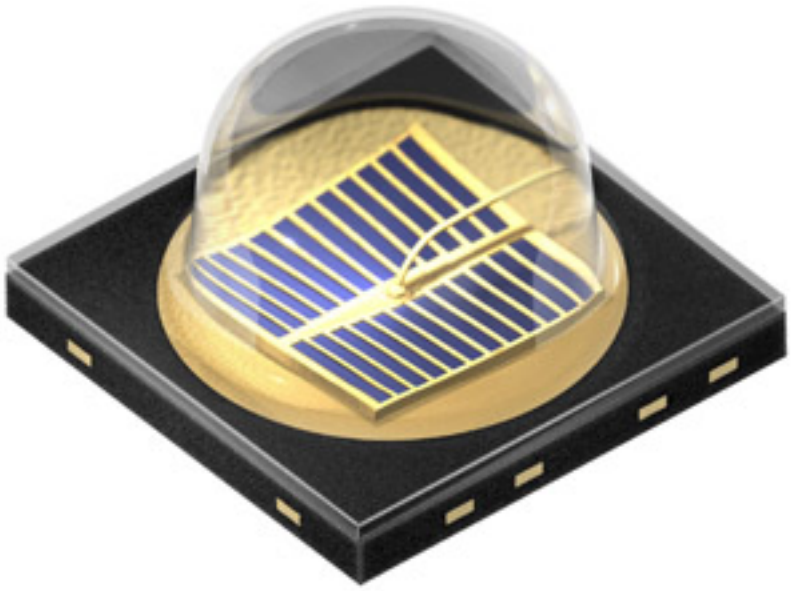
LED is ideal light source for covert surveillance



The infrared Oslon black SFH 4725S LED from Osram Opto Semiconductors has a wavelength of 940 nanometers, making it nearly invisible to the human eye, and its black package reflects virtually no ambient light. Together with its high optical output power of almost one watt, this infrared LED is the ideal light source for covert surveillance applications.

Concealed security systems – such as those installed in banks, on machinery and at border crossings –need to be designed so they are unobtrusive. This is a major challenge for infrared illumination in such applications because the 850 nanometer (nm) LEDs that are typically used here appear as weak dots of red light, especially in dark environments, giving away the cover of security cameras. The solution is to switch to a wavelength of 940 nm, which the human eye is 130 times less likely to notice. Camera sensors, however, can easily detect this invisible radiation.

The Oslon black SFH 4725S is the ideal component for such applications. This compact infrared LED provides 940 nm light with a high optical output of 980 milliwatts from an operating current of 1 Amp. Behind this high performance is Osram Opto Semiconductors' Nanostack technology, which enables two emission centers to be put into one chip, almost doubling the light output. The SFH 4725S achieves a radiant intensity of 450 mW/sr at an emission angle of 90 degrees, providing excellent illumination over the area being monitored. Radiant intensity (measured in milliwatts per steradian) indicates the light output within a solid angle segment and defines the intensity of the light beam.

The black package ensures that the component is completely concealed behind the

camera lens. “The 940 nm SFH 4725S is a potent addition to our Oslon black series for the security sector, which already includes 850 nm versions with standard and Nanostack chips,” said Sevugan Nagappan, Product Marketing Manager for industrial infrared components.

The Oslon LEDs are currently some of the most powerful LEDs available in the compact class for both visible and infrared illumination. Measuring only 3.85 x 3.85 x 2.29 mm, the infrared Oslon components are among the smallest IREDs with approximately 1 W optical power. There is an array of lenses on the market that designers can use to shape the beam from the IRED to meet their specific requirements. Osram Opto Semiconductors offers an Optical Selector Tool that can be accessed to help select the right lens for each particular application at http://www.ledlightforyou.com [1].

http://www.osram-os.com [2]

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