

Product Brief

Description

- This reference module is based on White Colored surface-mount LED comes in standard package dimension. Package Size : 3.5x3.5x2.29mm
- The package design coupled with careful selection of component materials allow these products to perform with high reliability .

Features and Benefits

- High Intensity output and high luminance
- High Efficacy
- Compatible with 3rd party optics
- Lead free product
- RoHS compliant

Key Applications

- Street Lighting
- Area Lighting
- Residential Lighting
- Urban Lighting

SMJD-3624012H-X415

Table 1. Order Code

SEOUL

Nominal CCT (K)	CRI	Lens Type	Order Code
6500	70	No lens	SMJD-3624012H-X41500D93A057ALL
5700	70	No lens	SMJD-3624012H-X41500D93B057ALL
5000	70	No lens	SMJD-3624012H-X41500D93C057ALL
4000	70	No lens	SMJD-3624012H-X41500E01E057ALL
3500	70	No lens	SMJD-3624012H-X41500D76F057ALL
3000	70	No lens	SMJD-3624012H-X41500D76G057ALL
2700	70	No lens	SMJD-3624012H-X41500D60H057ALL
2200	70	No lens	SMJD-3624012H-X41500D27K057ALL





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SMJD-3624012H-X415

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SMJD-3624012H-X415

Performance Characteristics

Table 2. Electro Optical Characteristics $Tc = 25^{\circ}C$, $I_{F} = 700 \text{mA}$

5			Value				
Parameter	Symbol	Min.	Тур.	Max.	Unit	Mark	
		3680	3930	-		A, B, C rank	
		3840	4010	-		E rank	
Luminous Flux	Φ _V ^[2]	3510	3760	-	 Im	F,G rank	
		3350	3600	-		H rank	
		3040	3270	-		K rank	
		-	164	-		A, B, C rank	
		-	167	-		E rank	
Luminous Efficiency	LPW	-	157	-	Lm/W	F,G rank	
		-	150	-		H rank	
		-	136	-		K rank	
		6000	6500	7000		A05	
		5300	5700	6000	- - -	B05	
		4700	5000	5300		C05	
Correlated Color	007	3700	4000	4200		E05	
Temperature [3]	ССТ	3200	3500	3700	- K -	F05	
		2900	3000	3200		G05	
		2600	2700	2900		H05	
		2100	2200	2300		K05	
CRI	Ra	70	-	-	-		
Color Consistency	-	-	-	5	SDCM		
Input Voltage [4]	V _{in}	32	35.4	38	Vdc		
Input Current	I _F	-	0.7	-	А	-	
Power	Р		24		W		
Viewing Angle	2O _{1/2}		120		deg.		

Notes :

- 1. The above data were tested at Tc= 25°C.
- 2. ΦV is the total luminous flux output measured with an integrated sphere.
- 3. Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram.
- 4. To use the module properly, recommend to drive the module by a Constant Current Source (CCS). But the Maximum output voltage of the CCS should be limited by referring this sheet

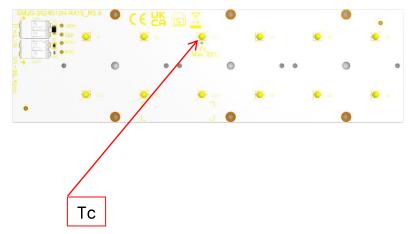
Absolute Maximum Ratings

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Table3. Absolute Maximum Ratings, Tc= 25°C

Parameter	Symbol	Unit	Value	Remark
Power Consumption	Р	W	50	P_ _{Typ.} = 24W
Driving Current ⁽²⁾	I _F	А	1.4	$I_{F_Typ.} = 0.7A$
Operating Temperature ⁽³⁾	Тс	°C	- 40 ~ 85	Reference point
Storage Temperature	T _{stg}	٥C	- 40 ~ 100	With no power
ESD Sensitivity	-	KV	±8.0	НВМ

ILLUSTRATION 1: How to predict components temperature ⁽⁴⁾



Notes :

- (1) All guarantee are based on the Absolute Maximum Ratings listed.
- (2) Please use a Constant Current Source (CCS) to drive the module, the typical V_F of module is around 35.4VDC and V_{F_MAX} is around 38VDC, respectively.
- (3) Operating temperature was tested at the assigned Tc point on the PCB.
- (4) To ensure the module works properly, DO NOT let the Tc upper than 85 °C;



