

### Benefits

- Any shape channel letter
- Highly saturated colors
- Adjustable luminance levels
- Outstanding uniformity
- Minimal heat generation

### Applications

- Illuminated signs
- Channel letters
- Edge-lighting of transparent or diffused materials

### 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-LM03A-W1-865	white	32	10	3,2	0,32	120	6500 K	29
OS-LM03A-W1-854	white	32	10	3,2	0,32	120	5400 K	29
OS-LM03A-S1	super red	32	10	4,0	0,4	120	633 nm	54
OS-LM03A-A	red	32	10	4,0	0,4	120	617 nm	54
OS-LM03A-O1	orange	32	10	4,0	0,4	120	606 nm	86
OS-LM03A-Y1	yellow	32	10	4,0	0,4	120	587 nm	69
OS-LM03A-T1	green	32	10	4,0	0,4	120	525 nm	36
OS-LM03A-B1	blue	32	10	4,0	0,4	120	470 nm	9

\*) 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

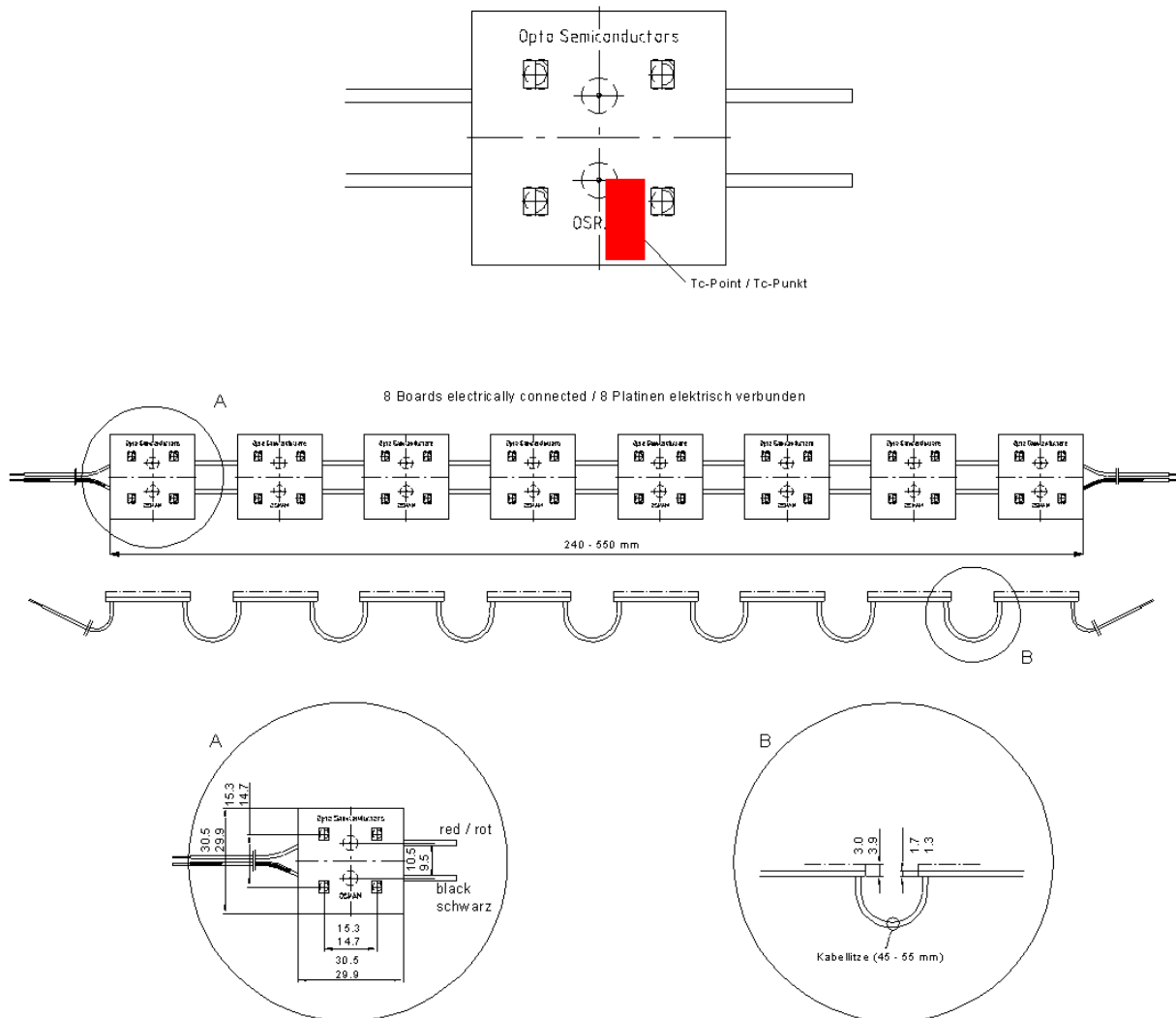
- One chain with 8 LED coupons
- Size of single circuit board (LxWxH) 30 mm x 30 mm x 4 mm
- Total length from 240 mm up to 550 mm
- Cut into operable subunits at regular intervals without damaging the rest of the module
- Easy 3-Dimensional assembly due to flexible cable
- Mounting hole (Ø 4 mm) allows easy installation with screws or Snap-In Distance Spacers
- Parallel connection up to three modules
- Only parallel connection allowed
- Conformal coating protects against condensation water
- Modules optimized for use with OSRAM OPTOTRONIC power supplies.

