Press

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The low-profile infrared Midled takes up very little space but offers high radiant intensity

Mini Midled from Osram Opto Semiconductors provides the highest radiant intensity of its size class

The infrared Mini Midled from Osram Opto Semiconductors is only 0.9 millimeters high but this tiny device produces a narrow and intense beam of infrared light. With its radiant intensity of 60 milliwatts per steradian (mW/sr) at 100 milliamperes (mA) it easily outperforms other comparable devices. This low-profile surface-mountable emitter is ideal particularly for proximity sensors in devices where space is limited and for light barriers.

In many sensor applications it is not only the optical power of an emitter that is important but also whether the available light is widely spread or concentrated in a narrow high-power beam. This is characterized by the half-angle. The radiant intensity (measured in watts per steradian) indicates the optical power within a solid angle and therefore defines the intensity of the emitted light beam.

The great advantage of the new Mini Midled is its half-angle of 17°, producing a narrow light beam and a radiant intensity of 60 mW/sr at 100 mA. This is achieved by focusing the light with a metalized reflector integrated in the device. The new infrared LED offers a high output despite its exceptionally small dimensions of just 2.3 x 1.95 x 0.9 mm.

The Mini Midled is the second SMT device from Osram Opto Semiconductors in MID (Molded Interconnected Device) technology, following the 1.6 mm high Midled. Thanks to new package technologies, Osram has managed to reduce the total height of the new infrared emitter to less than one millimeter but the new device can still be processed in the usual way.

Small and powerful infrared diodes with a wavelength of 850 nm, such as the low-profile narrow-beam Mini Midled, offer major benefits in applications where there is little space but high radiant intensity is needed. Typical applications include light barriers, smart phones and optical touch screens.

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No crosstalk

Bianka Schnabel, Marketing Manager at Osram Opto Semiconductors, has high expectations for the new mini emitter. “The low-profile Mini Midled is particularly suitable as an emitter for proximity sensors in smart phones and similar devices because it takes up very little space and yet delivers high power. Thanks to its sophisticated design, it also considerably reduces optical crosstalk so no optical shielding is required, which makes life easier for designers.“

Proximity sensors are a combination of an emitter and a detector. The emitter illuminates an approaching object, and the light reflected from the object is received by the detector. For proximity sensors to operate properly it is crucial that no light from the emitter should reach the detector directly (crosstalk). This is precisely what often happens with devices that are not equipped with a metalized reflector. But with the Mini Midled there is no need for shielding and the overall design is much simpler.

The non-metalized surfaces are dark colored so the Mini Midled can be mounted inconspicuously behind a smart phone cover.

Technical data:

Dimensions	(2.3 x 1.95 x 0.9) mm
Emission angle	+- 17°
Radiant intensity	60 mW/sr at 100 mA
Wavelength	850 nm

For more technical information on crosstalk please refer to the Application Note on our website.

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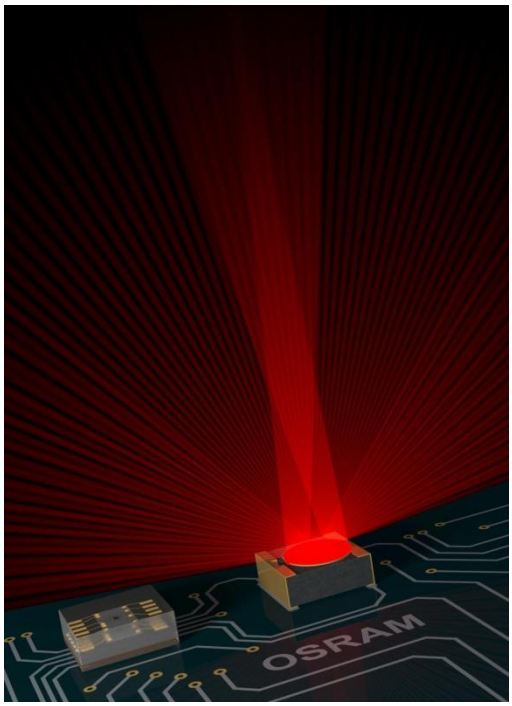

Image: Osram

The narrow intense light beams from the new Mini Midled from Osram Opto Semiconductors are ideal for light barriers and proximity sensors as they offer zero crosstalk.

http://www.osram-os.com/pr-MiniMIDLED

ABOUT OSRAM OPTO SEMICONDUCTORS

OSRAM AG (Munich, Germany) is a wholly-owned subsidiary of Siemens AG and one of the two leading lighting manufacturers in the world. Its subsidiary, OSRAM Opto Semiconductors GmbH in Regensburg (Germany), offers its customers solutions based on semiconductor technology for lighting, sensor and visualization applications. Osram Opto Semiconductors has production sites in Regensburg (Germany) and Penang (Malaysia). Its headquarters for North America is in Sunnyvale (USA), and for Asia in Hong Kong. Osram Opto Semiconductors also has sales offices throughout the world. For more information go to www.osram-os.com.

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