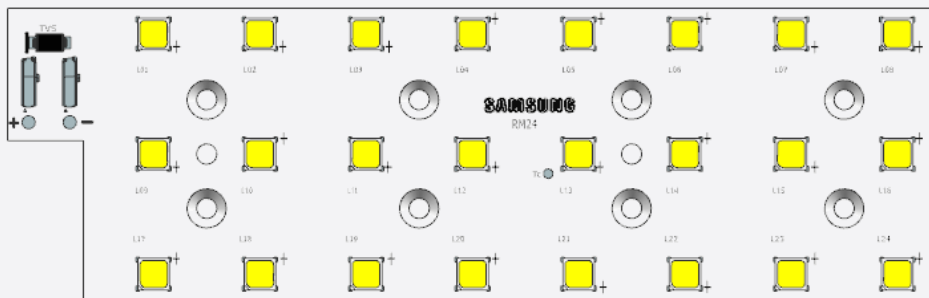


# Datasheet



MODEL NAME	CCT	CODE
RM24_P with LH502D	3000K	SL-Z7V6NA0LHWW
	4000K	SL-Z7T6NA0LHWW
	5000K	SL-Z7R6NA0LHWW

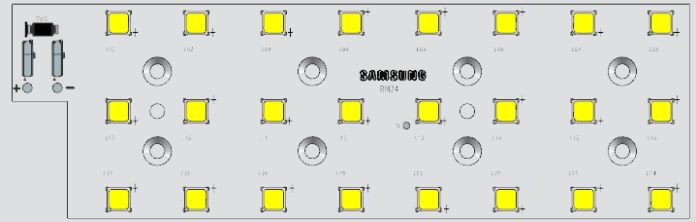
SAMSUNG ELECTRONICS CO., LTD.  
1, Samsung-ro, Giheung-gu,  
Yongin-si, Gyeonggi-do 17113, KOREA



LED Module

# RM24\_P

LH502D Module



**SAMSUNG**

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## 1. Product Code Information

- RM24\_P Module with LH502D

CRI	CCT	Product Code
CRI 70	3000K	SL-Z7V6NA0LHWW
	4000K	SL-Z7T6NA0LHWW
	5000K	SL-Z7R6NA0LHWW

## 2. Characteristics ( $I_F = 1400\text{mA}$ , $t_p = 60^\circ\text{C}$ )

### a) Basic Information

Item	Unit	Rating	Remark
Rated Lifetime	Hour	>50,000	L70B50
Ingress Protection (IP)	-	no rating	
Ambient / Operating Temperature ( $t_a$ )	$^\circ\text{C}$	-30 ~ +50	
Storage Temperature	$^\circ\text{C}$	-30 ~ +80	

#### Notes

- ※  $I_F$ : Forward current or Operating current
- ※  $t_p$ : temperature at which performance is specified measured at "Tc point".
- ※  $t_a$ : ambient temperature

## b) Electro-Optical Characteristics

Item	Unit	Rating			Remark
		min	typ	max	
Luminous Flux	lm	3000K	9,800	10,890	-
		4000K	10,520	11,690	-
		5000K	10,370	11,530	-
Luminous Efficacy	lm/W	3000K	-	168.5	-
		4000K	-	180.9	-
		5000K	-	178.4	-
CCT	K	3000K	MacAdam 5 Step		Initial CCT Integrating Sphere
		4000K			
		5000K	MacAdam 7 Step		
Operating Voltage	V	41.6	46.2	50.8	If = 1400 mA Tp = 60 °C
Power Consumption	W	-	64.7	-	
Color Rendering Index (Ra)	-	70			
Operating Current	mA		1,400	2,700	

### Notes:

- 1)  $t_p$  : temperature at which performance is specified ; measured at "T<sub>c</sub> point"
- 2) Samsung maintains a measurement tolerance of  
: Luminous flux  $\pm 7\%$ , Ra  $\pm 3.0$ , Voltage  $\pm 5\%$ , Current =  $\pm 5\%$ , CCT =  $\pm 5\%$ , CIE =  $\pm 0.005$ .

