

## EDC G3

### EDC/44C/11W15L/XXX/220V/L101

- Compatible with most TRIAC dimmers
- High Power Conversion Efficiency (>0.85)
- High Power Factor (>0.99)
- Low THD (<10%)
- Zhaga Standard Mounting Holes
- 56mA Inrush current
- Energy Class A++
- No photo-biological hazard (RG1)



**EggDrop®**

## 1. Product Description

### \* Description

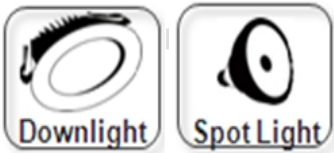
- The EDC(Egg Drop COB) series module is designed for the high power operation to get the high flux output applications.
- It incorporates the state of the art SMD LEDs with high reliability and semiconductor AC direct drive ICs.
- It is ideal for the indoor or down light applications.

### \* Features

- High performance, High brightness
- No emission of harmful short wavelength light(No UV radiation)
- High power conversion efficiency(>0.85)
- High power factor (>0.99)
- Low THD(< 10%)
- Low EMI
- Over Voltage Protection (270Vac  $\pm$ 3%)
- RoHS compliant
- No photo-biological hazard –Group 1 (Low risk) (RG1)
- Starting current 51 [mA] @ 60ms

### \* Applications

- Down Light (Indoor Lighting)
- Spot Light



## 2. Absolute Maximum Ratings

Parameters	Symbol	Min Value	Max Value	Unit
Maximum power dissipation	Pd	-	12.1	W
Maximum operation voltage	Vop	-	240	V
Operation temperature	Top	-40	+85	°C
Storage temperature	Tst	-40	+100	°C

- Operation temperature is not related to the lifetime.

### 3. Product Name Method

(ex. Eggdrop)

EDC	57	C	31W	40L	X	XX	XXXV	A	0	0	0	V0_1
EggDropCOB	PCB SIZE	'C'=Circular 'R'=Rectangular	'Power'	'Flux'	'CRI'	CCT	INPUT VOLTAGE	Circuit Type	Management Code			Version
	Ø33		'40'=4000lm	'7'=80 ↑	'27'=2700K	'120V'=120Vac	'A'=A					
	Ø38	ETC.	'30'=3000lm	'8'=80 ↑	'30'=3000K	'220V'=220Vac	'B'=B					
	Ø47		'20'=2000lm	'9'=80 ↑	'35'=3500K	'230V'=230Vac	'C'=C					
	Ø57		'15'=1500lm		'40'=4000K							
			'10'=1000lm		'50'=5000K							
					'57'=5700K							

#### 1) Additional explanation

Product Family	Product Section		Product Description
			PCB > shape > Watt > CRI+CCT > IV > Type > Management code
AC Module	Eggdrop	EDC	EDC_57C_XXW_XXX_XXXV_A000_V1_0

## 4. Electro-optical Characteristics (Tc=25°C &amp; 55°C.)

Parameters	Symbol	Tc = 25°C			Tc = 55°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.		
Luminous Flux	$\Phi_v$	1256	1395	-	1199	1332	-	lm	2700K,CRI80
		1350	1500	-	1289	1433	-		3000K,CRI80
		1384	1538	-	1321	1468	-		3500K,CRI80
		1418	1575	-	1354	1504	-		4000K,CRI80
		1438	1598	-	1373	1526	-		5000K,CRI80
		1431	1590	-	1367	1518	-		5700K,CRI80
		1094	1215	-	1044	1160	-		2700K,CRI90
		1188	1320	-	1135	1261	-		3000K,CRI90
		1222	1358	-	1167	1296	-		3500K,CRI90
		1269	1410	-	1212	1347	-		4000K,CRI90
		1310	1455	-	1251	1390	-		5000K,CRI90
		1303	1448	-	1244	1382	-		5700K,CRI90
Efficiency	lm/W	114	127	-	109	121	-	lm / W	2700K,CRI80
		123	136	-	117	130	-		3000K,CRI80
		126	140	-	120	133	-		3500K,CRI80
		129	143	-	123	137	-		4000K,CRI80
		131	145	-	125	139	-		5000K,CRI80
		130	145	-	124	138	-		5700K,CRI80
		99	110	-	95	105	-		2700K,CRI90
		108	120	-	103	115	-		3000K,CRI90
		111	123	-	106	118	-		3500K,CRI90
		115	128	-	110	122	-		4000K,CRI90
		119	132	-	114	126	-		5000K,CRI90
		118	132	-	113	126	-		5700K,CRI90

(1) At 220Vac, Tc = 25°C & 55°C

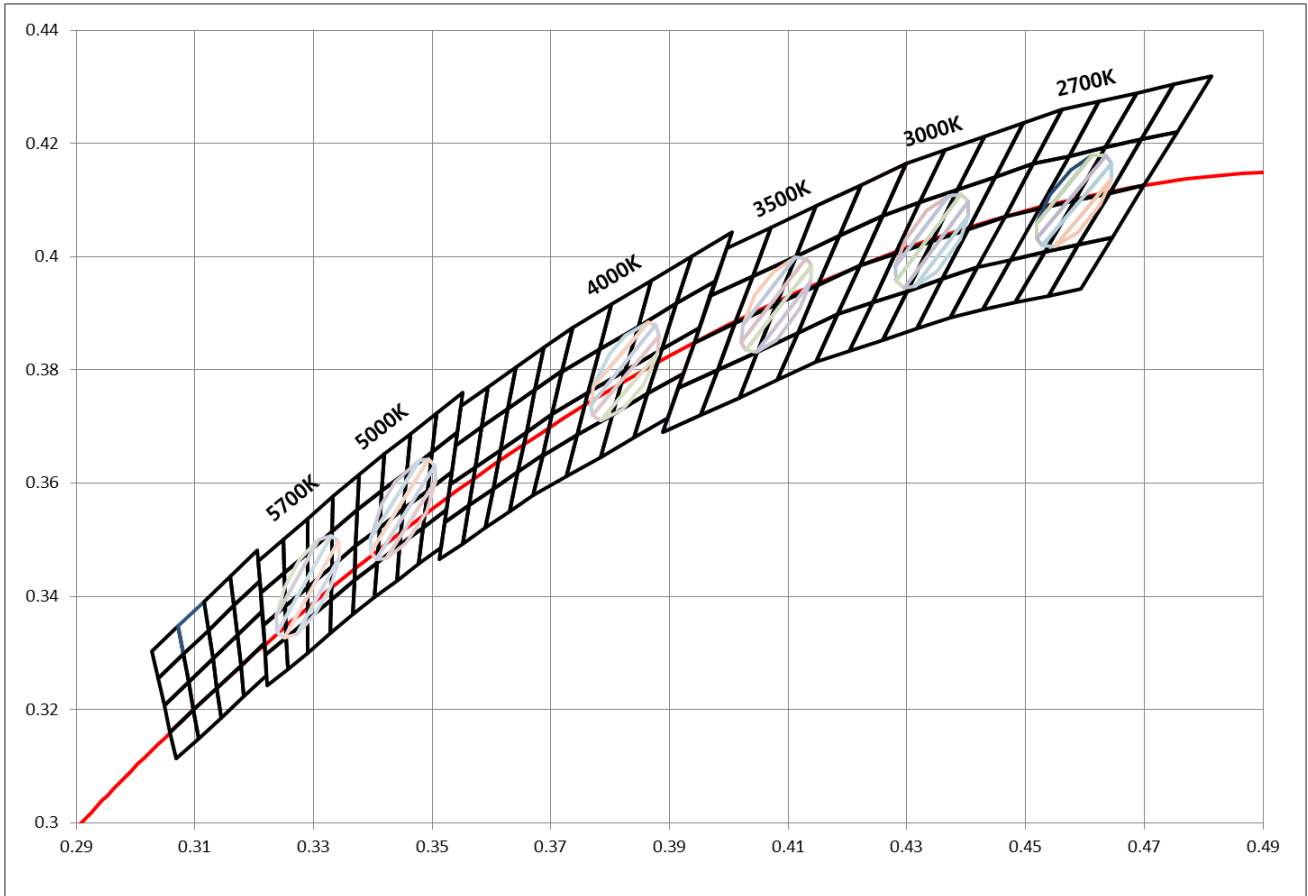
(2)  $\Phi_v$  is the total luminous flux output measured with an integrated sphere.

