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LED Engin multi-die IR emitters give 6X range boost to surveillance systems

World's first 4-die infrared emitters pack
six times flux density from tiny 7 x 7 mm package

San Jose, CA, USA: August 21, 2014: LED Engin, Inc., a leader in high lumen density LED products, announces four new families of Dual Junction infrared (IR) emitters, including world's first 4-die versions. The 4-die LZ4 parts are the world's most powerful IR emitters, delivering six times the flux density of conventional emitters to extend the range and resolution of surveillance and security systems by this factor. Single-die types deliver 70% more output than typical single junction IR emitters in the industry. In both product families each die has two serially-connected junctions, creating two radiant surfaces and boosting output. A continuous 5A pulse drive capability means that they can produce a short output burst for even greater range. The emitters are designed for IR systems operating at up to 150m.

LZ1 and LZ4 emitters come in 850nm and 940nm variants and produce 1.15W and 4.5W flux output at 1A drive current respectively. The packages are tiny: 7 x 7mm for the LZ4 and 4.4 x 4.4mm for the LZ1, enabling the design of very small, discrete fixtures. The emitters feature thermal resistance 50% to 75% lower than competing parts: 6.0°C/W for single-die and 2.8°C/W for four-die products, thanks to a proprietary CTE matched, multi-layer ceramic substrate. It means that smaller heat sinks can be used, again facilitating more compact fixtures.

The surface mount ceramic packages have integral glass primary lenses, which are far more robust than molded silicone types and do not degrade over time. The package materials are optimized for thermal and optical performance, ensuring reliable, consistent operation throughout the emitters' lifetime, particularly in tough outdoor environments with high ambient temperatures and high humidity.

A suite of complementary total internal reflection (TIR) lenses, in a choice of beam angles from 8 to 40 degrees enables fixtures to be designed for narrow, longer-distance or wider, shorter-distance beams.

"LED Engin is addressing a number of fast-growing markets for infrared technology by creating emitters that lead the industry in terms of flux density, reliability and sustained high performance. Equipment manufacturers in established markets such as surveillance,

transportation and machine vision, and newer businesses in biometrics and gesture recognition, are all looking for ways to differentiate their products through improved performance, smaller size and lower energy consumption. Our new emitters satisfy these requirements uniquely," says Uwe Thomas, VP of Product Management.

The IR Dual Junction emitters are available now from LED Engin and its distributors.

Data sheets are available here:

LZ1 single die 850nm: http://www.ledengin.com/files/products/LZ1/LZ1-00R602.pdf
LZ1 single die 940nm: http://www.ledengin.com/files/products/LZ1/LZ1-00R702.pdf
LZ4 4-die 850nm: http://www.ledengin.com/files/products/LZ4/LZ4-00R608.pdf
LZ4 4-die 940nm: http://www.ledengin.com/files/products/LZ4/LZ4-00R708.pdf

About LED Engin, Inc.

LED Engin, based in California's Silicon Valley, specializes in ultra-bright, ultra-compact solid state lighting solutions that allow designers and engineers the freedom to create uncompromised yet energy efficient lighting experiences. Their LuxiGen™ Platform - an emitter and lens combination or integration module solution, delivers superior flexibility in light output, ranging from 3W to 90W, a wide spectrum of available colors, including whites, multi-color, IR and UV, and the ability to deliver upwards of 5,000 high quality lumens to a target. The small size combined with powerful output allows for a previously unobtainable freedom of design wherever high flux density, directional light is required.

LED Engin products are sold directly through LED Engin sales channels and its distributors. For additional information, or to find a sales representative, please visit: www.LEDEngin.com.