## c) Light Distribution

Item	Unit	Nominal	Tolerance	Remark
Beam Angle (FWHM)	°(degree)	120	$\pm 5$	

## d) Temperature Characteristics

Item	Unit	Nominal*( $t_p$ )	Life**( $t_L$ )	Max***( $t_c$ )
Temperature Case (T <sub>c</sub> )	°C	60	100	105

### Notes:

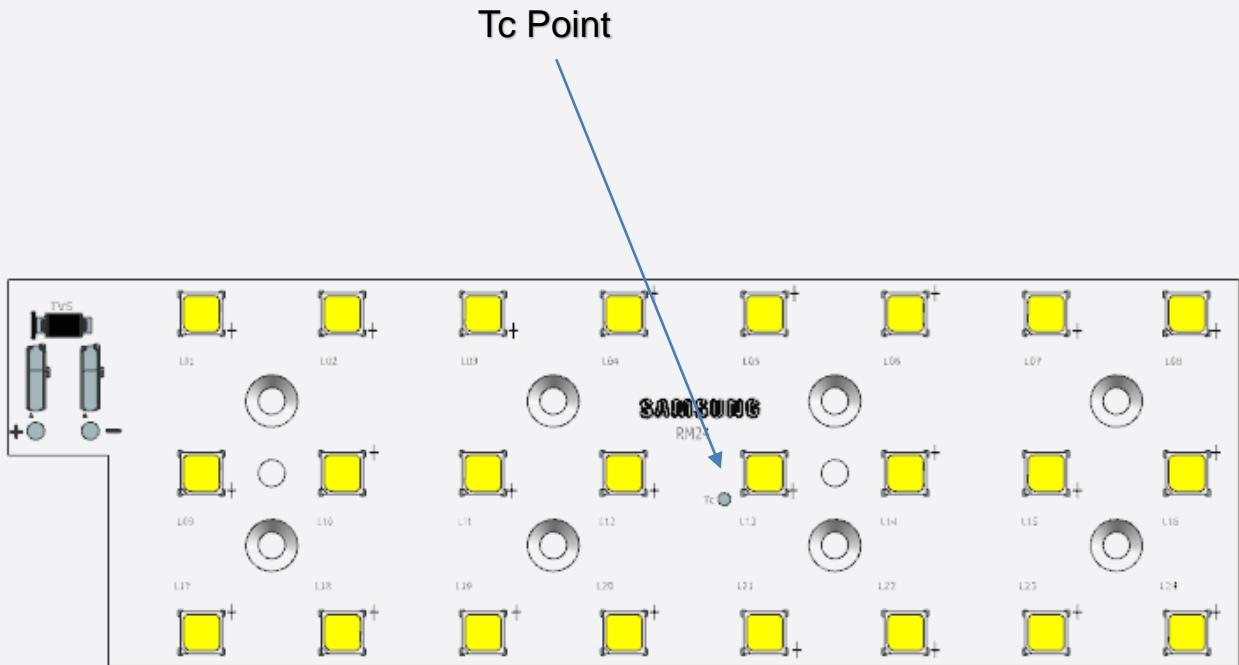
- \* Temperature used to specify performance of the module ( $t_p$ ).
- \*\* Rated maximum performance temperature at which lifetime is specified in L70B50 ( $t_L$ ).
- \*\*\* Rated maximum temperature, highest permissible temperature to avoid safety risk ( $t_c$ ).

All temperatures are measured at the designated "T<sub>c</sub> point" as indicated on the module.

Please use heat-sink(or heat dissipation solution) with proper thermal capacity(operating wattage).

