LED LINE SMD KIT 3R IP54

WU-M-526 (280 MM)

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WU-M-526

Typical Applications
For applications with increased degree of protection requirements

- Industrial lighting
- Production hall lighting
- Store lighting
- Backlighting for advertising
- Entrance lighting

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- **LONG SERVICE LIFE TIME: 50,000 H (L80, B10)**
- **HIGHLY EFFICIENT: UP TO 188 LM/W AT T_P = 50 °C**
- **LENGTH: 280 MM**
- **FLEXIBLE LIGHT DISTRIBUTION BY DIFFERENT OPTICS**
- **ZHAGA-COMPLIANT HOLE DISTANCE**
- **COMPLETE PROTECTION AGAINST ELECTRICAL SHOCK**
- **PROTECTION AGAINST INTERNALLY DUST DEPOSIT**
- **PROTECTED AGAINST SPLASH WATER**

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Technical Notes

- LED built-in module for integration into luminaires
- Dimensions: 280x55 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.	Voltage DC (V)												Temp.	Power consumption (W)											
	of	150 mA			200 mA			350 mA			500 mA			coeffic.	150 mA			200 mA			350 mA			500 mA		
WU-M-	LEDs	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	mV/K	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.
526	33	28.2	30.2	33.7	29.0	31.0	34.5	31.2	33.1	6.7	32.9	34.9	38.4	–36.58	4.2	4.5	5.1	5.8	6.2	6.9	10.9	11.6	12.8	16.4	17.4	19.2
526-HB	33	55.8	59.5	62.4	57.1	60.7	63.7	60.6	64.2	67.2	63.9	67.5	70.5	–73.16	8.4	8.9	9.4	11.4	12.1	12.7	21.2	22.5	23.5	32.0	33.8	35.3

Use of external LED constant current driver required.

Maximum Ratings

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

Type	Operating	Operation temperature range at t_c point		Storage temperature range		Max. allowed repetitive peak current
	current (mA)	°C min.	°C max.	°C min.	°C max.	mA
WU-M-526	150	–20	+75	–20	+85	613
	200	–20	+75	–20	+85	587
	350	–20	+75	–20	+85	542
	500	–20	+75	–20	+85	519
WU-M-526-HB	150	–20	+75	–20	+85	942
	200	–20	+75	–20	+85	832
	350	–20	+75	–20	+85	654
	500	–20	+75	–20	+85	561

Operating Life

L80/B10

in hours at measured temperature at t_p point

	150 mA			200 mA			350 mA			500 mA		
	40 °C	50 °C	75 °C	40 °C	50 °C	75 °C	40 °C	50 °C	75 °C	40 °C	50 °C	75 °C
WU-M-526	> 60000	> 60000	> 60000	> 60000	> 60000	59000	> 60000	> 60000	48000	> 60000	> 60000	39000
WU-M-526-HB	> 60000	> 60000	38000	> 60000	> 60000	33000	> 60000	> 60000	23000	50000	33000	16000

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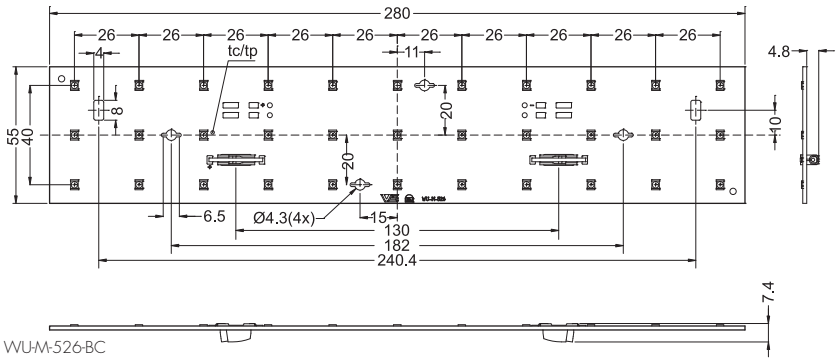
Optical Characteristics

