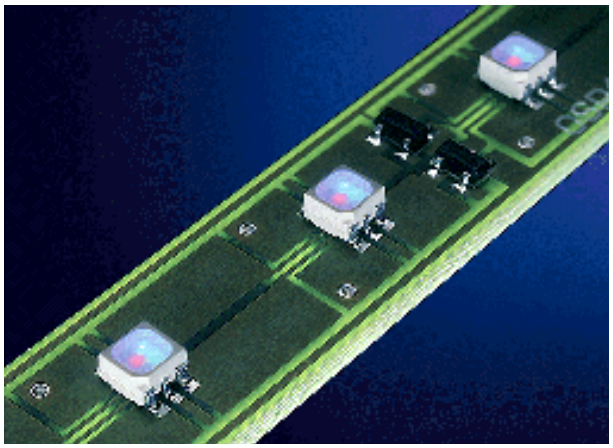
Data Sheet

LINEARlight Colormix

OS-LM01M



Benefits

- LINEARlight for dynamic color applications
- Each LED contains red, green and blue emitters

Applications

- Dynamic color applications
- Edge-lighting of transparent or diffused materials
- Path & contour marking
- Backlighting diffusing glass and plastics

Technical Operating Data

Product	Color	Number of LEDs	Voltage [V DC]*	Power [W]*	Current [A]*	Radiance Angle [°]*	Wavelength [nm] Color Temp [K]*	Lum. Flux [lm]*
OS-LM01M-RGB-B7	red	30	24	1,8	0,075	120	617	32
OS-LM01M-RGB-B7	green	30	24	3,6	0,15	120	525	51
OS-LM01M-RGB-B7	blue	30	24	2,9	0,12	120	467	8
OS-LM01M-RGB-B8	red	30	24	1,8	0,075	120	617	32
OS-LM01M-RGB-B8	green	30	24	3,6	0,15	120	525	51
OS-LM01M-RGB-B8	blue	30	24	2,9	0,12	120	473	8

*) All Data are related to the entire module
Due to the special conditions of the manufacturing processes of LED the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.

Technical Features

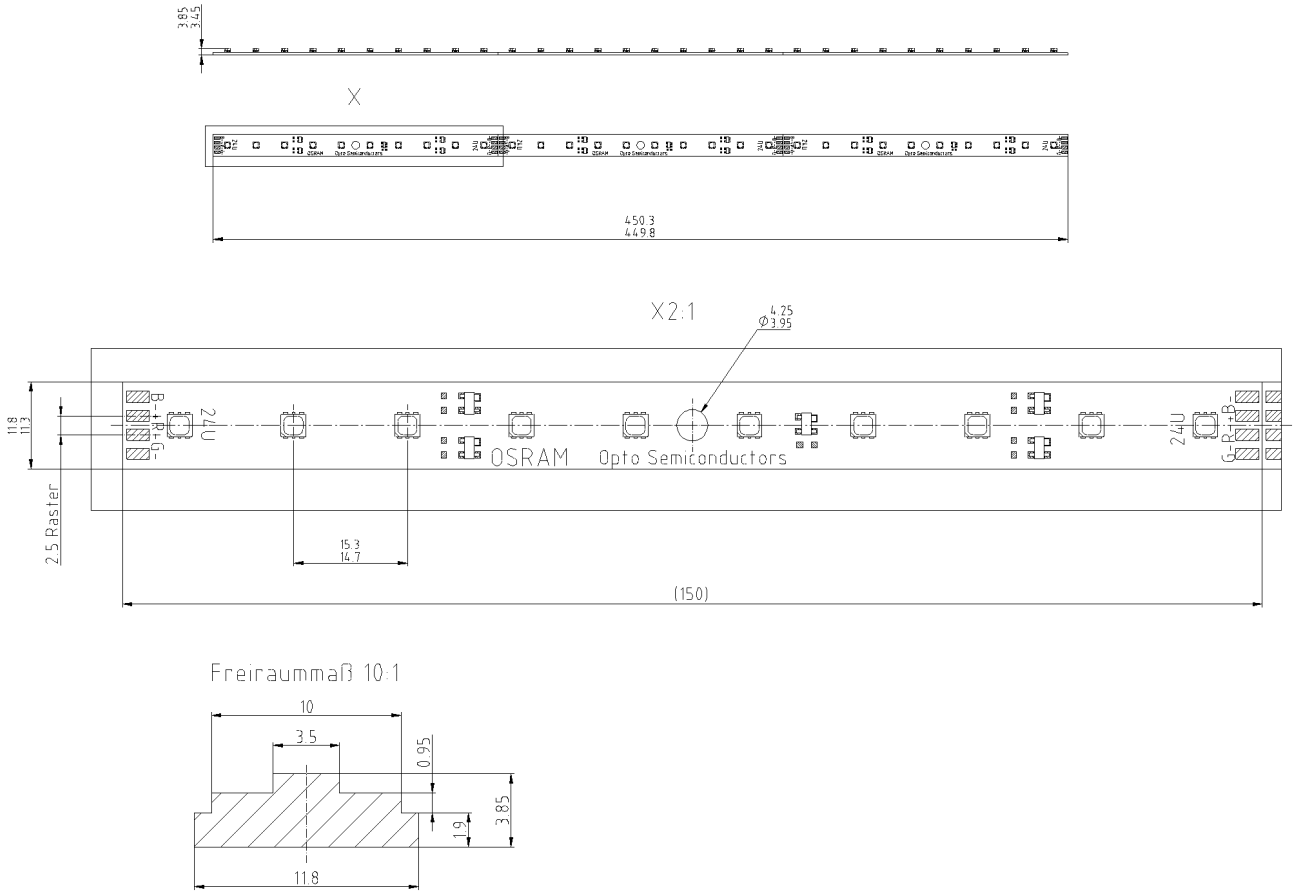
- Modules optimized for use with OSRAM OPTOTRONIC power supplies.
- Size of printed circiut board (LxWxH) 450 mm x 11,5 mm x 3,65 mm
- Size of smallest unit (L x W): 150 mm x 11,5 mm
- Smallest unit of 10 LEDs can be cut out at regular intervals without damaging the rest of the module
- Maximum of 10 modules in parallel
- Color control is effected by Pulse Width Modulation (PWM) of the individual red, green and blue 24V supplies. Suitable RGB-controllers include:
- OT RGB 3-Channel DIM. A 3 - channel dimming/ color controller with industry standard 1-10V control outputs
- OT RGB Sequencer DIM. Similar to the OT RGB 3 Channel DIM but incorporating an integrated sequencer