## f) Thermal Measurement

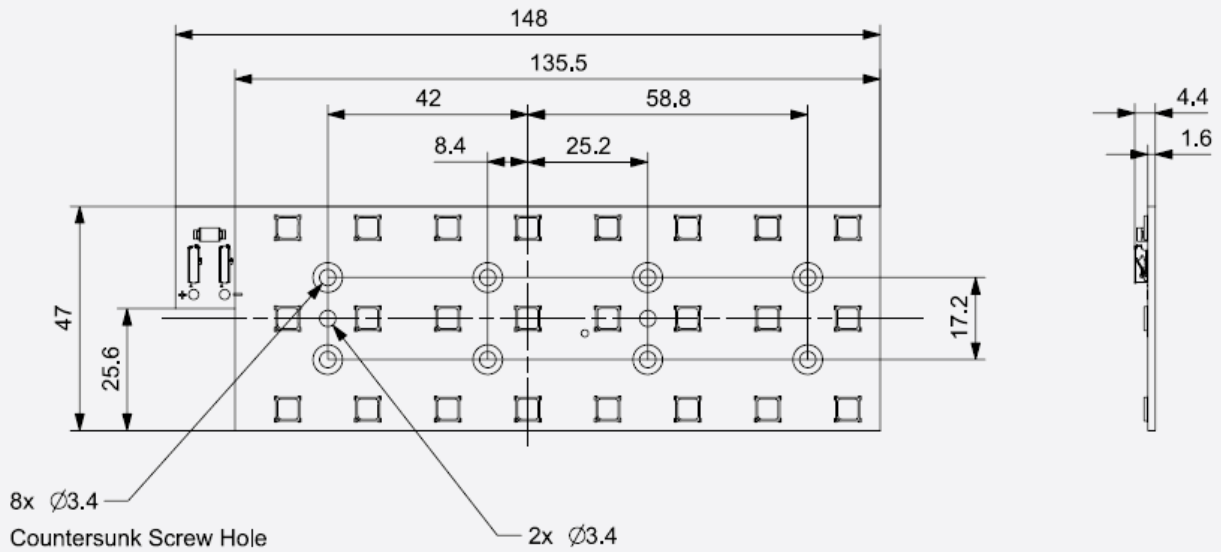
Performance temperatures are measured on "Tc point" as indicated on the module.





### 3. Appearance and Structure

#### a) Appearance and Dimension



Item	Unit	Dimension	Tolerance
Module Size	mm	148 x 47	± 0.3
Module Height	mm	4.4	± 0.3
Module Weight	g	30	± 0.5

#### b) Structure

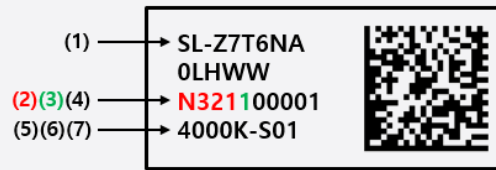
Item	Specification
LED	LH502D
Connector	WAGO 2065-100
TVS DIODE	SMAJ100A
PCB	MCPCB 1.6T, 1oz, 3Px8S

## 4. Certification and Declaration

Item	Compliant to	Remark
Declaration	RoHS	Hazardous Substance & Material

## 5. Label Structure

### a) Module Label



Number	Item	Remark
①	Samsung Product Code	SL-Z7T6NA0LHWW
②	SMT Date	YMDD
③	SMT Line No	1~E
④	Serial No	00001~99999
⑤	CCT	4000K
⑥	LED Maker	-S(Samsung)
⑦	Group No	-

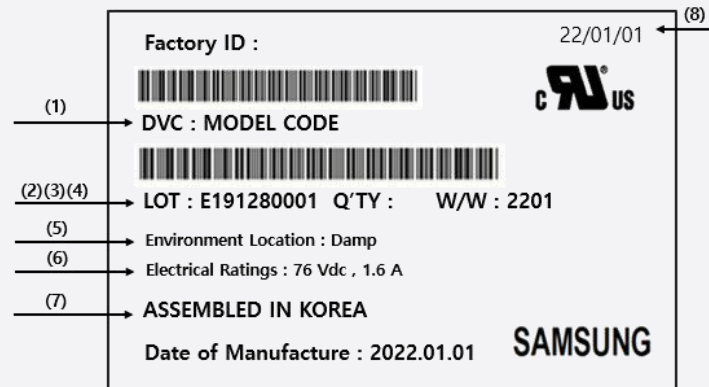
### b) Tray Label

- 100mm x 50mm



Number	Item	Remark
1	Model Code	Refer to page 1
2	LOT ID	
3	Quantity	T.B.D.
4	Production Date (year & week)	
5	Country of Origin	KOREA
6	Production Date ( year / month / date )	-

