



Vishay Intertechnology AEC-Q102 Qualified IR Emitters Deliver 10 % Higher Radiant Intensity in 20 % Smaller Footprint

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For Automotive Applications, 850 nm and 940 nm Devices Offer High Drive Currents to 1.5 A DC and 5 A Pulsed, Radiant Intensity to 6000 mW/sr in 3.4 mm by 3.4 mm SMD Packages

MALVERN, Pa., May 22, 2024 (GLOBE NEWSWIRE) -- Vishay Intertechnology, Inc. (NYSE: VSH) today broadened its optoelectronics portfolio with the release of eight new AEC-Q102 qualified 850 nm and 940 nm [high power infrared \(IR\) emitters](#) that deliver best in class radiant intensity in 3.4 mm by 3.4 mm surface-mount packages. Built on Vishay's Astral surface emitter chip technology, the Vishay Semiconductors devices are designed for high drive currents up to 1.5 A DC and 5 A pulsed in automotive applications.

Featuring a double-stack chip, the IR emitters released today provide high typical radiant intensity up to 6000 mW/sr at a 5 A pulse current and 2000 mW/sr at a 1.5 A DC current, which is 10 % higher than the closest competing device. These values increase illumination for better contrast while minimizing the number of components required — lowering costs and saving space. For further space savings, the emitters' compact surface-mount packages with lenses occupy a 20 % smaller footprint than competing devices.

The IR emitters are ideal for ADAS, driver and cabin monitoring systems, and eye tracking, as well as CCTV. For these applications, the 940 nm devices are designed to suppress the red glow effect, while the 850 nm emitters provide a better match with cameras. To accommodate varying fields of view across different applications, the devices are available with four angles of half intensity: $\pm 28^\circ$, $\pm 40^\circ$, $\pm 60^\circ$, and $\pm 75^\circ$.

The emitters operate over a temperature range from -40°C to $+125^\circ\text{C}$ and offer low thermal resistance from 5 K/W to 9 K/W, which provides optimized thermal management and enables their high drive currents. RoHS-compliant, halogen-free, and Vishay Green, the devices support lead (Pb)-free reflow soldering. The IR emitters offer high ESD immunity up to 5 kV in accordance with ANSI / ESDA / JEDEC[®] JS-001, a floor life of 168 hours, and a moisture sensitivity level of 3 in accordance with J-STD-020E.

Device Specification Table:

Part Number	Dimensions (L x W x H) mm	Centroid wavelength (nm)	Typ. radiant intensity (mW/SR) at		Angle of half intensity (\pm°)	Rise time (ns)
			I _F = 1.5 A	I _F = 5 A		
VSMA1094750X02	3.4 x 3.4 x 1.5	940	535	1600	75	10
VSMA1094600X02	3.4 x 3.4 x 1.8	940	750	2300	60	10
VSMA1094400X02	3.4 x 3.4 x 2.45	940	1525	4620	40	10
VSMA1094250X02	3.4 x 3.4 x 2.9	940	2000	6000	28	10
VSMA1085750X02	3.4 x 3.4 x 1.5	850	535	1600	75	13
VSMA1085600X02	3.4 x 3.4 x 1.8	850	750	2300	60	13
VSMA1085400X02	3.4 x 3.4 x 2.45	850	1525	4620	40	13
VSMA1085250X02	3.4 x 3.4 x 2.9	850	2000	6000	28	13

Samples and production quantities of the new IR emitters are available now, with lead times of 8 to 12 weeks.

Vishay manufactures one of the world's largest portfolios of discrete semiconductors and passive electronic components that are essential to innovative designs in the automotive, industrial, computing, consumer, telecommunications, military, aerospace, and medical markets. Serving customers worldwide, Vishay is **The DNA of tech**[®]. Vishay Intertechnology, Inc. is a Fortune 1,000 Company listed on the NYSE (VSH). More on Vishay at www.Vishay.com.

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Links to product datasheets:

<http://www.vishay.com/ppg280365> (VSMA1094750X02)

<http://www.vishay.com/ppg280268> (VSMA1094600X02)

<http://www.vishay.com/ppg280227> (VSMA1094400X02)

<http://www.vishay.com/ppg280179> (VSMA1094250X02)

<http://www.vishay.com/ppg280374> (VSMA1085750X02)

<http://www.vishay.com/ppg280262> (VSMA1085600X02)

<http://www.vishay.com/ppg280245> (VSMA1085400X02)

<http://www.vishay.com/ppg280242> (VSMA1085250X02)

Link to product photo:

<https://www.flickr.com/photos/vishay/albums/72177720317147579>

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