



# DATA SHEET

## GLV91560201 Series

Part of the simpleLED® Program

## SimpleLED® GLV91560201 SERIES

The light engine series consist of 24pcs Samsung LM561B Middle power LEDs. It is engineered to provide customers with the flexibility to select the optimal light source for their applications. The module series is complied with IEC62031 Class III, it can connect with UL Class II driver ( please confirm with us if any other applications).

## PRODUCT DESCRIPTION

- Multiple CCTs available (2700K-5000K)
- 80 & 90 minimum CRI options
- Up to 1346lm per board
- 3.5 step MacAdam color binning
- LM-80 compliant mid-power LEDs
- 3-Year Warranty

## TARGET APPLICATIONS

- Office Lighting
- High Bay
- Poster Box
- Cove Lighting
- Wall Wash
- Under-Cabinet

## APPLIED STANDARDS

IEC 62031, IEC 60068-2, UL

Note: All specifications are subject to change without notice.

## SimpleLED® GLV91560201/CW-JF24 WHITE SERIES

PARAMETER	CONDITIONS
PCB (MCPCB) Size	FR4; 560x20mm
	UL component file number:E123995
Source Type	24pcs Samsung 5630B
	UL component file number: E347623
Circuit Layout	6P x 4S
Connector Type	Wago connector: 2060-401/998-404
	UL component file number: E45171

## PRODUCT SELECTION GUIDE

PART NUMBER	CCT	CRI (min.)
GLV91560201/CW-JF24I27A	2700K	80
GLV91560201/CW-JF24I30A	3000K	80
GLV91560201/CW-JF24K30A		90
GLV91560201/CW-JF24I35A	3500K	80
GLV91560201/CW-JF24I40A	4000K	80
GLV91560201/CW-JF24K40A		90
GLV91560201/CW-JF24I50A	5000K	80

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## BOARD OPTICAL CHARACTERISTICS (@ 700mA, Ts=25 °C)

BOARD	CCT	CRI	FLUX (LM)		EFFICACY (LM/W)	
		MIN.	MIN.	TYP.	MIN.	TYP.
GLV91560201/ CW-JF24 Series	2700K	80	1142	1183	127	145
	3000K	80	1162	1203	129	148
		90	999	1040	111	128
	3500K	80	1183	1224	132	150
	4000K	80	1224	1264	136	155
		90	1101	1142	122	140
	5000K	80	1264	1305	141	160

## BOARD ELECTRICAL CHARACTERISTICS (@ 700mA, Ts=25 °C)

	Min.	Typ.	Max.
Voltage (V)**	10.8	11.6	12.8
Total Board Power (W)	7.56	8.12	8.96
Driver Current (mA)***	700	700	700

## ENVIRONMENTAL CHARACTERISTICS

	Min.	Max.
Storage Temperature	-40°C	100°C
	Max.	
PCB Temperature (T <sub>c</sub> )	80°C	

### NOTES

\*Data stated @1050 mA, T<sub>j</sub> = 25°C. Use for reference only since application temperature and LED driver current have influence on lumen output. Safe operation only possible by the use of external constant current sources. The current source used for operation, must have the following protections

- Short-circuit protection
- Overload protection
- Over-temperature protection

\*\*LED SUPPLIER maintains a tolerance of ±0.1V on forward voltage measurements.

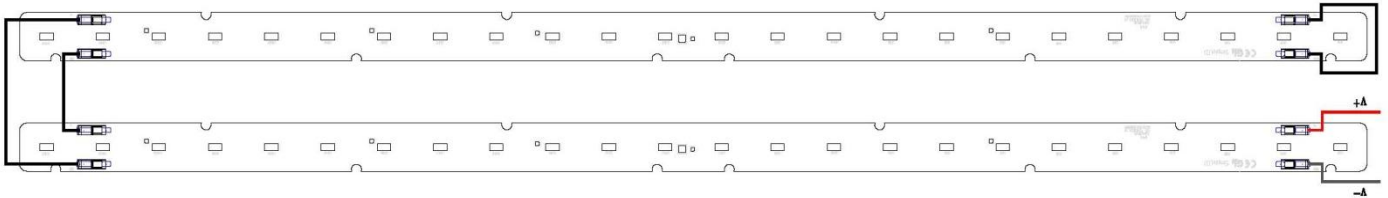
\*\*\*Proper current de-rating must be observed to maintain junction temperature below the maximum.