## Minimum and Maximum Ratings

Product	Operating Temperature at Tc-Point [ °C ] *	Storage Temperature [ °C ] *	Voltage Range [ V dc ] *	Reverse Voltage [ V dc ] *
OS-LM03A-W1-865	-30 ... 75	-40 ... 85	10 ... 11	11
OS-LM03A-W1-854	-30 ... 75	-40 ... 85	10 ... 11	11
OS-LM03A-S1	-30 ... 85	-40 ... 85	10 ... 11	11
OS-LM03A-A	-30 ... 85	-40 ... 85	10 ... 11	11
OS-LM03A-O1	-30 ... 85	-40 ... 85	10 ... 11	11
OS-LM03A-Y1	-30 ... 85	-40 ... 85	10 ... 11	11
OS-LM03A-T1	-30 ... 75	-40 ... 85	10 ... 11	11
OS-LM03A-B1	-30 ... 75	-40 ... 85	10 ... 11	11

\*) 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 be 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.
- To avoid mechanical damage to the connecting cables, the boards should be attached securely to the intended substrate. Heavy vibration should be avoided.
- Detach each circuit board unit of the module only by severing the connecting cables (with power disconnected).

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 damage 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.
  - Electrical contact is achieved with the contact cables. A maximum of 3 modules can be installed consecutively from one power feed. Operation with more than 3 consecutive BACKlight modules will reduce photometric performance and exceed the current carrying capacity of the module.
  - The BACKlight 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.
  - The module itself is protected against condensation water with a polymeric conformal coating. Supplementary soldering on any solder pad will destroy the conformal coating and with it protection against condensation water.
  - If the IP rating of the fixture or channel letter system should be higher as IP22 the design of the housing should be according to the IP standards. Operation in or under water is not allowed.

## Assembly Information

- Mounting of the LED module may be performed with screws or Snap-In spacer (e.g. from Richco [www.richco-int.com](http://www.richco-int.com)) by using Ø 4 mm holes in 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.
- A maximum of 3 Modules can be installed consecutively from any power feed. Installation with more than 3 BACKlight Modules may take the form of, for example, either 6 Modules installed consecutively with a power feed to the centre or with a splitting of the power feed to contact groups of 3 Modules.
- To connect the LED Modules with each other or with OPTOTRONIC Power Supply we recommend standard clamps. (e.g. WAGO 243-214 or 224-201)

## Ordering Guide

Productgroup	Productname	EAN *	S-Unit *
BACKlight	OS-LM03A-W1-865	4050300817231	20
BACKlight	OS-LM03A-W1-854	4050300817255	20
BACKlight	OS-LM03A-S1	4050300794990	20
BACKlight	OS-LM03A-A	4050300948638	20
BACKlight	OS-LM03A-O1	4050300948645	20
BACKlight	OS-LM03A-Y1	4050300798868	20
BACKlight	OS-LM03A-T1	4050300798851	20
BACKlight	OS-LM03A-B1	4050300948669	20

\*) 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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## Related and Further Information

- New creativity in lighting design  
LED Modules for illuminated signs 153 S07 E
- The new dimension of light (in preparation)
- OPTOTRONIC Technical Guide 130 T08 E
- OPTOTRONIC Data Sheets [www.osram.com](http://www.osram.com)