at t_p = 50 °C; without secondary optics
CRI R_a: min. 80 / typ. 85

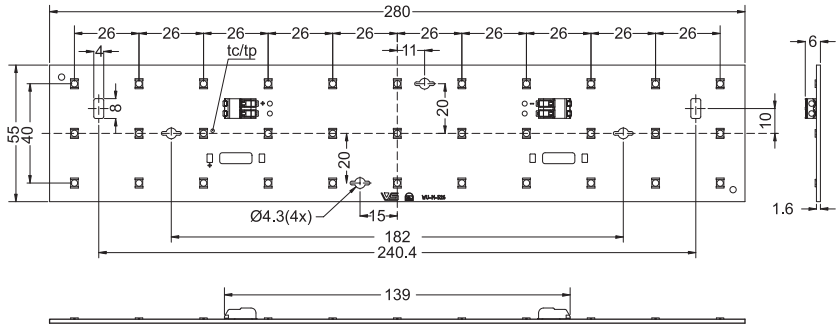
Type	Ref. No. Connection Top (TC)	Ref. No. Connection Bottom (BC)	Colour	Corr-colour-temp K	Luminous flux* (lm) and efficiency (lm/W) at 150 mA min. lm	150 mA typ. lm	150 mA typ. lm/W	200 mA min. lm	200 mA typ. lm	200 mA typ. lm/W	350 mA min. lm	350 mA typ. lm	350 mA typ. lm/W	500 mA min. lm	500 mA typ. lm	500 mA typ. lm/W	Photometric code
Module length 280 mm																	
WU-M-526-																	
TC-830 / BC-830	**560366**	**561061**	warm white	3000	715	790	175	940	1040	168	1590	1760	152	2190	2425	139	830/349
TC-840 / BC-840	**560680**	**560716**	neutral white	4000	745	830	183	980	1095	176	1655	1850	159	2280	2545	146	840/349
TC-850 / BC-850	**561056**	**561062**	neutral white	5000	810	850	188	1065	1120	181	1805	1895	164	2485	2615	150	850/349
TC-865 / -BC-865	**561057**	**561063**	cool white	6500	745	840	185	980	1105	179	1655	1870	161	2280	2575	148	865/349
TC-HB-830 / BC-HB-830	**561162**	**561169**	warm white	3000	1360	1505	169	1795	1985	164	3035	3360	149	4180	4625	137	830/349
TC-HB-840 / BC-HB-840	**561163**	**561170**	neutral white	4000	1485	1585	178	1955	2090	172	3310	3530	157	4555	4865	144	840/349
TC-HB-850 / BC-HB-850	**561164**	**561171**	neutral white	5000	1485	1610	181	1955	2125	175	3310	3595	160	4555	4950	147	850/349
TC-HB-865 / BC-HB-865	**561165**	**561172**	cool white	6500	1485	1580	177	1955	2085	172	3310	3525	157	4555	4855	144	865/349

* Measurement tolerance: ± 7 % | CRI > 90 on request
Minimum order quantity (packaging unit): 42 pcs.

Mechanical Dimensions SMD Board



WU-M-526-BC



WU-M-526-TC

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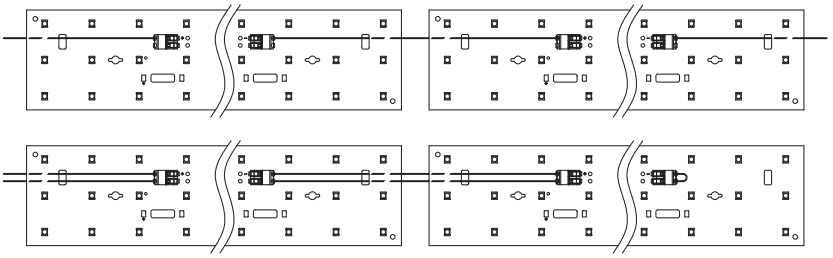
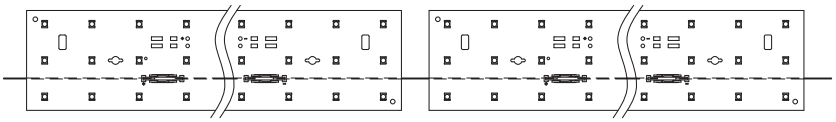
Connection Examples

- 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 700 V DC (basic insulation) and 300 V DC (reinforced insulation).
- Max. diameter of screw head (M4): 8 mm
- The modules are connected in series in both wiring examples.