Different CCTs available upon request. Contact your local sales representative.

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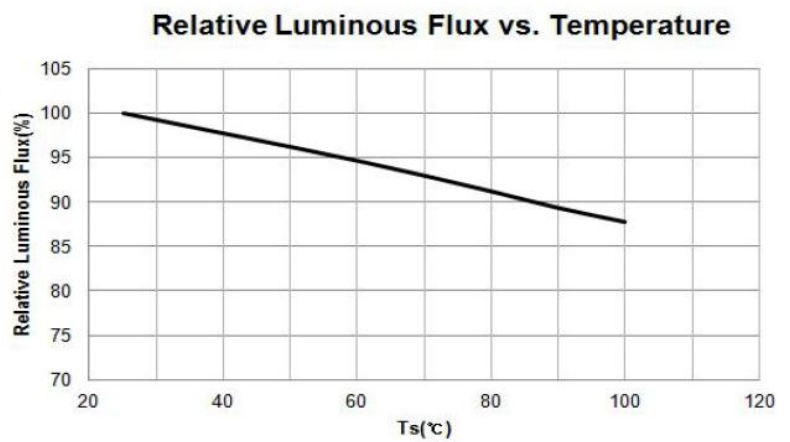
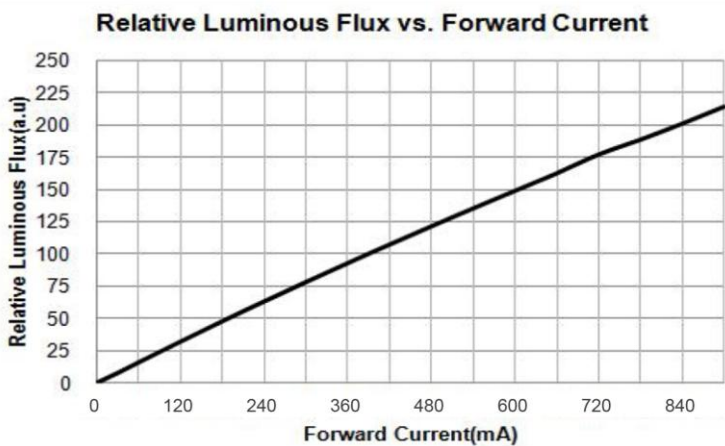
## INTERCONNECTIVITY OPTIONS

Board-to-Board wiring options and drawings.