- Measurement accuracy : CRI(±3),  $\Phi_v$ (±3%), Vf(±3.0V)

(3) Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram.

Correlated Color Temperature	CCT	MacAdam 3Step			K	
Color Rendering Index	CRI	80/90	-	-	-	Vop=220V
Viewing Angle FWHM	2θ1/2	110	120	130	deg	Vop=220V
Operation Voltage	Vop	220V			Vac	
Power Dissipation	Pd	10.0	11.0	12.0	W	Vop=220V
Rated Current	Ira	-	51	-	mA	Pd=11W
Operation Frequency	Fop	50 / 60			Hz	Vop=220V
Power Factor	PF	Over 0.99			V	Vop=220V
Current THD	ATHD	Less than 10%				Vop=220V

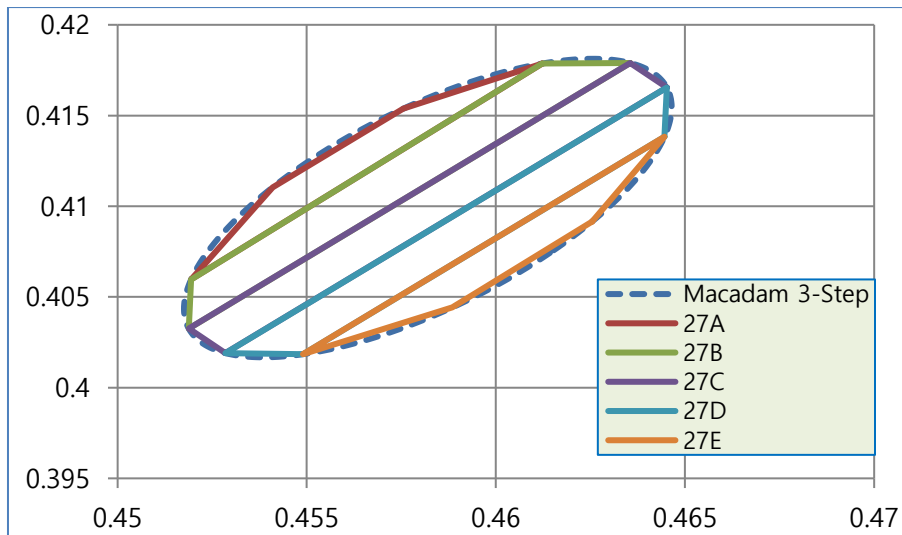
### 5. CIE Chromaticity Diagram



(1) Chromaticity coordinate groups are measured with an accuracy of  $\pm 0.01$

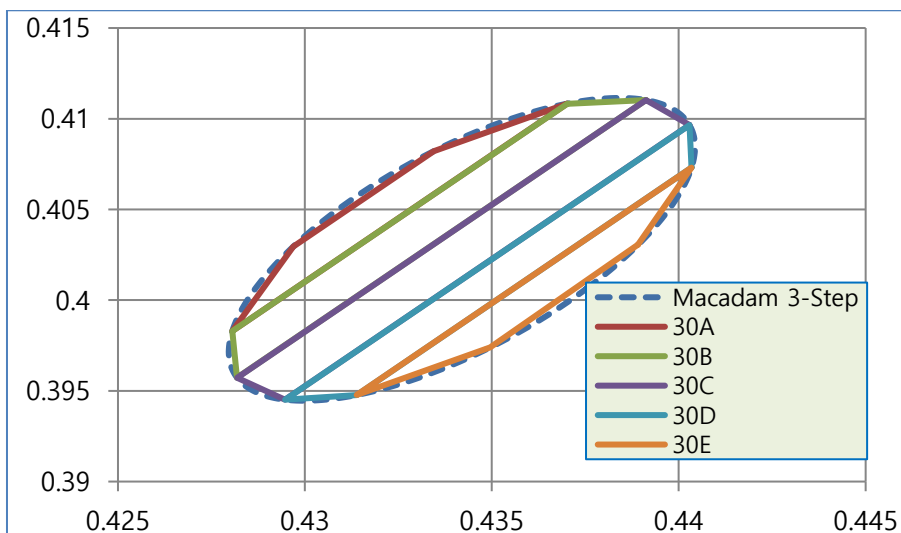
## 6. Chromaticity Coordinates

### 6-1. 2700K



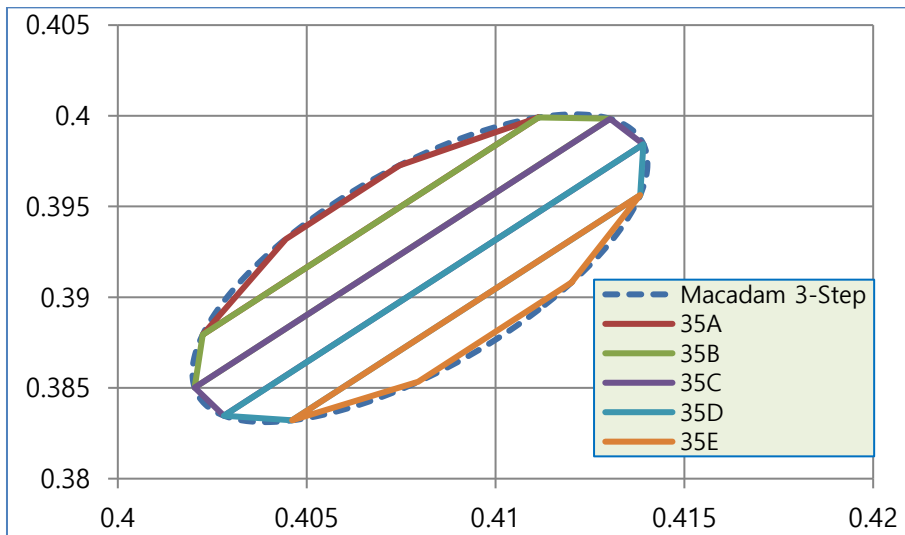
27A		27B		27C		27D		27E	
X	Y	X	Y	X	Y	X	Y	X	Y
0.4612	0.4179	0.4636	0.4179	0.4645	0.4165	0.4645	0.4138	0.4625	0.4092
0.4576	0.4154	0.4612	0.4179	0.4636	0.4179	0.4645	0.4165	0.4645	0.4138
0.4541	0.4110	0.4519	0.4060	0.4519	0.4033	0.4528	0.4019	0.4549	0.4018