Characteristic Graph

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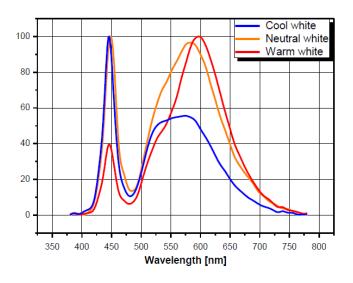
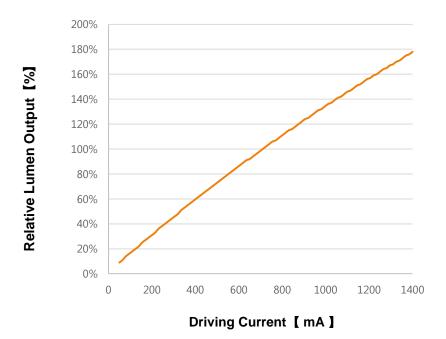


Fig 1. Relative Spectral Distribution vs. Wavelength Characteristic

Fig 2. Forward Current vs. Relative Luminous Flux, Tc=25°C



Characteristic Graph

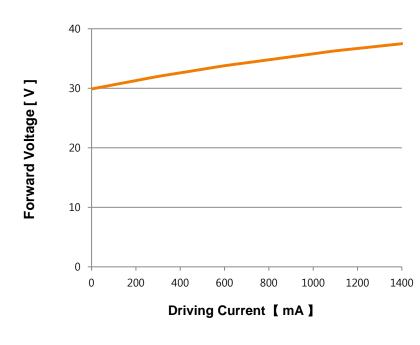
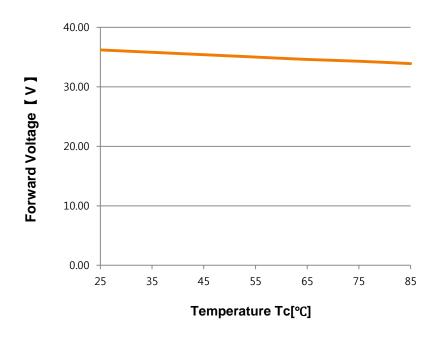


Fig 3. Forward Current vs. Forward Voltage, Tc=25°C

Fig 4. Forward voltage vs. Temperature, $I_F=700$ mA



SMJD-3624012H-X415

Characteristic Graph

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Fig 5. Flux and Efficacy vs. Temperature (at I_F=700mA)

Tc [ºC]	Flux[%]	Efficacy[%]
25	100.0	100.0
45	98.8	99.8
65	97.2	99.1
85	95. 2	97.8

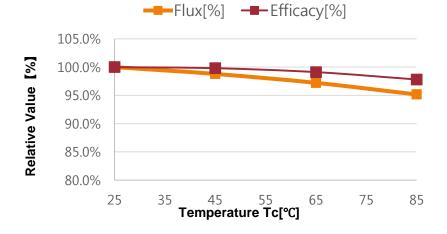
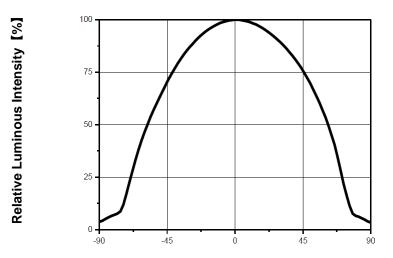


Fig 6. Typical Spatial Distribution

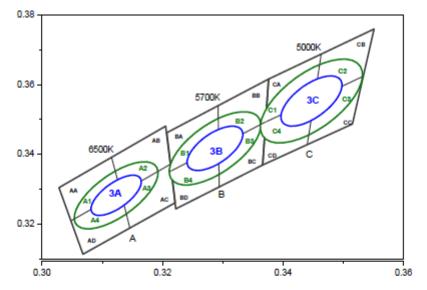


Angular Displacement [degrees]



