LED LINE SMD COMFORT-B 3R

WU-M-619 (500 MM)

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WU-M-619

Typical Applications

Built-in luminaires/general illumination

- Office lighting
- Retail, corridor and shelf lighting
- T5/T8 replacement as built-in module
- Furniture lighting
- Backlighting for advertising

LED Line SMD Comfort-B 3R

- **LONG SERVICE LIFE TIME: 60,000 H (L80, B10)**
- **HIGHLY EFFICIENT: UP TO 189 LM/W AT T_P = 50 °C**
- **LENGTH: 500 MM**
- **FLEXIBLE LIGHT DISTRIBUTION BY DIFFERENT OPTICS**

LIGHTING SOLUTIONS

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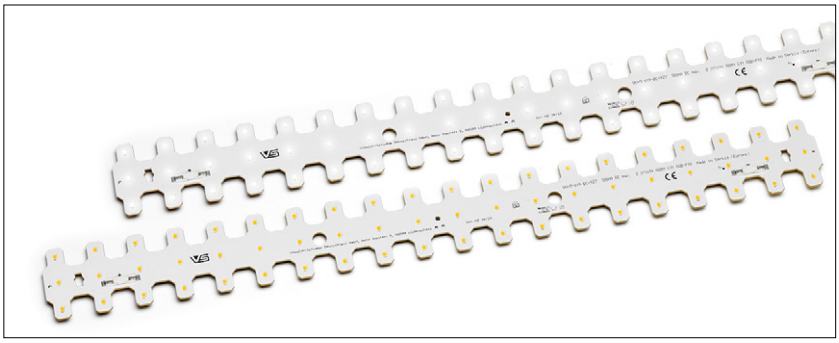

Technical Notes

- LED built-in module for integration into luminaires
- Dimensions (LxB): 493x49 mm
- Driving current: 150 mA / 200 mA / 350 mA / 500 mA
- On-board push terminal system
- Colour tolerance: 3-step MacAdam
- Beam angle: 120°

Electrical Characteristics

at t_p = 50 °C

Type	No. of LEDs	Typ. voltage DC 150 mA V	250 mA V	350 mA V	500 mA V	Temperature coefficient mV/K	Typ. power consumption 150 mA W	250 mA W	350 mA W	500 mA W
WU-M-619-BC	60	54.7	56.5	58.5	61.1	–55.8	8.2	14.1	20.5	30.6

Voltage and power tolerance: ±10%

Maximum Ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the module.

Type	Operating current (mA)	Operation temperature range at t_c point °C min.	°C max.	Storage temperature range °C min.	°C max.	Max. allowed repetitive peak current mA
WU-M-619-BC	150	–20	+75	–20	+85	720
	250	–20	+75	–20	+85	720
	350	–20	+75	–20	+85	720
	500	–20	+75	–20	+85	720

Operating Life

L80/B10

in hours at measured temperature at t_p point

Type	150 mA 40 °C	50 °C	75 °C	250 mA 40 °C	50 °C	75 °C	350 mA 40 °C	50 °C	75 °C	500 mA 40 °C	50 °C	75 °C
WU-M-619-BC	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000

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Optical Characteristics

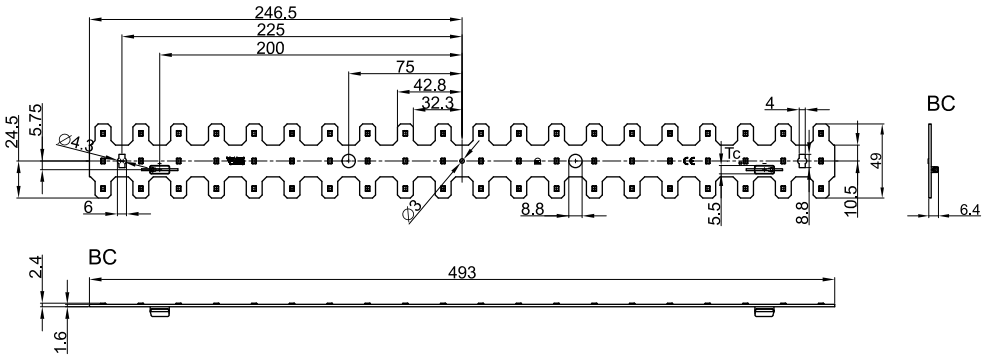
at t_p = 50 °C; without secondary optics