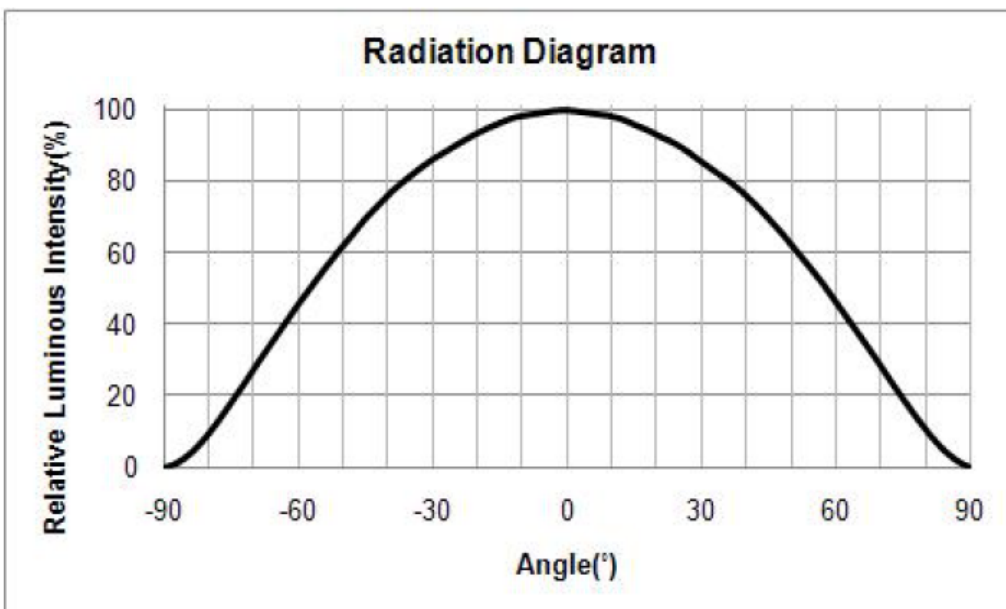
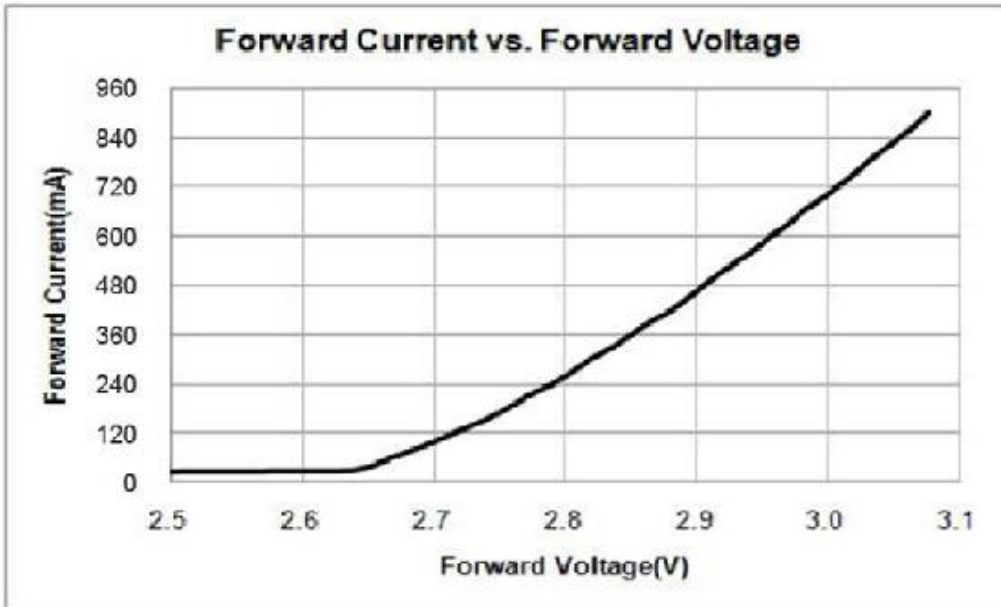
GLV91RS0201/CW-JF24	
Maximum connection units	10PCS

## TYPICAL CHARACTERISTICS GRAPHS



Note: All specifications are subject to change without notice.

## TYPICAL CHARACTERISTICS GRAPHS



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## LIFETIME/LUMEN MAINTENANCE INFORMATION

	MIN	TYP	MAX	UNIT
Lumen maintenance B50L70 (@105°C, 180mA)	92.7%	95.6%	96.8%	6000hrs

	NOMINAL	LIFE	MAX
T <sub>c</sub> (°C)	45	75	95
Current per channel (mA)	180	180	180
L70(hrs)	156000	51000	16000

## PART NUMBERING & ORDERING INFORMATION

<p>1. PRODUCT SERIES GLV91560201/CW-JF24 Linear FR4 with 24 LEDs</p>	<p>4. NUMBER OF LED 24 - 24 LEDs</p>	<p>6. FLUX BIN A – S0 Bin</p>
<p>2. CONNECTOR TYPE CW – Wago connector 2060-401/998-404</p>	<p>5. CCT</p> <p>I27 – CRI80 2700K ANSI I30 – CRI80 3000K ANSI K30 – CRI90 3000K ANSI I35 – CRI80 3500K ANSI I40 – CRI80 4000K ANSI K40 – CRI90 4000K ANSI I50 – CRI80 5000K ANSI</p>	
<p>3. LED TYPE JF - Samsung LM561B LED 6P</p>		