Color Bin Structure





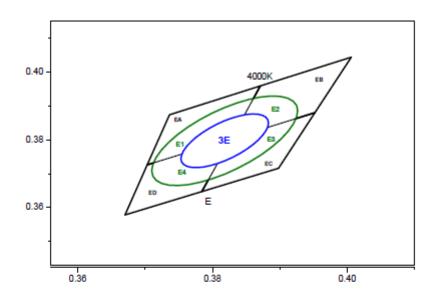
6500	K 3Step	5700	K 3Step	5000K 3Step		
	3A		3B	3C		
Center point	0.3123 : 0.3282	Center point	0.3287 : 0.3417	Center point	0.3447 : 0.3553	
Major Axis a	0.0066	Major Axis a	0.0072	Major Axis a	0.0081	
Minor Axis b	0.0027	Minor Axis b	0.0032	Minor Axis b	0.0035	
Ellipse	58	Ellipse	59	Ellipse	60	
Rotation Angle	30	Rotation Angle	59	Rotation Angle	00	
6500	K 5Step	5700	K 5Step	5000K 5Step		
	5A	5B		5C		
Center point	0.3123 : 0.3282	Center point	0.3287 : 0.3417	Center point	0.3447 : 0.3553	
Major Axis a	0.0110	Major Axis a	0.0119	Major Axis a	0.0135	
Minor Axis b	0.0045	Minor Axis b	0.0052	Minor Axis b	0.0059	
Ellipse	58	Ellipse	59	Ellipse	60	
Rotation Angle	50	Rotation Angle		Rotation Angle		

A	A	A	В	A	C	Α	D
CIE X	CIE Y						
0.3028	0.3304	0.3115	0.3393	0.3131	0.3290	0.3048	0.3209
0.3048	0.3209	0.3131	0.3290	0.3146	0.3187	0.3068	0.3113
0.3131	0.329	0.3213	0.3371	0.3221	0.3261	0.3146	0.3187
0.3115	0.3393	0.3205	0.3481	0.3213	0.3371	0.3131	0.329
В	A	B	В	B	С	B	D
CIE X	CIE Y						
0.3207	0.3462	0.3292	0.3539	0.3293	0.3423	0.3215	0.3353
0.3215	0.3353	0.3293	0.3423	0.3294	0.3306	0.3222	0.3243
0.3293	0.3423	0.3371	0.3493	0.3366	0.3369	0.3294	0.3306
0.3292	0.3539	0.3376	0.3616	0.3371	0.3493	0.3293	0.3423
C	A	C	B	C	C	C	D
CIE X	CIE Y						
0.3376	0.3616	0.3463	0.3687	0.3452	0.3558	0.3371	0.3493
0.3371	0.3493	0.3452	0.3558	0.344	0.3428	0.3366	0.3369
0.3452	0.3558	0.3533	0.3624	0.3514	0.3487	0.344	0.3428
0.3463	0.3687	0.3551	0.376	0.3533	0.3624	0.3452	0.3558



Color Bin Structure





4000K 3Step						
3E						
Center point 0.3818 : 0.3797						
Major Axis a 0.0094						
Minor Axis b 0.0041						
Ellipse						
Rotation Angle 53.4						

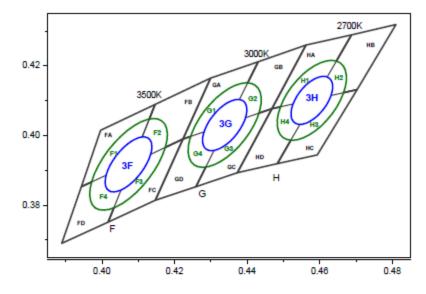
4000K 5Step						
5E						
Center point	0.3818 : 0.3797					
Major Axis a	0.0157					
Minor Axis b	0.0067					
Ellipse	53					
Rotation Angle	55					

E	A	E	В	E	c	E	D
CIE X	CIE Y	CIE X	CIEY	CIEX	CIE Y	CIE X	CIE Y
0.3736	0.3874	0.3871	0.3959	0.3828	0.3803	0.3703	0.3726
0.3703	0.3726	0.3828	0.3803	0.3784	0.3647	0.3670	0.3578
0.3828	0.3803	0.3952	0.3880	0.3898	0.3716	0.3784	0.3647
0.3871	0.3959	0.4006	0.4044	0.3952	0.3880	0.3828	0.3803



