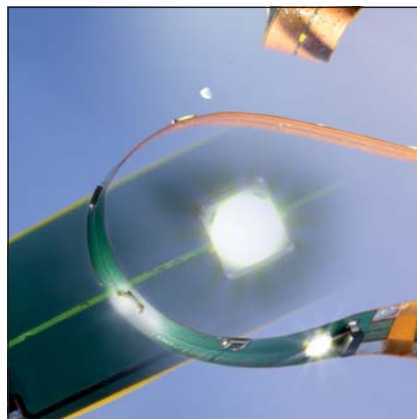




A New Lighting Experience



- extremely flexible line module with SMD LED
- available in different colours
- low mounting height
- low heat development
- self-adhesive rear side
- lead-free soldered
- integrated ESD-protection-diode

## LEDLine Flex SMD High Brightness

**WU-M-359**

### Typical Applications

- Illumination of complex structures
- Marking paths, stairs, etc.
- Furniture lighting
- Light advertising
- Entertainment, shop design
- Architectural illumination

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# LEDLine Flex SMD High Brightness

## Technical Notes

- Dimensions of the entire LED Line Flex SMD: L x W = 4959 x 10 mm (white, blue, green); 4788 x 10 mm (red, yellow)
- White, warm white, green and blue: with 174 SMDs divisible in 29 single-steps (171 mm à 6 SMDs)
- Red, yellow: with 112 SMDs divisible in 14 double-steps (342 mm à 8 SMDs)
- Wide radiation angle (120°)
- Voltage supply: 24 V DC

## Electrical Characteristics

at ambient temperature  $t_a = 25\text{ °C}$

Type	Ref. No.	Colour	Number of SMDs	Current* A	Voltage DC* V	Power* W
WU-M-359-SO	<b>535951</b>	Red	112	1.8	24	44
WU-M-359-SY	<b>542731</b>	Yellow	112	1.8	24	44
WU-M-359-SG	<b>535950</b>	Green	174	3.8	24	92
WU-M-359-SB	<b>535949</b>	Blue	174	3.8	24	92
WU-M-359-W	<b>538111</b>	White	174	3.8	24	92
WU-M-359-WWW	<b>535948</b>	Warm white	174	3.8	24	92
WU-M-359-WWW-H1	<b>543666</b>	Warm white	174	3.8	24	92

## Maximum Ratings

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

Type	Voltage DC*		Operation temperature range at $t_c$ point		Storage temperature range		Reverse voltage/LED V
	V min.	V max.	°C min.	°C max.	°C min.	°C max.	
All types	23	25	0	+85	-20	+85	5

## Optical Characteristics

at ambient temperature  $t_a = 25\text{ °C}$

Type	Ref. No.	Colour	Dom. wavelength* (nm) Colour temperature* (K)	CRI $R_a$	Luminous flux* lm	Radiation angle* °
WU-M-359-SO	<b>535951</b>	Red	625	—	840	120
WU-M-359-SY	<b>542731</b>	Yellow	592	—	1100	120
WU-M-359-SG	<b>535950</b>	Green	530	—	2300	120
WU-M-359-SB	<b>535949</b>	Blue	470	—	640	120
WU-M-359-W	<b>538111</b>	White	5000K	70	3250	120
WU-M-359-WWW	<b>535948</b>	Warm white	2800K	75	2600	120
WU-M-359-WWW-H1	<b>543666</b>	Warm white	2800K	92	2200	120

\* On account of the complex manufacturing process of the modules the above values only represent statistical variables.

The values do not necessarily correspond exactly to the actual parameters of every single product which can vary from the typical specification.

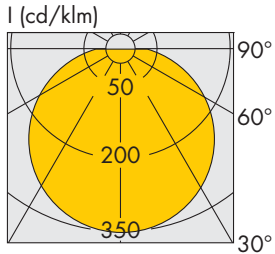
## Operating Life

50,000 hrs. (lumen maintenance at 50 %,  $t_a = 25\text{ °C}$ ) for White, Warm white, Red and Yellow  
 25,000 hrs. (lumen maintenance at 50 %,  $t_a = 25\text{ °C}$ ) for Green  
 10,000 hrs. (lumen maintenance at 50 %,  $t_a = 25\text{ °C}$ ) for Blue  
 These values do not refer to the colour temperature.