Type	Ref. No.	Colour	Correlated colour temperature* K	Luminous flux** (lm) and efficiency (lm/W) at 150 mA typ. lm	150 mA typ. lm/W	250 mA typ. lm	250 mA typ. lm/W	350 mA typ. lm	350 mA typ. lm/W	500 mA typ. lm	500 mA typ. lm/W	Typ. CRI R_a	Photo-metric code
Module length: 500 mm													
WU-M-619-BC-830	**569445**	warm white	3000	1475	179	2390	169	3265	160	4500	147	80	830/349
WU-M-619-BC-840	**569446**	neutral white	4000	1555	189	2525	179	3450	169	4750	155	80	840/349
WU-M-619-BC-850	**569447**	neutral white	5000	1555	189	2525	179	3450	169	4750	155	80	850/349
WU-M-619-BC-865	**569448**	cool white	6500	1555	189	2525	179	3450	169	4750	155	80	865/349

* Colour tolerance: 3 McAdam | ** Production tolerance of luminous flux and efficiency: ±10% | CRI > 90 on request

Minimum order quantity (packaging unit): 100 pcs.

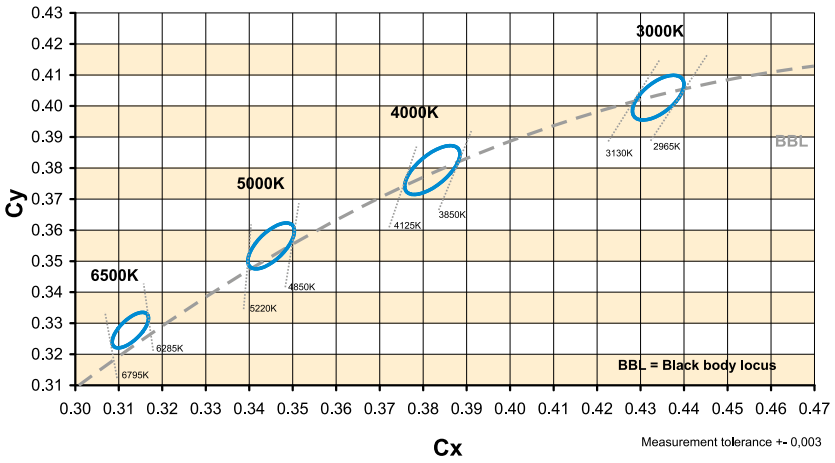
Mechanical Dimensions SMD Board



Connection Examples

- The number of modules that can be connected in series depends on the available output voltage of the LED driver.
- The clearance and creepage distances are designed for working voltages up to 400 V DC (basic insulation) and 250 V DC (reinforced insulation).
- Max. diameter of screw head (M4): 8 mm
- The modules are connected in series in both wiring examples.

Bins



The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

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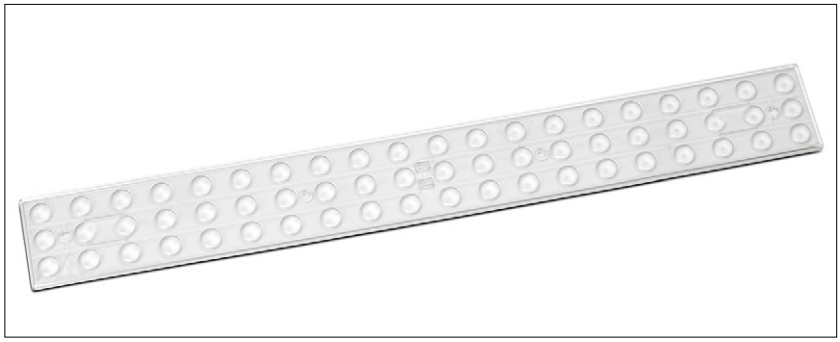
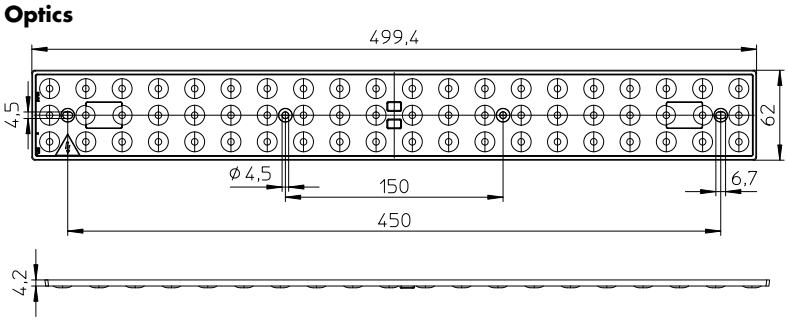
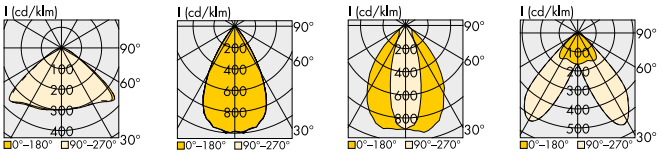


Technical Notes for Optics
Brilliant light distribution and surfaces
Highly efficient up to 95%
Material: PMMA, transparent
Dimensions (LxWxH): 499.4x62x4.2 mm
Max. allowed temperature: 80 °C
Fixation with flat or cylinder head screws (M4) or with fixing clip
Max. torque: 1.2 Nm (M4)
Packaging unit: 150 pcs.