Color Bin Structure

Fig 9. CIE Chromaticity Diagram



3500	K 3Step	3000	K 3Step	2700K 3Step		
	3F		3G	3H		
Center point	0.4073 : 0.3917	Center point	0.4338 : 0.4030	Center point	0.4578 : 0.4101	
Major Axis a	0.0093	Major Axis a	0.0086	Major Axis a	0.0080	
Minor Axis b	0.0042	Minor Axis b	0.0042	Minor Axis b	0.0041	
Ellipse	54	Ellipse	54	Ellipse	54	
Rotation Angle		Rotation Angle	J4	Rotation Angle	34	
3500	K 5Step	3000	K 5Step	2700K 5Step		
	5F	5G		_5H		
Center point	0.4073 : 0.3917	Center point	0.4338 : 0.4030	Center point	0.4578 : 0.4101	
Major Axis a	0.0155	Major Axis a	0.0142	Major Axis a	0.0132	
Minor Axis b	0.0068	Minor Axis b	0.0068	Minor Axis b	0.0068	
Ellipse	54	Ellipse	54	Ellipse	54	
Rotation Angle		Rotation Angle	54	Rotation Angle		

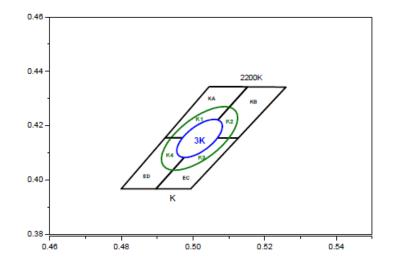
F	A	F	B	F	с	FD		
CIE X	CIE Y	CIE X	CIE Y	CIEX	CIE Y	CIE X	CIE Y	
0.3996	0.4015	0.4146	0.4089	0.4082	0.3920	0.3943	0.3853	
0.3943	0.3853	0.4082	0.3920	0.4017	0.3751	0.3889	0.3690	
0.4082	0.392	0.4223	0.3990	0.4147	0.3814	0.4017	0.3751	
0.4146	0.4089	0.4299	0.4165	0.4223	0.3990	0.4082	0.3920	
G	Ă	G	B	G	c	G	D	
CIE X	CIE Y	CIE X	CIE Y	CIEX	CIE Y	CIE X	CIE Y	
0.4299	0.4165	0.4430	0.4212	0.4345	0.4033	0.4223	0.399	
0.4223	0.3990	0.4345	0.4033	0.4259	0.3853	0.4147	0.3814	
0.4345	0.4033	0.4468	0.4077	0.4373	0.3893	0.4259	0.3853	
0.4430	0.4212	0.4562	0.426	0.4468	0.4077	0.4345	0.4033	
H	IA.	н	в	н	c	H	D	
CIE X	CIE Y	CIE X	CIE Y	CIEX	CIE Y	CIE X	CIE Y	
0.4562	0.426	0.4687	0.4289	0.4585	0.4104	0.4468	0.4077	
0.4468	0.4077	0.4585	0.4104	0.4483	0.3919	0.4373	0.3893	
0.4585	0.4104	0.4703	0.4132	0.4593	0.3944	0.4483	0.3919	
0.4687	0.4289	0.481	0.4319	0.4703	0.4132	0.4585	0.4104	



SMJD-3624012H-X415

Color Bin Structure

Fig 10. CIE Chromaticity Diagram



2200K 3Step								
ЗК								
Center point	0.5018 : 0.4153							
Major Axis a	0.0086							
Minor Axis b	0.0040							
Ellipse	49.3							
Rotation Angle	45.5							

2200K 5Step								
5K								
Center point	0.5018 : 0.4153							
Major Axis a	0.0144							
Minor Axis b	0.0066							
Ellipse Rotation Angle	49.3							

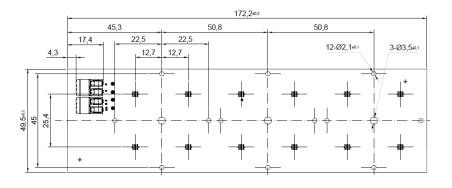
	A	ĸ		ĸ	с	K	D
CIE X	CIE Y						
0.5045	0.4344	0.5152	0.4343	0.5024	0.4155	0.4922	0.4156
0.4922	0.4156	0.5024	0.4155	0.4896	0.3967	0.4799	0.3967
0.5024	0.4155	0.5126	0.4155	0.4993	0.3967	0.4896	0.3967
0.5152	0.4343	0.5259	0.4342	0.5126	0.4155	0.5024	0.4155