0.4519	0.4060	0.4519	0.4033	0.4528	0.4019	0.4549	0.4018	0.4588	0.4044
0.4612	0.4179	0.4636	0.4179	0.4645	0.4165	0.4645	0.4138	0.4625	0.4092

### 6-2. 3000K



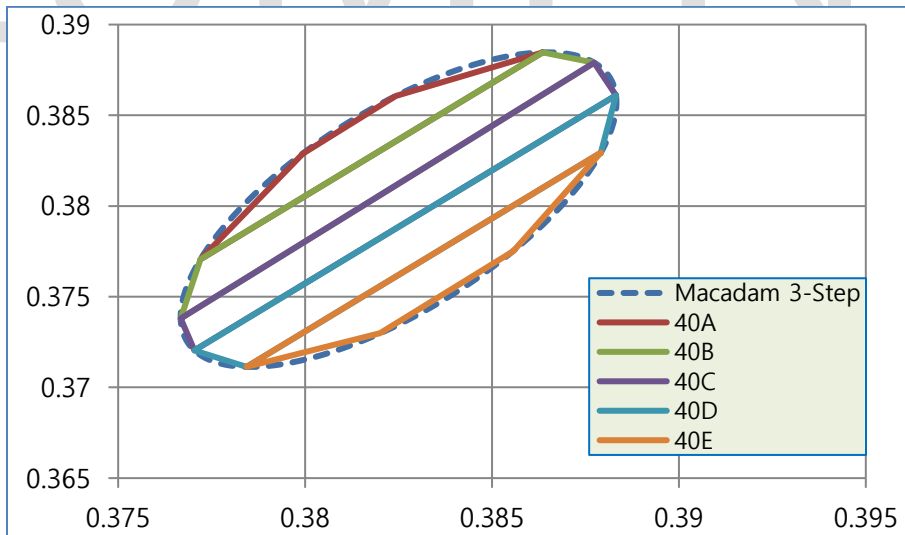
30A		30B		30C		30D		30E	
X	Y	X	Y	X	Y	X	Y	X	Y
0.4370	0.4108	0.4391	0.4110	0.4403	0.4097	0.4403	0.4073	0.4389	0.4031
0.4334	0.4082	0.4370	0.4108	0.4391	0.4110	0.4403	0.4097	0.4403	0.4073
0.4297	0.4030	0.4281	0.3983	0.4282	0.3957	0.4295	0.3945	0.4314	0.3948
0.4281	0.3983	0.4282	0.3957	0.4295	0.3945	0.4314	0.3948	0.4350	0.3974
0.4370	0.4108	0.4391	0.4110	0.4403	0.4097	0.4403	0.4073	0.4389	0.4031

6-3. 3500K



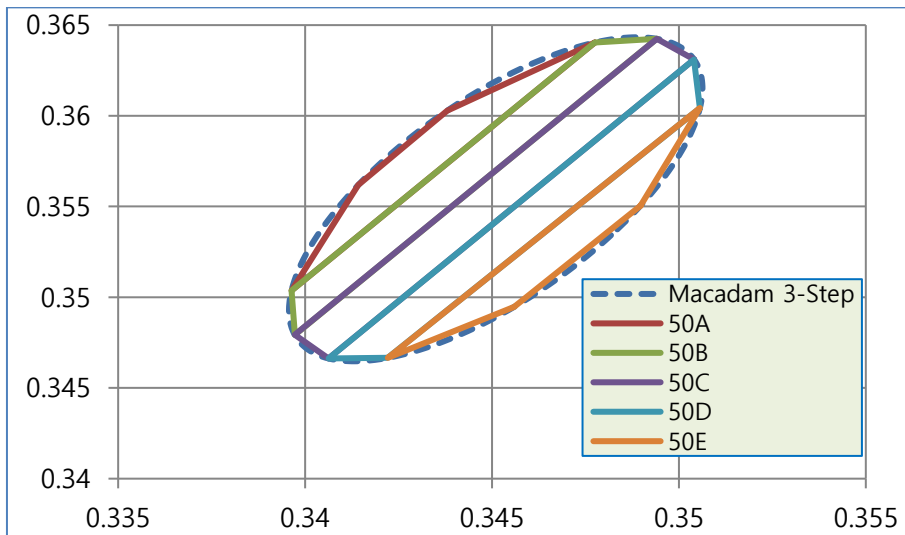
35A		35B		35C		35D		35E	
X	Y	X	Y	X	Y	X	Y	X	Y
0.4111	0.3999	0.4130	0.3998	0.4139	0.3984	0.4138	0.3956	0.4120	0.3908
0.4075	0.3973	0.4111	0.3999	0.4130	0.3998	0.4139	0.3984	0.4138	0.3956
0.4044	0.3932	0.4023	0.3879	0.4020	0.3850	0.4028	0.3835	0.4046	0.3832
0.4023	0.3879	0.4020	0.3850	0.4028	0.3835	0.4046	0.3832	0.4080	0.3853
0.4111	0.3999	0.4130	0.3998	0.4139	0.3984	0.4138	0.3956	0.4120	0.3908