Light distribution	Optics type	**Ref. No.**	Efficiency %	Weight g
Extra Wide 110°	96304	**571094**	95	76
Wide 60°	96303	**571093**	95	97
High Rack	96302	**571092**	95	103
Retail SYM	96301	**569528**	95	95

Optics





Extra Wide 110° | Wide 60° | High Rack | Retail SYM

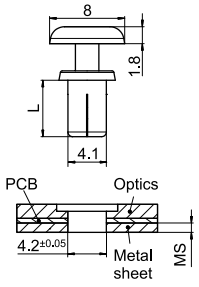
Light distribution curves are preliminary, they are based on simulation.
Data are available in .ldt format for download under www.vossloh-schwabe.com.

Fixing Clip
For fastening LED optics of type 963 and LED PCBs to luminaire sheets without needing screws
Vibration resistant version
Material: PA, natural (UL-94 V-2)
Weight: 0.2 g, Packaging unit: 1000 pcs.

Type	**Ref. No.**	For luminaire sheet thickness* (MS) mm	Length L mm
98004	**569408**	0.5–1.5	7

* For PCB thickness: 1.6 mm

Fixing Clip



Linear LED Constant Current Drivers

Please visit our homepage for details for suitable LED constant current drivers: www.vossloh-schwabe.com

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Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. The LED modules are designed for operation within a casing or luminaire. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advice must be observed; non-observance can result in the destruction of the LED assembly modules, fire and/or other hazards.

- Consider safety regulations acc. EN 60598 in the luminair design, especially when the operating LED driver is not galvanic isolated.
  - In mode of operation regard to sufficient isolation.
  - Live parts must not be touched in operation mode. Danger in life!!!

- ESD (electrostatic discharge) protection measures must be observed when handling and installing the LED modules. See VS's application notes on ESD protection.
- Adequate anti-static electricity measures, including the use of conductive shoes, ionizers, work bench grounding, wrist straps, flooring and stools sould be used.
- LED assembly modules must not be subjected to any undue mechanical stress, e. g.:
  - do not treat as bulk cargo
  - avoid shear and compressive forces during handling and installation
  - do not damage circuit paths
  - avoid any pressure on the light emitting surface
- Safe operation only possible by the use of external constant current sources ($I_{max.}$ see table "Electrical Characteristics").
- Operation only with power supply units that feature the following protection:
  - Short-circuit protection
  - Overload protection
  - Overheating protection
- The module can be fixed with M4 screws. Fixation only with flat or cylinder head screws (M4) /countersank screws)
  Max. torque: 1.2 Nm (M4)
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceed the permitted touchable value.
- The following points must be observed when connecting LED modules in parallel:
  - All LED strings that are wired in parallel must contain the same number of LEDs (symmetrical loading).
  - Owing to differing forward biases, there can be a difference of up to 10% in brightness between modules connected in parallel.
- To ensure problem-free operation, the specified maximum temperature at the t_p point (see "Operating Life") must be observed (and measured in accordance with EN 60598-1). To satisfy this point, it may be necessary to put measures in place to ensure any heat is dissipated from the PCB to the environment.
- In the event of outdoor applications or applications in damp locations, care must be taken to protect LED assembly modules against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or manufacturing fault. LED assembly modules are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Due to the manufacturing process, the PCBs of the LED assembly modules can have sharp edges and corners. Care must therefore be taken during handling and installation to avoid injury.
- For optimal load of used constant current driver the modules can only be connected in series. The quantity of LED modules is limited by the sum of forward voltage and the capacity of used constant current driver. Safety regulations acc. to EN 60598 has to be observed if the sum of forward voltage exceed the permitted touchable value.
- Operating LED modules in the presence of certain chemical substances or in chemically enriched (aggressive) environments can impair module functionality or even cause total module failure. Detailed information can be found in our "Chemical Incompatibility" PDF on our website www.vossloh-schwabe.com
- The photobiological safety of the LED modules must be classified into risk groups in accordance with EN 62471
  Rating in accordance with IEC / TR 62778: risk group 1

CCT K	Max. operating current for risk group 1 mA	E threshold for higher operating currents to be risk group 1 lx
≤ 4000	600	1037
5000	600	1037
6000	600	775

Applied Standards

EN 62031
LED modules for general lighting – Safety specifications

pending

EN 62471
Photobiological safety of lamps and lamp systems

Product Guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

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