SMJD-3624012H-X415

Mechanical Dimensions

Fig 11. Mechanical Diagram



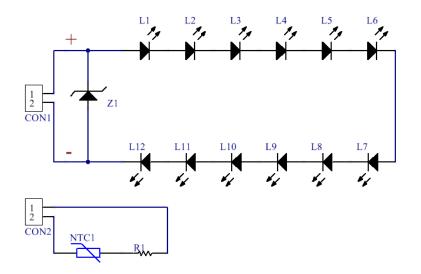
- (1) All dimensions are in mm
- (2) Not to Scale
- (3) Module thickness 6.2 \pm 0.1 mm



Circuit Drawing

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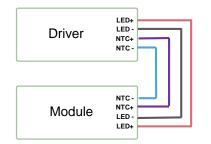
Fig 12. Schematic Diagram



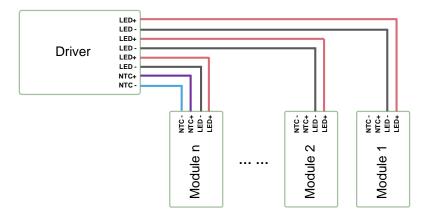


Application Information

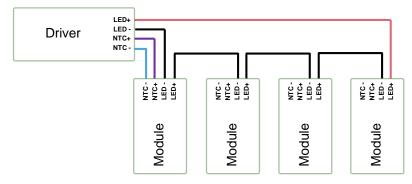
a). Connection between driver and module



c). Drive with multi output channels for group application



b). In series all modules for group application



Notes :

(1) For series application, The maximum number of modules in series allowed should be not more than 6.



SMJD-3624012H-X415

Application Information

a). Application

IP rating	No IP-rating
Over Temperature Detection	A resistor and NTC in series, where R=2KOhm, R_{NTC} =15K Ohm NTC: NCP15XW153J03RC
Dimming	NO

Product Nomenclature

Product Name Rule:

SEOUL

<u>S M J D</u>	-	<u>36</u>	<u>24</u>	<u>012</u>	<u>H</u>	-	<u>X</u>	<u>4</u>	<u>15</u>
1		2	3	4	(5)		6	1	8

1: SMJD – Seoul DC Module

(2) ~ (8): Refer to below table

	Volt	age	÷		Ρον	ver			LED Qty.					.ED ype		Customer (Free)		νт		FREE	
	(\mathbf{D}			(3	D		4				5	6		7		8				
	3		6		2		4		0		1		2		н		Х	4	4		15
0	0	0	0	0	0	0	0	0	0	0	0	0	0	н	3535	х	Reference	4	4way	15	Zhaga Book 15
1	10V	1	1V	1	10W	1	1W	1	100EA	1	10EA	1	1EA								
2	20V	2	2V	2	20W	2	2W	2	200EA	2	20EA	2	2EA								
3	30V	3	3V	3	30W	3	3W	3	300EA	3	30EA	3	3EA								
9	90V	9	9V	9	90W	9	9W	9	900EA	9	90EA	9	9EA								
А	100V			A	100W			А	1000EA												
в	110V			в	110W																
z	350V			z	350W																

Comments Rule:

(<u>00</u><u>WN</u><u>70</u>) A B C

Lens	Туре	C	ст	CRI			
	4	I	В	(C		
0	0	V	/0	7	0		
00	No lens		6500K	70	CRI70		
		wo	5700K				
			5000K				
		WN	4000K				
			3000K				
		ww	2700K				
]	2200K				

Product Nomenclature

Characteristics Rule:

SEOUL

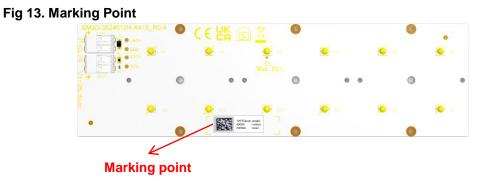
00 E01 E05 7 ALL A B C D E

Lens	Lens type		Flux bin		Г bin	CR	l bin	VF Bin ⁽¹⁾		
	A	I	В		с	I	D	1	E	
C	00	E	01	E	05		7	A	LL	
		D93	3930lm	A05	6500K 5-step					
		E01 4010lm B05 5700K 5-step								
		D76	3760lm	C05	5000K 5-step					
		D60	3600lm	E05	4000K 5-step				DC	
00	No lens	D27	3270lm	F05	3500K 5-step	7	CRI70	ALL	32~38V	
				G05	3000K 5-step					
				H05	2700K 5-step					
				K05	2200K 5-step					