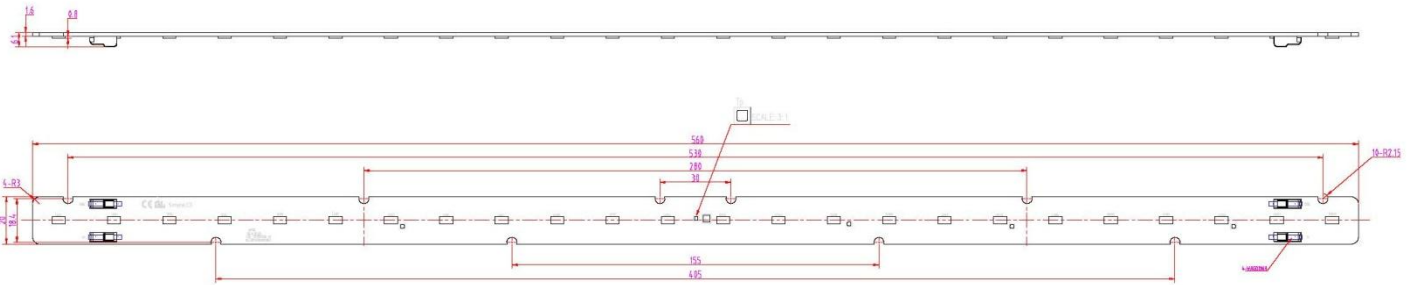
Part Number :

**GLV91560201 / CW – JF 24 I30 A**

|                                    |                                    |                                    |                                    |                                    |

1                                    2                                    3                                    4                                    5                                    6

## MECHANICAL DIMENSIONS



## THERMAL CONSIDERATIONS

The light engine must be operated in environmental conditions where the ambient air temperature does NOT exceed a value which would cause the LEDs to exceed their maximum junction temperature (per the LED SUPPLIER datasheet).

A heat sink can be used with the light engines in order to maintain the LED junction temperature and the PCB temperature below their maximum ratings however, the following recommendations should be followed:

- The mounting surface for the light engine must be flat;
- Avoid bending of the PCB to avoid damaging the LEDs and the solder connections;
- Use a thermal interface material between the PCB and the heat sink.

For optimal lifetime performance, the light engine must be placed in an environment where air can flow freely around the luminaire, promoting heat transfer from conduction to the heat sink and from radiation to the air. It is not recommended to expose the module to direct sunlight or any other heat source.

### Thermal Measurement

To maintain the lifetime of the LEDs following the LM-80 standard, the maximum allowed solder pad temperature  $T_s$  is 85°C. This temperature is based on the 50,000 hours of lifetime following the standard.

The maximum allowed temperature at the  $T_c$  point of the board is 105°C. This temperature is not based on the LM-80 standard but is for warranty purposes only.



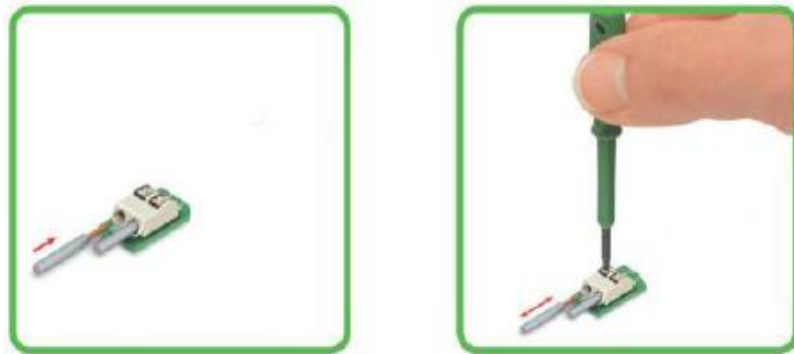
Note: All specifications are subject to change without notice.



