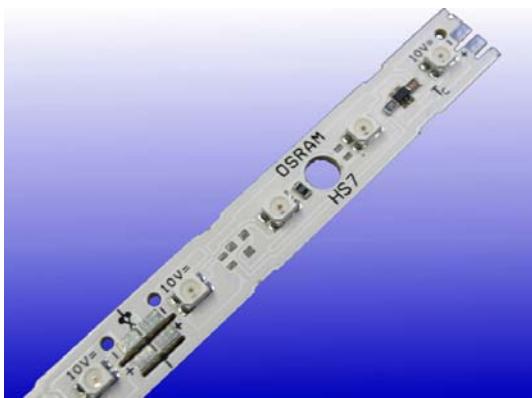


LINEARlight

Data Sheet



Benefits

- Low profile
- Minimal heat generation
- Wide viewing angle

Applications

- Path illumination, contour accentuation
- Edge-coupling of transparent or diffused materials
- Emergency / rescue signs

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]*
LM01A-W3F-854	white	32	10	4,0	0,4	120	5400 K	89
LM01A-W3F-840	white	32	10	4,0	0,4	120	4000 K	111
LM01A-W3F-827	white	32	10	4,0	0,4	120	2700 K	88
LM01A-S1	super red	32	10	4,0	0,4	120	633 nm	50
LM01A-A1	red	32	10	4,0	0,4	120	617 nm	78
LM01A-O1	orange	32	10	4,0	0,4	120	606 nm	98
LM01A-Y1	yellow	32	10	4,0	0,4	120	587 nm	69
LM01A-T2	green	32	10	4,0	0,4	120	525 nm	57
LM01A-B2	blue	32	10	4,0	0,4	120	470 nm	34

*) 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.

+) Preliminary Data

**) Discontinued

Technical Features

- Modules optimised for use with OSRAM OPTOTRONIC® power supplies
- Parallel connection up to three modules
- Only parallel connection allowed
- Smallest unit of 4 LEDs can be cut out at regular intervals without damaging the rest of the module
- Mounting hole (Ø 4 mm) allows easy installation with screws or standard circuit board support hardware
- Adaptable lens system OP 4x1-20 available, see additional datasheet
- Size of printed circuit board (L x W x H): 448 mm x 10 mm x 4 mm
- Size of smallest unit 4 LED (L x W): 56 mm x 10 mm
- Also available: LINEARlight Flex on flexible printed circuit Board for long applications : please refer to Datasheet LM10A or LM11A
- Up to 50,000 h lifetime

Minimum and Maximum Ratings

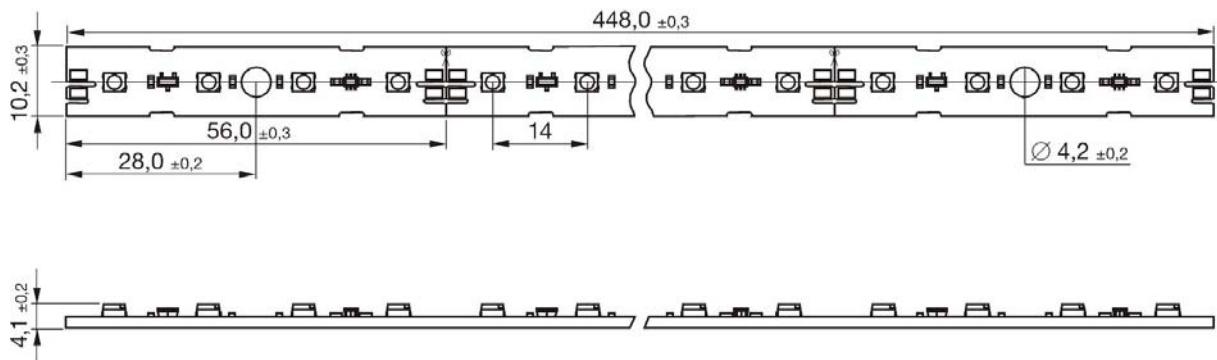
Product	Operating Temperature at Tc-Point [°C] *	Storage Temperature [°C] *	Voltage Range [V dc] *	Reverse Voltage [V dc] *
LM01A-W3F-854	-30 ... 75	-40 ... 85	10 ... 11	0
LM01A-W3F-840	-30 ... 75	-40 ... 85	10 ... 11	0
LM01A-W3F-827	-30 ... 75	-40 ... 85	10 ... 11	0
LM01A-S1	-30 ... 85	-40 ... 85	10 ... 11	11,5
LM01A-A1	-30 ... 85	-40 ... 85	10 ... 11	11,5
LM01A-O1	-30 ... 85	-40 ... 85	10 ... 11	11,5
LM01A-Y1	-30 ... 85	-40 ... 85	10 ... 11	11,5
LM01A-T2	-30 ... 75	-40 ... 85	10 ... 11	11,5
LM01A-B2	-30 ... 75	-40 ... 85	10 ... 11	11,5

*) Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED Module.