SMJD-3624012H-X415

Marking Information

SEOUL



QR Code Information		120°(Beam ang 4000К ҮҮм 4010lm 1000	MDD -2
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	QR Code Information									
Items	Factory	SAP Code	SMT Date	Rank Information	Line No.	Lot No.	Product	Notes		
Digits	1 Digit	7 Digit	6 Digit	10 Digit	1 Digit	1 Digit	5 Digit	In Total		
Information	*	*****	YYMMD D	E01E05 7ALL ⁽¹⁾	1~9, A~Z	1~9, A~Z	00001	31 Digits		

Plain Code Information

No.	ltem	Information	Digits	Remark
1	Beam angle	120° (Beam angle)	16Digit	Beam angle
	ССТ	4000K	5Digit	Refer to Page4
2	Date	YYMMDD	6Digit	SMT date
	Flux	4010lm	6Digit	Refer to Page4
3	Lot No.	1	1 Digit	0~9,A~Z
	Sequence No.	00001	5 Digit	00001 ~ 99999

Notes :

(1) Module Flux code rule as below table

Symbol	Im	Symbol	lm	Symbol	Im	Symbol	Im
D91	3910	O50	14500	R50	17500	U50	20500
M20	12200	P50	15500	S50	18500	V20	21200
N00	13000	Q50	16500	T50	19500	W00	22000

Label Information

SEOUL

(K)PO Number				
(1P)Supplier P/N	SMJD-3624012H-X41500E01E057ALL ⁽¹⁾ 			
(33P)Bin Code	E01E057ALL ⁽²⁾ 			
(Q)Quantity	XX 			
(4L)Country of Origin	XX ⁽³⁾ 			
(10D)Date Code	YYWW ⁽⁴⁾ 			
(1T)Lot Code	YYMDDXXXXX- XXXXXXX ⁽⁵⁾ IIIII II IIIII III			
SEOUL	SEOUL SEMICONDUCTOR CO., LTD.			

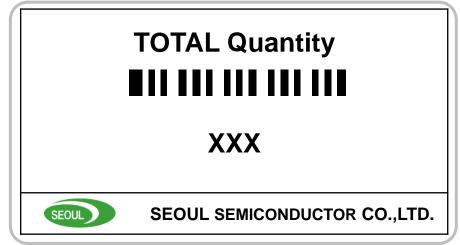
Notes

- (1) Please refer to SPEC page 17 (30 digit code)
- (2) Please refer to SPEC page 18
- (3) Country of Origin: 2 digit code . For example : Chinese Code: CN
- (4) Date Code : YYWW : Packing Date: Year + Week
- (5) Lot Code :
 - Initial of manufacture is refer to the 2D code rule.
 - YYMDD : Packing Date (Oct. : A, Nov. : B, Dec. : C)
 - X : Initial of Manufacturer
 - XXXX : Sealing Pack No.
 - XXXXXXX : SSC SAP Code
- (6) Please refer to the font and size requirement for the label
- the label must be clear , visible and scannable
- (7) It is attached to the top left corner of the box.

Code 128	Length mm	Height	Font	Size
PO Number	0.17 mm	3.0mm	Arial	7
Supplier	0.17 mm	3.0mm	Arial	7
Bin Code	0.17 mm	3.0mm	Arial	7
Qty	0.17 mm	3.0mm	Arial	7
Country of Origin	0.17 mm	3.0mm	Arial	7
Date Code	0.17 mm	3.0mm	Arial	7
Lot Code	0.17 mm	3.0mm	Arial	7
White space(TOP)	2-4mm			
White space(Under)	17mm			
White space(Left)	2-4mm			
End Left Text ~ Start Barcode	5-10mm			
Text Width(PGM)	100%			
Spacing	0%			
Company Text			Arial	9.5
Logo	Width 22-16mm	9-6mm		
Label size	100mm	70mm		



Label Information



Notes

(1) It is attached to the bottom right corner of the box.