6-4. 4000K



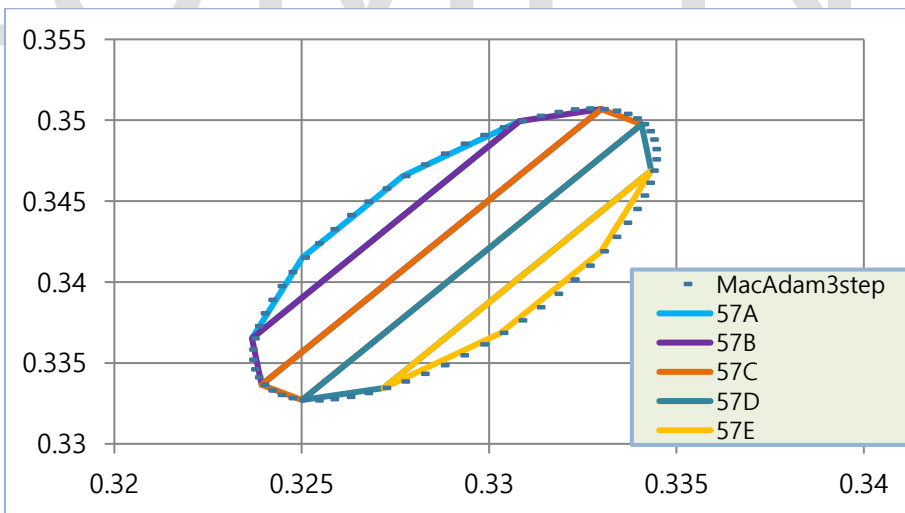
40A		40B		40C		40D		40E	
X	Y	X	Y	X	Y	X	Y	X	Y
0.3864	0.3885	0.3877	0.3879	0.3883	0.3861	0.3879	0.3829	0.3856	0.3775
0.3824	0.3861	0.3864	0.3885	0.3877	0.3879	0.3883	0.3861	0.3879	0.3829
0.3799	0.3829	0.3772	0.3771	0.3767	0.3738	0.3770	0.3720	0.3784	0.3711
0.3772	0.3771	0.3767	0.3738	0.3770	0.3720	0.3784	0.3711	0.3820	0.3730
0.3864	0.3885	0.3877	0.3879	0.3883	0.3861	0.3879	0.3829	0.3856	0.3775

6-5. 5000K



50A		50B		50C		50D		50E	
X	Y	X	Y	X	Y	X	Y	X	Y
0.3478	0.3640	0.3494	0.3642	0.3504	0.3631	0.3506	0.3604	0.3490	0.3550
0.3438	0.3603	0.3478	0.3640	0.3494	0.3642	0.3504	0.3631	0.3506	0.3604
0.3414	0.3562	0.3396	0.3504	0.3397	0.3479	0.3406	0.3466	0.3422	0.3467
0.3396	0.3504	0.3397	0.3479	0.3406	0.3466	0.3422	0.3467	0.3456	0.3495
0.3478	0.3640	0.3494	0.3642	0.3504	0.3631	0.3506	0.3604	0.3490	0.3550

6-6. 5700K

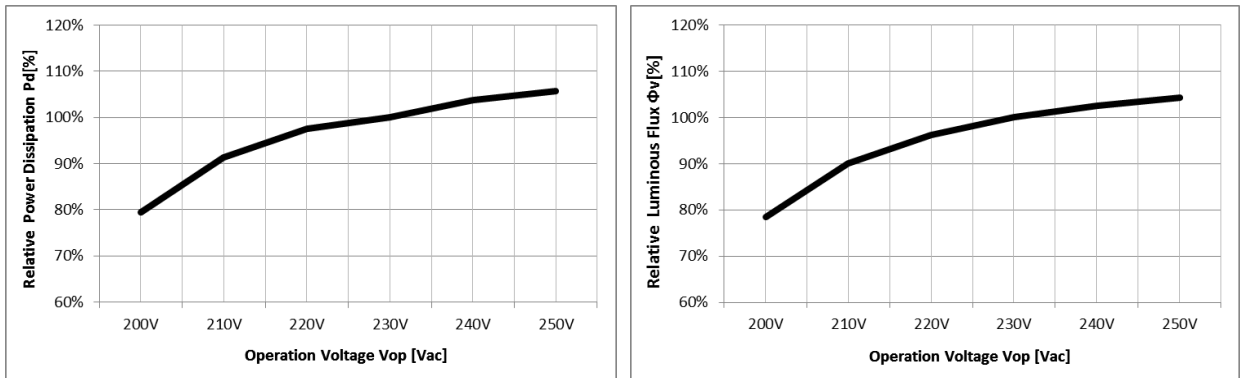


57A		57B		57C		57D		57E	
X	Y	X	Y	X	Y	X	Y	X	Y
0.3308	0.3500	0.3330	0.3507	0.3341	0.3497	0.3343	0.3469	0.3330	0.3419
0.3277	0.3465	0.3308	0.3500	0.3330	0.3507	0.3341	0.3497	0.3343	0.3469
0.3250	0.3415	0.3237	0.3365	0.3239	0.3337	0.3250	0.3327	0.3272	0.3334
0.3237	0.3365	0.3239	0.3337	0.3250	0.3327	0.3272	0.3334	0.3303	0.3369
0.3308	0.3500	0.3330	0.3507	0.3341	0.3497	0.3343	0.3469	0.3330	0.3419