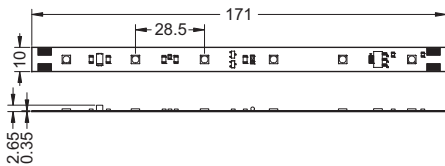
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# LEDLine Flex SMD High Brightness

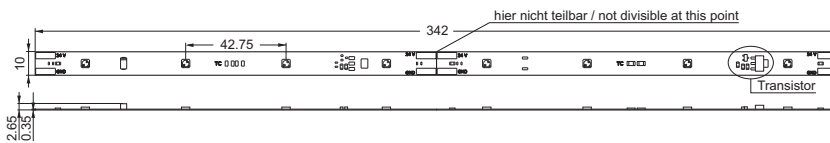
## Light Distribution Curve



## Mechanical Dimensions

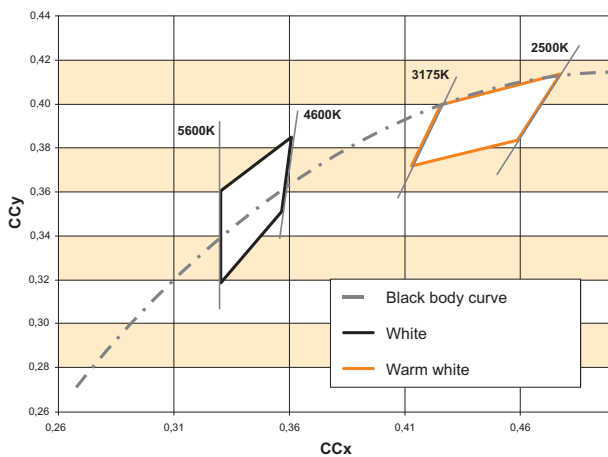


### WU-M-359-W/-WW/-SB/-SG



### WU-M-359-SO,-SY

## Bins



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# LEDLine Flex SMD High Brightness

## Assembly and Safety Information

- LED modules and all PCB components must not be subjected to undue mechanical stress.
- The LEDLine Flex SMD High Brightness must not be operated in rolled-up condition.
- The circuit path must not be damaged or interrupted.
- Power supply units must be used for operation, in which the following protective measures are ensured:
  - Short-circuit protection
  - Overload protection
  - Overheating protection
  - SELV equiv. (Safety Extra Low Voltage)
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- The maximum output of the power supply must be observed.
- An insulation layer has to be applied for prevention of short circuits when mounting on electrically conducting surfaces.
- Please ensure standard ESD (electrostatic discharge) protection measures are employed when handling and installing LED modules. Electrostatic discharge can damage LEDs.
- The modules are not protected against dust or moisture. When LED modules are operated in unduly moist or dusty environments, care must be taken to ensure each module is built into a protective casing in compliance with the correct IP classification or provided with corrosion protection. Damage caused by moisture and/or corrosion will not be recognised as a material or manufacturing defect.
- The separation of the LEDLine Flex SMD High Brightness is always possible if carefully done by means of scissors after 171 mm (white, green, blue) and after 342 mm (red, yellow). The red and yellow LEDLine Flex SMD HighBrightness can only be divided at the separation point that is nearest to the assembled transistor.
- Each LEDLine Flex SMD is backed by adhesive transfer tape (3M Adhesive Transfer Tape 9485) for easy assembly. Please observe the manufacturer's technical data provided at [www.3M.com/converter](http://www.3M.com/converter). Products equipped with adhesive transfer tape must only be applied to dry and clean surfaces that are free from grease, oil, silicone or other soiling. It is therefore recommended to clean the substrate with isopropyl alcohol (IPA). Please ensure a full-surface bond over the entire contact area when sticking the module to the substrate. The following substances are regarded as critical for creating an adhesive bond:
  - Polyefins (polyethylene, polypropylene)
  - Rubber
  - Powder-coated materials
  - Silicone rubber
  - Teflon
 Owing to the varying application options and different types of surface as well as ambient conditions, VS accepts no liability for the quality of the adhesive bond achieved when mounting these products. Prior to sticking a VS product care must be taken to check whether the material in question is actually suitable for the intended purpose under consideration of all possible application-relevant influences. Supplementary holders must be used if necessary.
- The product must be stored no longer than 12 months (in packed condition) at approx. 20 °C and up to 50 % relative humidity in order to ensure optimal bonding of the back side.
- The contacting is effected through the soldering of leads on the provided soldering pads (labeled with 24 V ±). The soldering temperature must not exceed 260 °C. The maximum soldering time is 10 seconds.
- During installation a bending radius must not fall below 25 mm. On sharp edges the LEDLine Flex SMD High Brightness may only be bent at a position where no electronic components are mounted bending lengthwise only.
- Max. length of operation at  $t_a = -20$  to  $0^\circ\text{C}$  and  $U_{in} \leq 23.5\text{V}$ : 4.104 m

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