Minimum and Maximum Ratings

Product	Operating Temperatur at Tc-Point [°C] *	Storage Temperature [°C] *	Voltage Range [V dc] *	Reverse Voltage [V dc] *
OS-LM01M-RGB-B7	-30 ... 75	-40 ... 85	23 ... 25	25
OS-LM01M-RGB-B8	-30 ... 75	-40 ... 85	23 ... 25	25

*) Exceeding maximum ratings for operation and storage temperature will reduce expected life time or destroy the LED Module.
Exceeding maximum ratings for operation voltage will cause hazardous overload and will likely destroy the LED Module.
The temperature of the LED module has to measured at the Tc-point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label (available e.g. at RS-Components). For exact location of the Tc-point see drawing below.

Drawing



Safety Information

- The LED module itself and all its components may not be mechanical stressed.
- Assembly must not damage or destroy conducting paths on the circuit board.
- The mounting of the module is carried out by attaching it at the mounting holes. Mounting screws should be treated with synthetic washers to prevent circuit board damage and possible short circuiting.

The LED Module incorporates no protection against: Short circuits, Overload, Overheating. Therefore it is absolutely necessary to operate the modules with a electronically stabilised power supply offering protection against the above mentioned safety risks. For dimming applications attention should be paid to specific references in "OPTOTRONIC Technical Guide".

OSRAM OPTOTRONIC power supplies are specifically designed with the necessary protection features for safe operation.

When using other power supplies other than OPTOTRONIC the following basic safety features are required, in addition to any other application specific concerns and local safety codes:

- Short circuit protection
- Overload protection
- Overheat protection
- Correct output voltage

- Correct electrical polarity needs to be observed. Wrong polarity will result in no light emission.
- Parallel connection is highly recommended as safe electrical operation mode.
  Serial connection is not recommended. Unbalanced voltage drop can cause hazardous overload and demage the LED module.
- Installation of LED modules (with power supplies) needs to be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.
- A maximum of 10 Modules can be installed consecutively from any power feed. Operation with more than10 LINEARlight Colormix modules will reduce photometric performance and exceed the current carrying capacity of the module.
- The LINEARlight Colormix can typically survive transient current levels of up to 3 Amperes. As a general design precaution, if the maximum output current of the power supply is more than 3 Amperes, fast- blow fuses should be incorporated into the wiring plan
- The maximum electrical power of the several color channels can reach the datas refering the datasheet. The maximum electrical power of the whole module is no more than 8W.
- The module, as manufactured, has no conformal coating and therefore offers no inherent protection against corrosion. The ability to customize the length of the module by cutting at specifically marked points is a key feature of the product and hence the reason for no factory installed conformal coating. For these reasons, it is recommended that the user complete all module modifications first (cutting, wiring) and then apply a conformal coating in the final stages of installation.
- Damage by corrosion will not be honored as a materials defect claim. It is the user´s responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.
- For applications involving exposure to humidity and dust the module must be protected by a fixture or housing with a suitable protection class. The module can be protected against condensation water by treatment with an appropriate circuit board grade conformal coating. The conformal coating should have the following features:
  - Optical transparency
  - UV-resistance
  - thermal expansion matching the thermal expansion of the module 15-30*10^-6 cm/cm/K
  - low permeability of steam for all climatic conditions
  - resistance against corrosive environment

  The lacquer APL of the company Electrolube http://www.electrolube.com met the conditions for the LINEARlight Colormix in our tests.

Assembly Information

- The connection of the LINEARlight Colormix should be performed by soldering at the designated solder pads (marked "24V +/-") or by the connector OS-LM 4PIN. During soldering, do not exceed the maximum soldering time of 10 seconds and the maximum soldering temperature of 260°C.
- Each module can be divided into submodules of 150 mm (10 LED) by cutting carefully at the points indicated.

Ordering Guide

Productgroup	Productname	EAN *	S-Unit *
LINEARlight Colormix	OS-LM01M-RGB-B7	4050300820783	10
LINEARlight Colormix	OS-LM01M-RGB-B8	4050300820897	10

*) EAN: Ordering number per single module
S-Unit: Modules per shipping unit

Note: Typical performance data are subject to change without any further notice, particularly as LED technology evolves.

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Related and Further Information

The new dimension of light	(in preparation)
OPTOTRONIC Technical Guide	130 T08 E
OPTOTRONIC Data Sheets	www.osram.com