular
9D	90 x 130 deg	rectangular

(l) : optimized for Illuminance uniformity
 (L) : optimized for Luminance uniformity