## Assembly and Safety Information

Installation must be done according to relevant regulations and standards. The following guidelines should be respected:

- Installation must be carried out in a voltage-free state;
- The device/module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken;
- A thermal interface material should be applied to the base of the PCB before fixing it onto a heat sink with screws. The fixing/cooling surface must be cleaned prior to installing the PCB to remove all dirt, dust and grease. The light engine must not be bent to avoid damaging the LEDs.
- The adhesive film can be ordered separately. Contact your local sales representative.
- Use wire size AWG 24-18 to connect the PCB to the constant-current power supply.
- Conductors must be inserted at a 0° angle to the PCB.
- Wires must be stripped to 6-7 mm (solid & stranded).



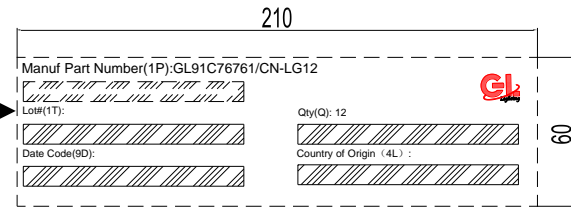
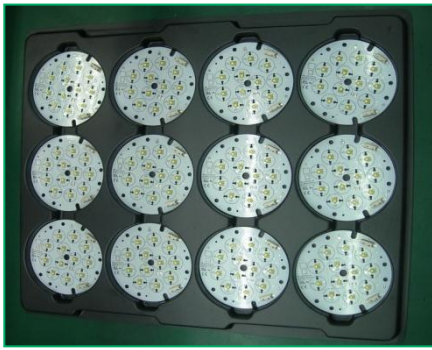
1. Insert solid conductors via push-in termination.
2. Insert/remove fine-stranded conductors by lightly pressing on the push-button

- The pressure on the LEDs will influence their reliability. Precautions should be taken to avoid such pressure.
- Do not stack PCBs on each other. LED materials are soft and this could lead to catastrophic failure of the LEDs.
- Chemicals can be harmful to the LEDs used on the module. It is recommended not to use chemicals anywhere in an LED system. The fumes from even small amounts of chemicals may damage the LEDs. The list of harmful chemicals can be viewed in application brief AB203 for the LED (<http://philipslumileds.com/>).
- Using corrugated boxes as packaging is only allowed if the sulfur used in the box is less than 850 ppm.
- Please ensure the correct polarity of the leads.
- For outdoor or damp locations, care must be taken to protect the LED PCB against moisture. There is the possibility of coating the board. Please contact your local sales representative for more information.

All of the above guidelines must be followed in order to qualify for the 3-year warranty. There is the possibility to extend to a 5-year warranty, please contact your local sales representative.

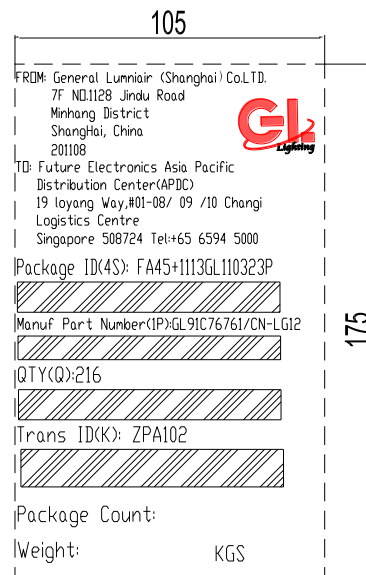
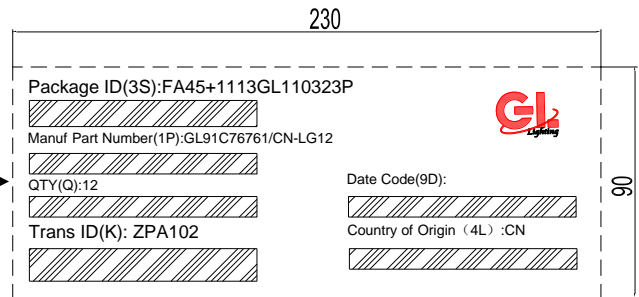
## PACKAGING INFORMATION

INNER PACKING	SIZE	TRAY	QTY
TYPE	345*295*11mm	1	20



INNER PACKING	SIZE	TRAY	QTY
TYPE 1	350*300*250mm	15	300

## PRODUCT LABELLING



Note: All specifications are subject to change without notice.