



New High Power IR Emitters Deliver 30 % Higher Radiant Intensity in 20 % Smaller Footprint; For High Drive Currents to 1.5 A DC and 5 A Pulsed, 850 nm and 940 nm Devices Offer Radiant Intensity to 6,000 mW/sr in 3.4 mm by 3.4 mm SMD Packages

Product Benefits:

- Compact 3.4 mm by 3.4 mm surface-mount packages
- Centroid wavelengths of 850 nm and 940 nm
- Feature a double-stack chip for high radiant intensity up to 6,000 mW/sr at a 5 A pulse current
- Three angles of half intensity available: $\pm 28^\circ$, $\pm 40^\circ$, and $\pm 60^\circ$
- Increased ambient temperature range from -40°C to $+125^\circ\text{C}$
- Low thermal resistance from 6 K/W to 9 K/W
- RoHS-compliant, halogen-free, and Vishay Green
- Support lead (Pb)-free reflow soldering
- High ESD immunity up to 5 kV in accordance with ANSI / ESDA / JEDEC® JS-001
- Floor life of 168 hours
- Moisture sensitivity level of 3 in accordance with J-STD-020E



Market Applications:

- Eye tracking in gaming, as well as night vision for CCTV, machine vision, toll systems, number plate recognition, and general IR illumination

The News:

Vishay Intertechnology broadens its optoelectronics portfolio with the release of six new 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 SurfLight™ 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 industrial and consumer applications.

- The sensors provide 30 % higher radiant intensity than previous-generation solutions and 10 % higher than the closest competing device. These values enable greater illumination distance while minimizing the number of components required to lower costs and save space
- For further space savings, the emitters occupy a 20 % smaller footprint than competing devices and previous-generation solutions

The Key Specifications:

Part number	Centroid wavelength (nm)	Typ. radiant intensity (mW/sr) at		Angle of half intensity
		I _F = 1 A	I _F = 5 A	
VSMA1085250	850	1350	6000	$\pm 28^\circ$
VSMA1085400	850	925	4100	$\pm 40^\circ$
VSMA1085600	850	490	2200	$\pm 60^\circ$
VSMA1094250	940	1250	5300	$\pm 28^\circ$
VSMA1094400	940	850	3600	$\pm 40^\circ$
VSMA1094600	940	460	1950	$\pm 60^\circ$



NEW PRODUCT INFORMATION



Product Group: Vishay Optoelectronics, Sensors / February 2022

Availability:

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

To access the product datasheets on the Vishay Website, go to

<http://www.vishay.com/ppg?80297> (VSMA1085250)

<http://www.vishay.com/ppg?80294> (VSMA1085400)

<http://www.vishay.com/ppg?80298> (VSMA1085600)

<http://www.vishay.com/ppg?80299> (VSMA1094250)

<http://www.vishay.com/ppg?80295> (VSMA1094400)

<http://www.vishay.com/ppg?80300> (VSMA1094600)

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