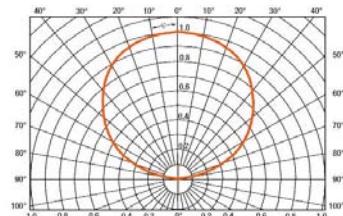
Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED Module.

The temperature of the LED module must be measured at the Tc-point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label. For exact location of the Tc-point see drawing below.

Drawings



Abstrahlcharakteristik (Einzel-LED)
Radiation Characteristic (Single-LED)
 $I_{\text{rel}} = f(\varphi); T_A = 25^\circ\text{C}$



Alle Angaben in mm
All values in mm

Safety Information

- The LED module itself and all its components must not be mechanically stressed.
- Assembly must not damage or destroy conducting paths on the circuit board.
- When do you use the connector LM-CONN pay attention that the modules are assembled in a level . No contact safety otherwise is guaranteed.
- 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.

In order to drive OSRAM LED-Modules safely, it is absolutely necessary to operate them with an electronically stabilised power supply protecting against short circuits, overload and overheating.

To also ease the luminaire/installation approval, electronic control gear for LED or LED modules should carry the CE mark and be ENEC certified. In Europe the declarations of conformity must include the following standards:

CE: EC 61374-2-13, EN 55015, IEC 61547 and IEC 61000-3-2 - ENEC: 61374-2-13 and IEC/EN 62384.

Also check for the mark of an independent authorized certification institute.

Please see the relevant brochure for more detailed information (see "Related and Further Information")

OSRAM OPTOTRONIC® electronic control gear complies to all relevant standards and guarantees safe operation.

- 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.
- Observe correct polarity!
Depending on the product incorrect polarity will lead to emission of red or no light. The module can be destroyed! Correct polarity immediately! (see "reverse voltage", page 2)
- Parallel connection is highly recommended as safe electrical operation mode.
Serial connection is not recommended. Unbalanced voltage drop can cause hazardous overload and damage the LED module.
- A maximum of 3 Modules can be installed consecutively from any power feed. Operation with more than 3 LINEARlight modules will reduce photometric performance and exceed the current carrying capacity of the module.
- The LINEARlight can typically survive transient current levels of up to 2 Amperes. As a general design precaution, if the maximum output current of the power supply is more than 2 Amperes, fast-blow fuses should be incorporated into the wiring plan.
- Pay attention to ESD steps when mounting the module
- 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 in our tests.

Assembly Information

- Solder connections should only be performed on designated solder pads (marked "10V +/-"). During soldering, do not exceed the maximum soldering time of 10 seconds and the maximum soldering temperature of 260°C.
- Each module can be separated into sub modules of 4 LEDs each by carefully sawing or cutting at the marked lines
- For the connection we also offer the OSRAM Connect System: Feeder LM-2PIN with cables of 500 mm and the Connector LM-CONN for the connection of 2 modules. The feeder and the connector can be used for the connection at the ends and the sub modules.

Ordering Guide

Productgroup	Productname	EAN *	S-Unit *
LINEARlight	LM01A-W3F-854	4008321213921	10
LINEARlight	LM01A-W3F-840	4008321343413	10
LINEARlight	LM01A-W3F-827	4008321372390	10
LINEARlight	LM01A-S1	4050300888002	10
LINEARlight	LM01A-A1	4050300887128	10
LINEARlight	LM01A-O1	4050300888040	10
LINEARlight	LM01A-Y1	4008321015969	10
LINEARlight	LM01A-T2	4050300887845	10
LINEARlight	LM01A-B2	4008321313652	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.

Sales and Technical Support

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Sales and technical support is given by the local OSRAM subsidiaries. On our world wide homepage all OSRAM subsidiaries are listed with complete address and phone numbers.

Related and Further Information

- The new dimension of light 153 S006 GB
www.osram.com/led-systems-downloads
- New creativity in lighting design 138 W002 GB
LED Modules for illuminated signs
- OPTOTRONIC® Technical Guide 130 T008 GB www.osram.com/ecg-downloads
- OPTOTRONIC® Data Sheets <http://catalog.myosram.com>
- OSRAM LED systems www.osram.com/led-systems
- New standards for LED control gear 130 W011 GB
www.osram.com/ecg-download