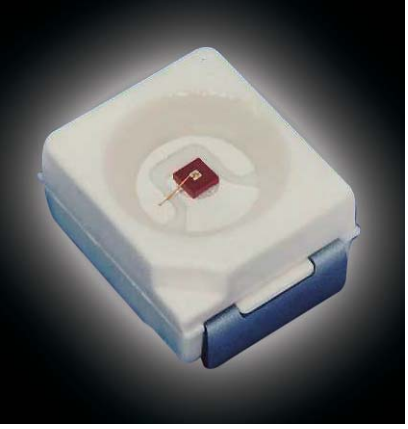
Intelligent. Efficient. Powerful.

Thinfilm IR Emitter

Opto Semiconductors

OSRAM



Intelligent. Efficient. Powerful.

Brilliant minds developed the new generation of Thinfilm IR Emitters from OSRAM Opto Semiconductors. They succeeded in creating a powerchip with 850nm wavelength, which radiates all its light powerfully upwards. Hence the need for an external reflector is eliminated and designers can create much flatter packages. The result is a chip with outstanding efficiency and performance.

BENEFITS

New power dimensions
The new thinfilm generation already delivers an impressive 50 mW. But in 2 years this will rise to 70 mW and open up a new dimension of performance.

Top surface emitter
Thinfilm IR Emitters require no reflector in the package. Yet, all the light output is still directed forwards. This is possible because the chip only emits light from its top surface.

Variety of packages
The elimination of the reflector also allows us to build different packages – especially flatter designs.

850nm wavelength
Matches CMOS and CCD cameras

BENEFITS

Record high radiant intensities
Due to its surface emission profile and good focusability, external lenses are extremely effective. A record high of 700mW/sr in a 5mm radial package is achieved.

APPLICATIONS

Thinfilm IR Emitters are an especially efficient solution where powerful illumination is important or large distances have to be bridged.

CMOS and CCD Cameras
The wavelength of 850nm is new in the OSRAM Opto Semiconductors product portfolio. It perfectly matches the sensors in CMOS and CCD cameras. High performance IREDs provide good room illumination for cameras.

Wireless Headphones and Car Entertainment
Because of its high power, the new thinfilm emitter span large distances with ease. They are a perfect choice for the wireless headphones or car entertainment systems.

Night Vision Devices and Security Cameras
Thinfilm IR Emitters give you a better view and are the ideal IR illumination solution in night vision devices, surveillance cameras and optical airbag control systems.

Light barriers
Perfect performance over any distance. The higher the power of the Thinfilm IR Emitter, the larger the range the sensor can cover. The chip allows external lenses to focus perfectly at any distance.

FEATURES

The many faces of intelligent technology. Thinfilm IR Emitter.

More Flexibility
High power chips come in diverse packing options. Because the chip is a top emitter, it doesn't need a reflector and leaves more flexibility for the package design. High power flat packages and chip on board solutions are possible. Available emission angles range from +- 80deg to +- 3deg.

More Power
In the future there will be even more power. Large area chips (up to 1mm2) in a DRAGON package will offer more than 400 mW in DC operation.

Longer life
Low Forward Voltage VF gets you longer life in battery operated devices.

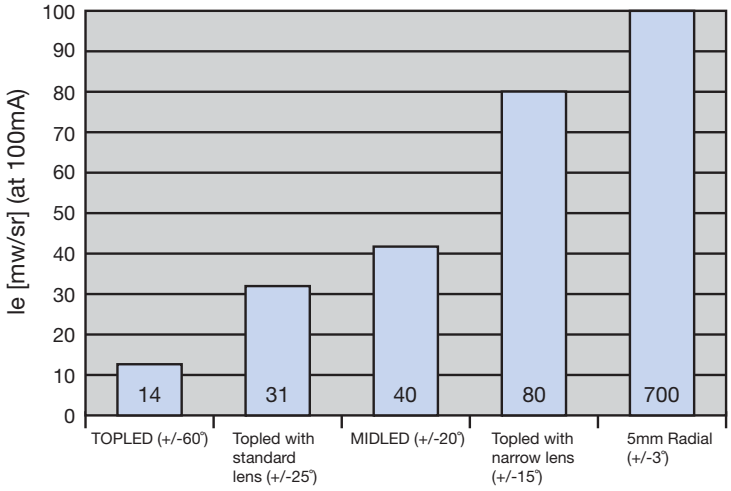
PRODUCTS

Intelligent Technology. Efficient. Powerful. The current Thinfilm IR Emitter product range.

- SFH 4050 SmartLED®
- SFH 4250 Power TOPLED®
- SFH 4259 Power TOPLED® with lens +- 25°
- SFH 4550 5mm Radial
- SFH 4650 MIDLED Toplooker
- SFH 4655 MIDLED Sidelooker

TECHNICAL DATA

Radiant intensity Ie various packages



- Total radiant flux 50mW @ IF = 100mA
- λ peak = 850nm
- V_F = 1.5 V@IF = 100mA and 2.4V @ IF = 1A
- Switching Time 12ns
- Chip Size (0.3 x 0.3)mm

Automotive features, Consumer Electronics, Industrial.

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