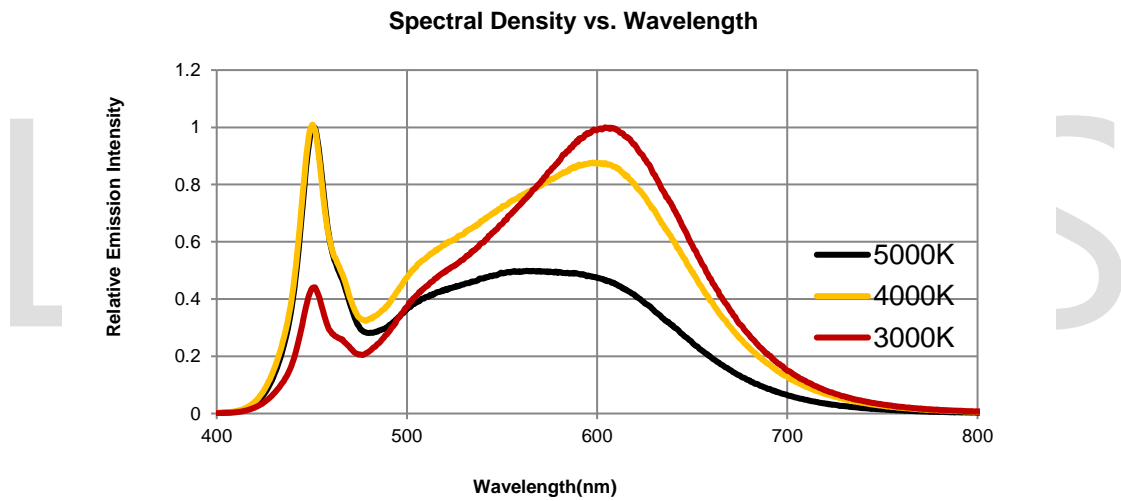


## 7. Characteristic Graphs

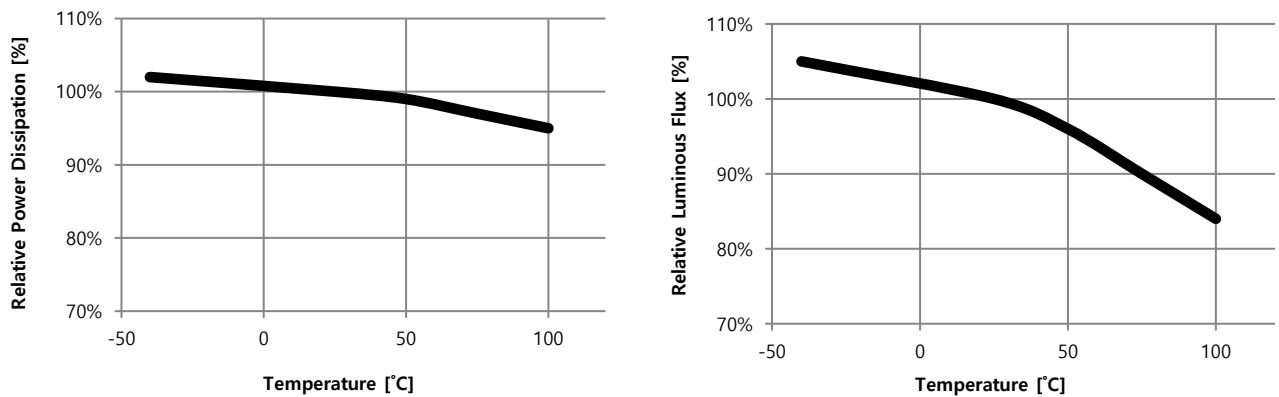
### 7-1 Voltage Characteristics(Ta=25°C)



### 7-2 Spectrum Characteristics(Ta=25°C)

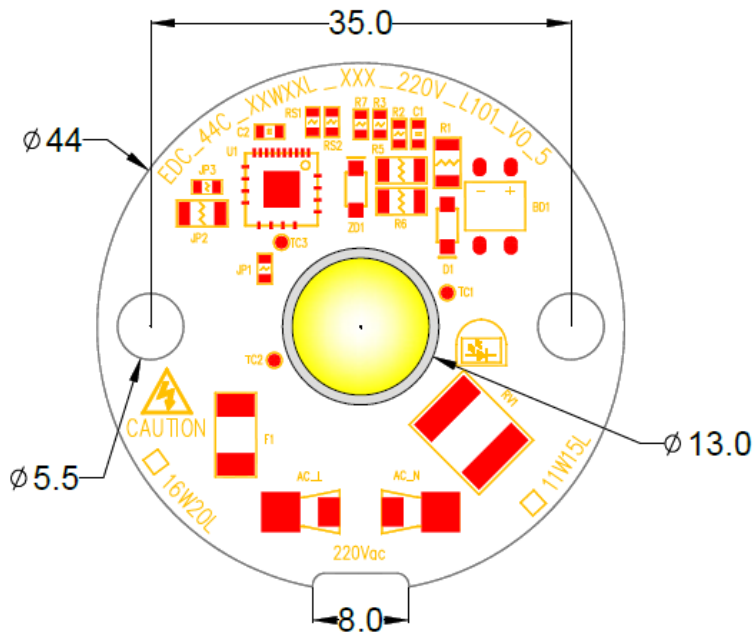


### 7-3 Temperature Characteristics



## 8. Outline Dimensions

### 8-1 PCB Dimensions

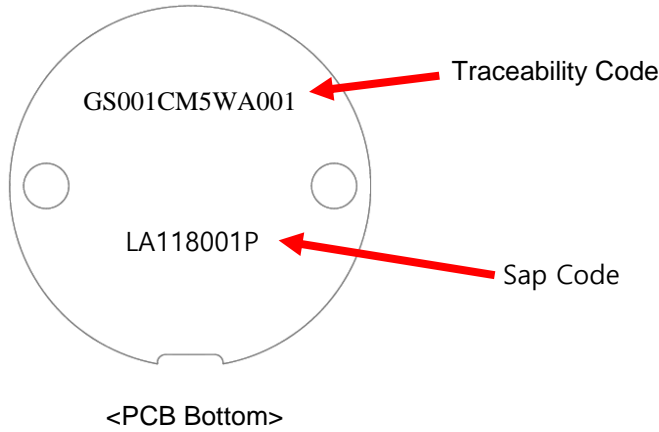


Unit : mm

- 1) Outline Diameter :  $44\phi$  , Height : 4.6mm (Include PCB)
- 2) Tolerance - All measurements are  $\pm 0.2$  mm unless otherwise indicated.

### 9. EDC Module Marking

- A. Information Identification by report on the PCB (Silk)
  - Module Identification Code
- B. LED Module Laser Marking



B-1 Traceability Code Table

No	1	2	3	4	5	6	7	8	9	10	11	12	13
Marking	S	A	0	0	1	C	M	5	M	A	0	0	1
Meaning	Manufacture Site	Chip Manufacturer	Group No.			Manufacture Year/Month/Day			PCB Manufacturer	Classification	Serial No.		
Ciphers	1	1	3			3			1	1	3		
How to Use	G : K2 S : SILIAN	S : Semicon L : Lumens N : Sanan M : SL A : Aucksun E : Epistar	001			1st : Year ( A ~ Z ) 2nd : Month ( A ~ M ) 3rd : Day ( A ~ Z , 1 ~ 7 )			M : Magic Tech H : Haywar Y : YILIHUA X : XIANGYIDINGSHENG	A	001		

B-2 Traceability Code Marking Table

**Manufacture Site**

Manufacture Site	K	G	H	S	T	B	Y	W	L
Code	K1	K2	K3	SILIAN	TSMT	-	-	-	-

**Chip Manufacturer**

Chip Manufacturer	S	L	N	M	A	E	K	T	V
Code	Semicon	Lumens	Sanan	SL	Aucksun	Epistar	Focus Lighting	ELITE	-