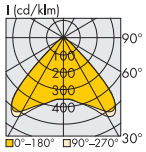
For top connection (TC)



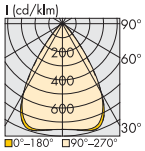
For bottom connection (BC)

Typical Light Distribution Curves

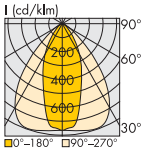
Data are available in .ldt format for download under www.vossloh-schwabe.com.



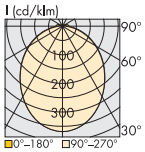
Wide 90°



Wide 60°

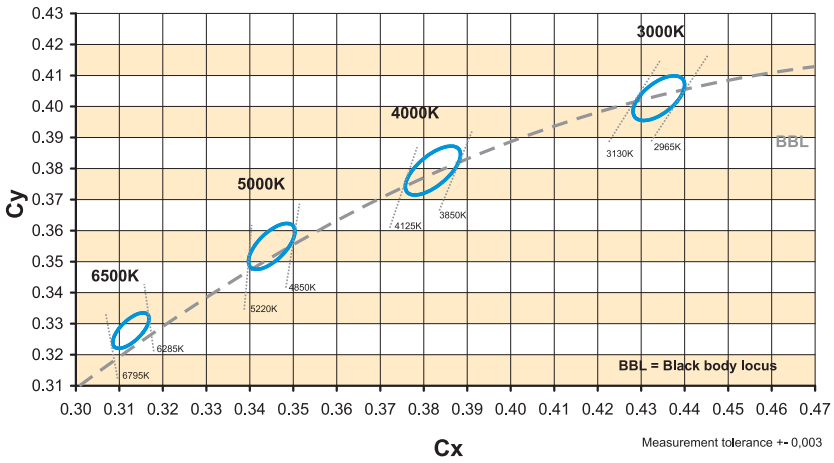


Narrow High Rack



Diffuse – Wide 60°

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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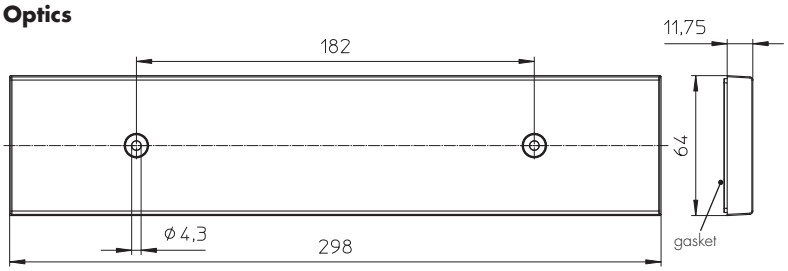
Technical Notes for Optics
Brilliant light distribution and surfaces
Highly efficient up to 95% or 85%
Material: PMMA
Dimensions (LxWxH): 298x64x11.75 mm
incl. attached gasket
for modules 280 mm
Max. allowed temperature: 80 °C
Fixation with flat or cylinder head screws (M4)
Max. torque: 1.2 Nm (M4)
Packaging unit: 96 pcs.

Light distribution	Optics type	**Ref. No.**	Efficiency %	Weight g
Material: transparent, high-glossy				
Wide 90°	99505	**564168**	95	116
Wide 60°	99501	**564166**	95	116
Narrow High Rack	99504	**564167**	95	116
Material: translucent, high-glossy				
Diffuse 60°	99501	**564461**	85	116

Optics



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.
- For interconnection the LED modules is equipped with push-in terminals (WAGO 2060 for top side connection and BJB 46.121.1001 for bottom side connection).
- 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 (except HB, 6500 K, > 500 mA: risk group 2)

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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