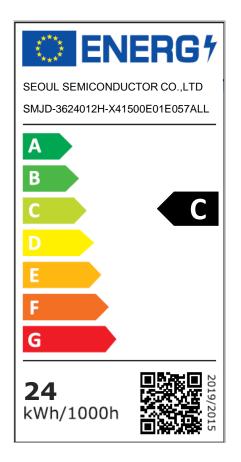
Product Data Sheet



SEOUL SEMICONDUCTOR

SMJD-3624012H-X415

Label Information



Notes

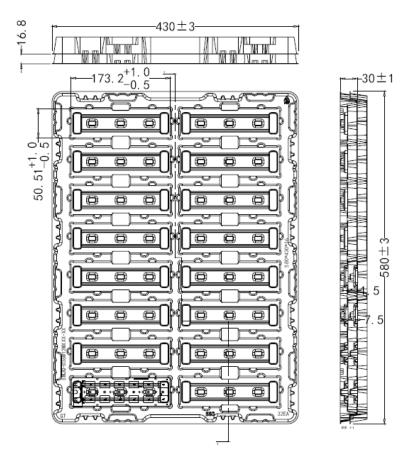
- (1) The above is just an example, and the correct label must be downloaded from EPREL system
- (2) The label size should be 72mm*36mm
- (3) The background of the label shall be 100% white.
- (4) The typefaces shall be Verdana and Calibri.
- (5) Colours shall be CMYK cyan, magenta, yellow and black,
- following this example: 0-70-100-0: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.
- (6) It is attached to the top right corner of the box.



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Packaging Specification

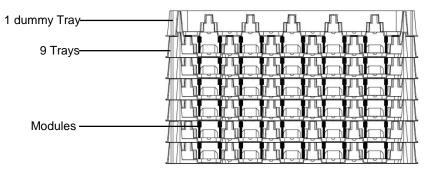
1. Tray information



Notes:

- (1) Quantity : 32 pcs/Tray
- (2) All dimensions are in millimeters (tolerance : ± 0.3)
- (3) Scale none

2. Tray stack and taping



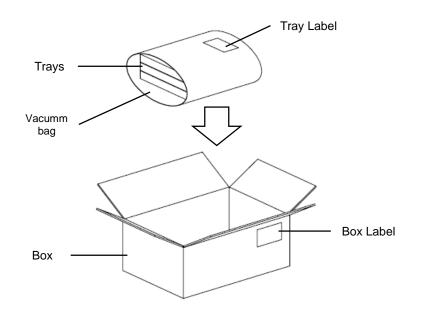
Notes:

(1) 9 Trays and additional 1 dummy tray up of box



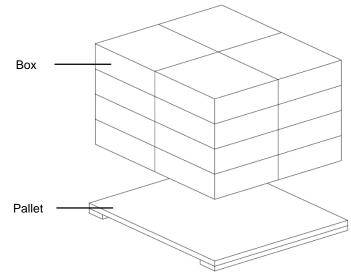
Packaging Specification

3. Box information & packing



Notes:

- (1) Quantity: 9Trays (9*32=288pcs) / Box
- (2) Box size: 595*445*200 mm
- 4. Pallet information & packing



Notes:

- (1) Quantity: 1 Pallet = 20(4*5) Boxes = 180(20*9) Trays = 5,760(180*32) Modules
- (2) Pallet size: 1100*1100*12.5mm

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Precaution for Use

- (1) Check the appearance of module before wiring/ assembly, DO NOT use the LED cracked or PCB damaged module.
- (2) The module was designed to be driven with DC source, recognize the polarities of the module was necessity.
- (3) It was SELV module, DO NOT connect the LED directly to main power during wiring.
- (4) DO NOT let the LED packages contacted with any hard matters.
- (5) There was no current regulator built in module, unevenly load between different parallel modules may occur due to the modules V_F variance.
- (6) Please do not use together with the materials containing Sulfur.
- (7) Please do not make any modification on module.

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Precaution for Use

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- (8) LEDs are sensitive to Electro-Static Discharge (ESD) and Electrical Over Stress (EOS).
 Below is a list of suggestions that Seoul Semiconductor purposes to minimize these effects.
- a. ESD (Electro Static Discharge)

Electrostatic discharge (ESD) is the defined as the release of static electricity when two objects come into contact. While most ESD events are considered harmless, it can be an expensive problem in many industrial environments during production and storage. The damage from ESD to an LEDs may cause the product to demonstrate unusual characteristics such as:

- Increase in reverse leakage current lowered turn-on voltage
- Abnormal emissions from the LED at low current

The following recommendations are suggested to help minimize the potential for an ESD event: One or more recommended work area suggestions:

- Ionizing fan setup
- ESD table/shelf mat made of conductive materials
- ESD safe storage containers

One or more personnel suggestion options:

- Antistatic wrist-strap
- Antistatic material shoes
- Antistatic clothes

Environmental controls

- Humidity control (ESD gets worse in a dry environment)
- b. EOS (Electrical Over Stress)

Electrical Over-Stress (EOS) is defined as damage that may occur when an electronic device is subjected to a current or voltage that is beyond the maximum specification limits of the device. The effects from an EOS event can be noticed through product performance like:

Changes to the performance of the LED package (If the damage is around the bond pad area and since the package is completely encapsulated the package may turn on but flicker show severe performance degradation.)