**Manufacture (Year/Month/Day)**

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035									
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z									
Month	01	02	03	04	05	06	07	08	09	10	11	12																					
	A	B	C	D	E	F	G	H	J	K	L	M																					
Day	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7		

**PCB Manufacturer**

PCB Manufacturer	M	H	Y	X	-
Code	Magic Tech	Haywar	YILIHUA	XIANGYIDINGSHENG	-

### 10. Package And Marking Of Product

A. Tray Information

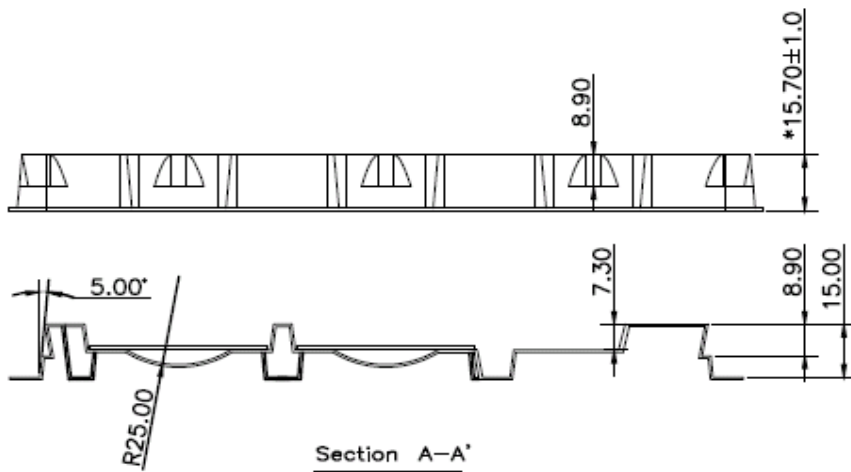
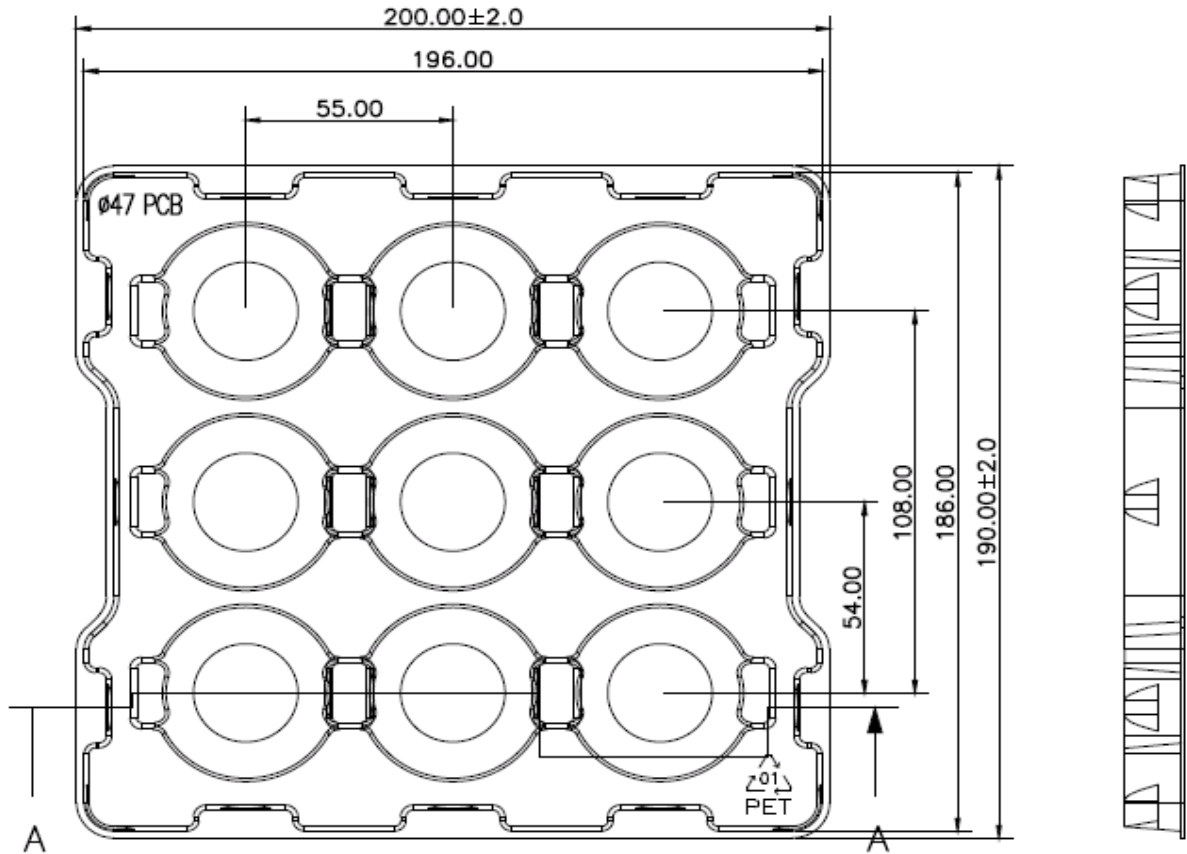
Size : 200mm x 190mm x 15.7mm

Color : Clear

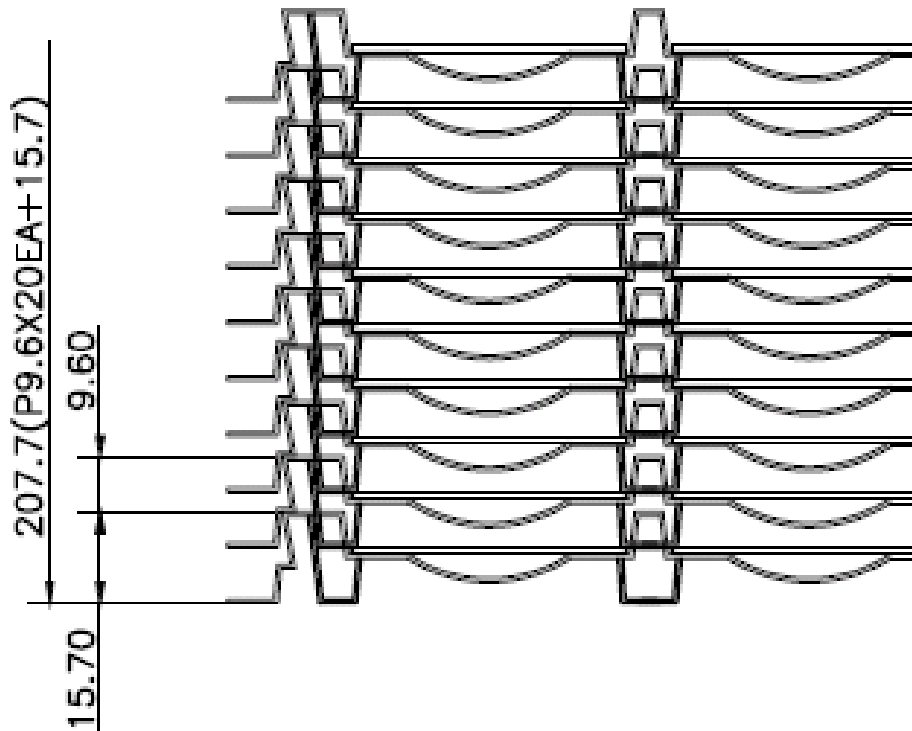
Surface Resistivity :  $10^6 \sim 10^9 \Omega/Sq.$