## c) Box Labels



Number	Item	Remark
1	Model Number (Product Code)	Refer to page 1
2	Lot No.	-
3	Packing Quantity	-
4	Production Date ( year & week )	-
5	UL Cert. (Environment Location)	Damp
6	UL Cert. (Electrical Ratings)	76Vdc , 1.6A
7	Country of Origin	KOREA
8	Production Date ( year / month / date )	-

## 6. Packing Structure

Product	Packing	Quantity (ea)	Weight (kg)	Remark
RM24_P with LH502D	Tray	60	10	Weight (includes Modules, Trays and a Box)
	Box	240		
	Pallet	5,760	240	

## 7. Precautions in Handling & Use

- 1) This LED Module should not be used in any type of fluid such as water, oil, organic solvent, etc. When washing is required, IPA is recommended to use. When using other solvents it should be confirmed beforehand whether the solvents may react with the Module material. The banned Freon solvents should not be used. Do not clean using ultrasonic cleaner.
- 2) The LEDs are sensitive to the static electricity and surge. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED Modules. If voltage exceeding the absolute maximum rating is applied to LEDs, it may cause damage or even destruction to LED devices. Damaged LEDs may show some unusual characteristics such as increase in leak current, lowered turn-on voltage, or abnormal lighting of LEDs at low current.
- 3) VOCs (Volatile Organic Compounds) can be generated from adhesives, flux, hardener or organic additives used in luminaires (fixtures). Transparent LED silicone encapsulant is permeable to those chemicals and they may lead a discoloration of encapsulant when they exposed to heat or light. This phenomenon can cause a significant loss of light emitted (output) from the luminaires (fixtures). In order to prevent these problems, we recommend users to know the physical properties of the materials used in luminaires, and they must be selected carefully.
- 4) Risk of sulfurization (or tarnishing)  
The LED uses a silver-plated lead frame and its surface color may change to black (or dark colored) when it is exposed to sulfur (S), chlorine (Cl) or other halogen compound. Sulfurization of lead frame may cause intensity degradation, change of chromaticity coordinates and, in extreme cases, open circuit. It requires caution. Due to possible sulfurization of lead frame, the LED Modules should not be used and stored together with oxidizing substances made of materials such as rubber, plain paper, lead solder cream, etc.
- 5) The resin area is very sensitive, please do not handle, press, touch or rub it.
- 6) Do not drop the Module or give shocks.
- 7) Do not store the Module in a dusty place or humid location.
- 8) Do not disassemble the Module.
- 9) Do not directly look into the lighted LED with naked eyes for a long period of time.
- 10) Please consider the creepage and clearance distance at the end product.