Changes to the light output of the luminaire from component failure

Components on the board not operating at determined drive power

Failure of performance from entire fixture due to changes in circuit voltage and current across total circuit causing trickle down failures

It is impossible to predict the failure mode of every LED exposed to electrical overstress as the failure modes have been investigated to vary, but there are some common signs that will indicate an EOS event has occurred.

- Damaged may be noticed to the bond wires (appearing similar to a blown fuse).
- Damage to the bond pads located on the emission surface of the LED package

(shadowing can be noticed around the bond pads while viewing through a microscope).

- Anomalies noticed in the encapsulation and phosphor around the bond wires.
- This damage usually appears due to the thermal stress produced during the EOS event.
- c. To help minimize the damage from an EOS event Seoul Semiconductor recommends utilizing
 - qualified LED driver with no big over shoot out put
 - Isolated driver that to prevent harmful peaks passed to module.
 - A current limiting device

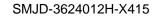
Storage before use

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- (1) Do not impact or place pressure on this product because even a small amount of pressure can damage the product. The product should also not be placed in high temperatures, high humidity or direct sunlight since the device is sensitive to these conditions.
- When storing devices for a long period of time before usage, please following these guidelines:
 * The devices should be stored in the anti-static bag that it was shipped in from Seoul-Semiconductor with opening.

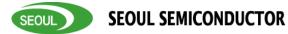
* If the anti-static bag has been opened, re-seal preventing air and moisture from being present in the bag.

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Guidelines for properly working with Module

- (1) Discharge the lighting system a minimum of 2-3 times prior to working with the module.
- (2) Use only properly rated test equipment and tools for the rated voltage and current of the product being tested.
- (3) It is strongly suggested to wear rubber insulated gloves and rubber bottom shoes.
- (4) Do not wear any conductive items (such as jewelry) which could accidentally contact electric circuits.
- (5) Perform several tests with power off and the lighting system unplugged.
- (6) Faults, lightning, or switching transients can cause voltage surges in excess of the normal ratings.
- (7) Internal component failure can cause excessive voltages.
- (8) Stored or residual electricity in long wire could be hazardous.
- (9) Make sure proper discharge prior to starting work.



Company Information

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Company Information

Seoul Semiconductor (SeoulSemicon.com) manufacturers and packages a wide selection of light emitting diodes (LEDs) for the automotive, general illumination/lighting, appliance, signage and back lighting markets. The company is the world's fifth largest LED supplier, holding more than 10,000 patents globally, while offering a wide range of LED technology and production capacity in areas such as "nPola", deep UV LEDs, "Acrich", the world's first commercially produced AC LED, and "Acrich MJT - Multi-Junction Technology" a proprietary family of high-voltage LEDs. The company's broad product portfolio includes a wide array of package and device choices such as Acrich, high-brightness LEDs, mid-power LEDs, side-view LEDs, through-hole type LED lamps, custom displays, and sensors. The company is vertically integrated from epitaxial growth and chip manufacture in it's fully owned subsidiary, Seoul Viosys, through packaged LEDs and LED modules in three Seoul Semiconductor manufacturing facilities. Seoul Viosys also manufactures a wide range of unique deep-UV wavelength devices.

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Revision History

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Revision	Date	Page	Remarks
Rev0.1	2020-10-22	All	Preliminary data sheet for SMJD-3624012H-X415
Rev0.2	2020-11-20	11	Update PKG type
Rev0.3	2021-05-18	All	Adopt new format
Rev0.4	2021-05-21	5	Update the maximum power and ESD value
Rev0.5	2021-06-03	19,21	Add related EPREL information
Rev0.6	2021-07-09	1	Add UKCA logo
Rev0.7	2021-09-02	All	Add 2200K parameters
Rev0.8	2021-12-02	20-21	Update label format