B. Package

9 pcs are packed in one tray.



- Side view -



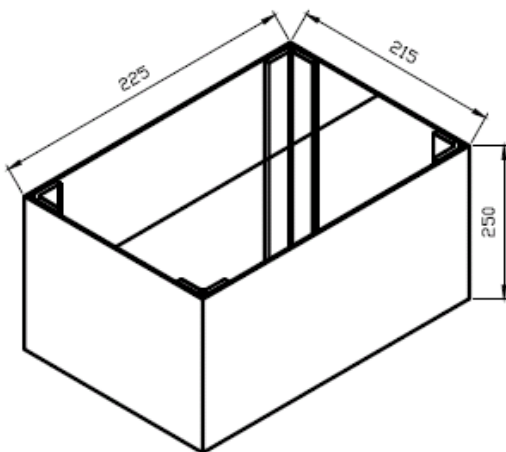
Stack up 21 Layers  
 – Packing Tray –

C. Box Packing Specifications

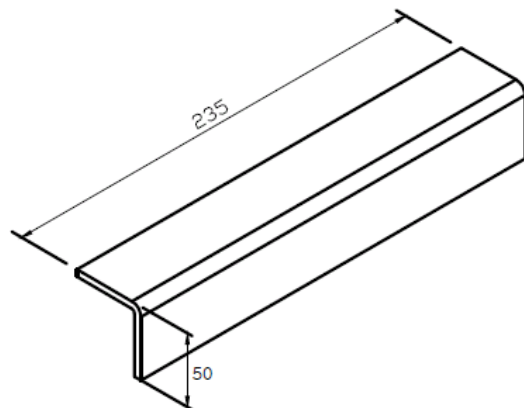
Tray products (numbers of products are 9 pcs) packed.

There is no product on the top tray

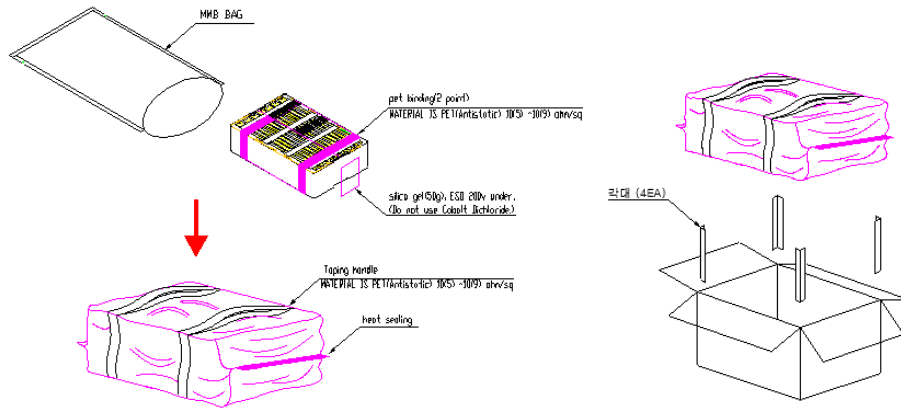
21 Tray (total maximum number of products are 180pcs) packed in a box.