## Appendix I . Forward Current Characteristics

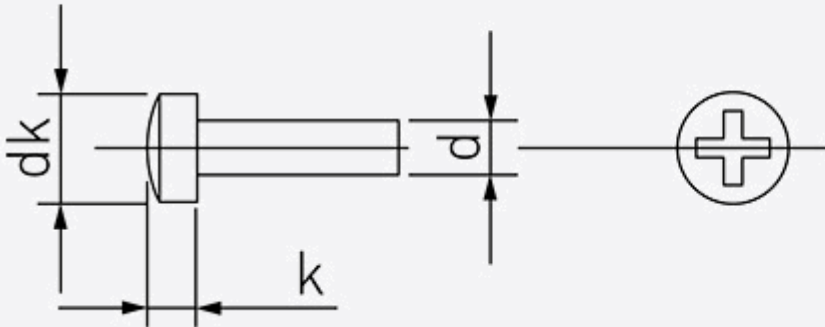
Item	Unit	Forward Current	CCT	typ. Rating
Luminous Flux	lm	525mA	3000K	4,268
			4000K	4,582
			5000K	4,520
		1050mA	3000K	8,310
			4000K	8,921
			5000K	8,798
		2100mA	3000K	15,813
			4000K	16,976
			5000K	16,743
Operating Voltage	V	525mA	3000K	43.7
			4000K	
			5000K	
		1050mA	3000K	45.4
			4000K	
			5000K	
		2100mA	3000K	48.5
			4000K	
			5000K	
Luminous Efficacy	lm/W	525mA	3000K	188.7
			4000K	202.6
			5000K	199.8
		1050mA	3000K	175.8
			4000K	188.8
			5000K	186.2
		2100mA	3000K	155.8
			4000K	167.2
			5000K	164.9





## 2. SCREW REQUIREMENTS

- Lens attachment screws are of type M3. (DIN 7985, ISO 7045/ISO 14583 TX)
- Self-tapping screws are not recommended
- Maximum tightening torque of the screw is 0.6Nm



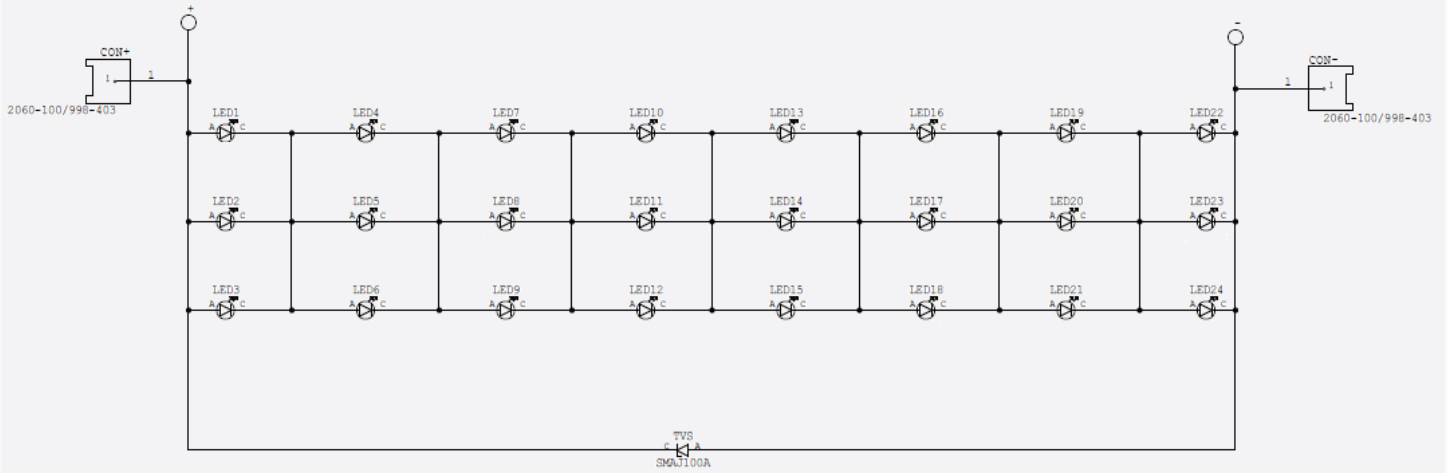
DIN 7985	
Thread Size	M3
dk	6 mm
d	3 mm
k max	2,52 mm
L	4-22 mm

- Needs countersunk screws of type M3 (DIN 965) for fastening the PCB to heatsink



DIN 965	
Thread Size	M3
dk	5,6 mm
d	3 mm
k max	1,65 mm
L	4 - 22 mm

## Appendix III. Circuit Diagram



# Legal and additional information.

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