225 X 215 X 250 mm

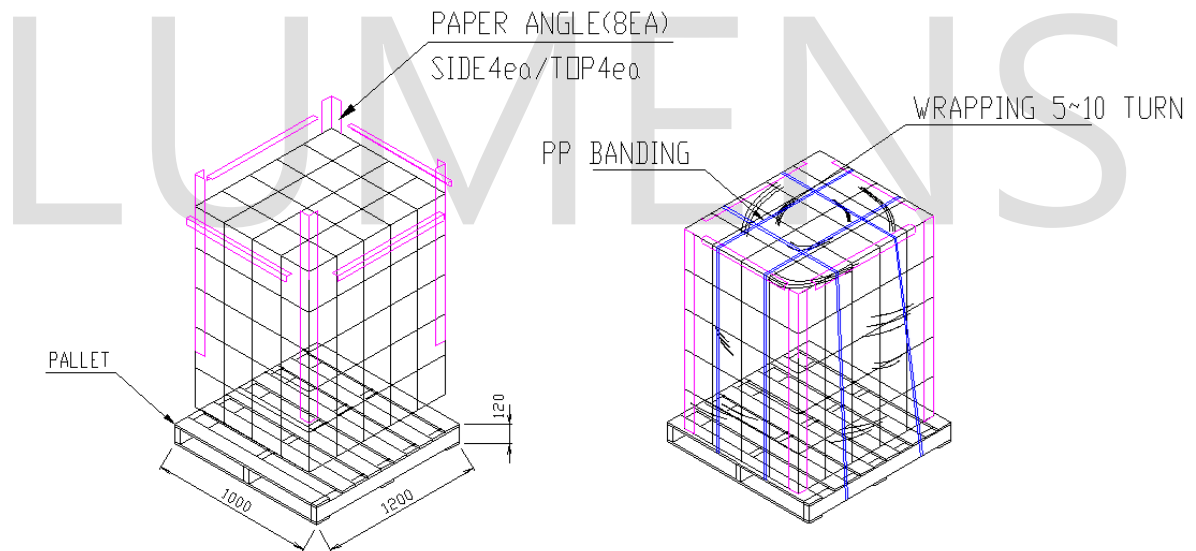


50 X 50 X 235 mm



D. Pallet Loading

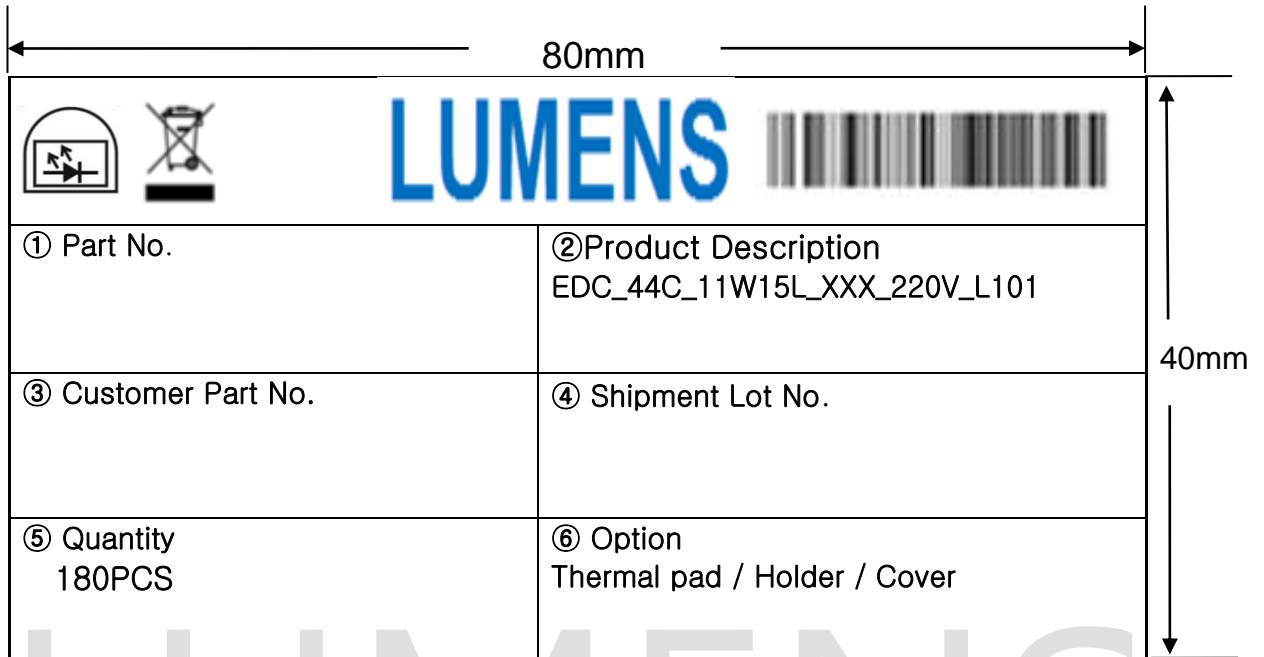
Box is stacked by 4 layers on the Pallet.  
Each layer has 20 boxes



Size : 1,000mm(W) X 1,200mm(L) X 1,560mm(H)

E. BOX Label

Specifying Customer, Model, Customer Part No, Lot No, Quantity  
On both trays and boxes, the same label is attached.



<Example>

- X : CRI (80CRI=8, 90CRI=9) ,
- XX : CCT (2700K=27, 3000K=30, 3500K=35, 4000K=40, 5000K=50, 5700K=57)
- 2XXV : Input Voltage ( 220Vac=220V, 230Vac=230V )

1. PART No
2. Model Name.
3. Customer Part NO
4. Shipment Lot No.
5. Quantity.

F. Shipment Lot No. Indication

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Marking	C	S	X	-	1	0	0	2	0	2	-	A	0	0	1
Meaning	COB	Manufacture Site	Default	Default	Packing Year/Month/Day						Default	Default	Packing Serial No.		
Ciphers	1	1			6								3		
How to Use	C : COB	G : K2 S : SILIAN			1st~2nd : Last two digits of year 3rd~4th : Month ( 01~12 ) 5th~6th : Day ( 01~31 )								1		



## 11. Cautions

- ◆ The LED Module itself and all its components may not be mechanically stressed.
- ◆ Make sure proper discharge prior to starting work.
- ◆ DO NOT touch any of the circuit board, components or terminals with body or metal while circuit is active.
- ◆ Installation of LED Module needs to be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installation.
- ◆ DO NOT add or change wires while circuit is active.
- ◆ DO NOT make any modification on module.
- ◆ DO NOT use adhesives to attach the LED that outgas organic vapor.
- ◆ DO NOT use together with the materials containing Sulfur.
- ◆ The LED Module needs to be mounted on a heat sink providing adequate thermal dissipation.
- ◆ DO NOT exceed the values given in this specification
- ◆ Be cautious when soldering to board so as not to create a short between different trace patterns.
- ◆ Keep cautions not to apply higher voltage above the maximum rating. Otherwise damage may occur.
- ◆ Pay attention not to exceed the maximum operation temperature of 85°C at the Tc1 Point when the modules are used in an enclosed environment.  
( Tc1 Temperature Condition ≤ 85°C )  
( Tc1 + 30°C ≐ Maximum LES temperature(Tj) ) : Depends on specification of heat sink
- ◆ DO NOT assemble in conditions of high moisture and/or oxidizing gas such as Cl, H2S, NH3, SO2, NOx, etc.
- ◆ The module should also not be installed in end equipment without ESD (Electrical Static Discharge) protection.
- ◆ Damage by corrosion will not be allowed as defect claim. Lumens LED Module is recommended for Indoor use only.
- ◆ Great care should be taken not to see directly the operated lighting LED. If not the intense light should cause the damage to eye. Use proper goggles to protect your eyes during operation.
- ◆ Long time exposure to sunlight or UV can cause the lens to discolor.
- ◆ Moisture-Proof package
  1. When moisture is absorbed into the LED light engine it may vaporize and expand products during manufacturing. There is a possibility that this may cause exfoliation of the contacts and damage to the optical characteristics of the LEDs. For this reason, the moisture-proof pack is used to keep moisture to a minimum in the package.
  2. A pack of a moisture-absorbent material (silica gel) is inserted into the shielding bag. The silica gel changes its color from blue to pink as it absorbs moisture.
- ◆ Storage Conditions
  1. Before opening the package: The LED light engines should be kept at 30°C or less and 90% RH or less. The LED light engines should be used within a year. When storing the LED light engines, moisture-proof packaging with moisture-absorbent material (silica gel) is recommended.
  2. After opening the package: The LED light engines should be kept at 30°C or less and 70% RH or less. The LEDs should be soldered within 168 hours (7 days) after opening the package. If unused LED light engines remain, they should be stored in moisture-proof packages, such as sealed containers with packages of moisture-absorbent material (silica gel). It is also recommended to return the LED light engines to the original moisture-proof bag and to reseal the moisture-proof bag again.
  3. Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.
- ◆ Basic insulation is based on 240Vac.



### NOTE :

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