



The DNA of tech.™

AEC-Q102 Qualified High Power Infrared Emitters

Automotive Devices Offer 10 % Higher Radiant Intensity in 20 % Smaller Footprint



ADVANTAGE

Deliver high drive currents to 1.5 A DC and 5 A pulsed in 3.4 mm by 3.4 mm SMD packages

KEY PRODUCT FEATURES

- ✓ Centroid wavelengths of 850 nm and 940 nm
- ✓ Low thermal resistance from 5 K/W to 9 K/W
- ✓ Feature a double-stack chip for 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
- ✓ Operate over a temperature range from -40 °C to +125 °C
- ✓ High ESD immunity up to 5 kV in accordance with ANSI / ESDA / JEDEC® JS-001



RESOURCES



MARKETS AND APPLICATIONS



MOBILITY

- Automotive
- Automotive intelligence (smart vehicle)
- Micro mobility
- Agricultural equipment



INDUSTRIAL

- Automation
- Home and building controls



COMPUTER

- Computer
- Peripherals



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ADDITIONAL BENEFITS

- The IR emitters provide 10 % higher radiant intensity than the closest competing device. These values increase illumination for better contrast, while minimizing the number of components required - lowering costs and saving space
- The 940 nm devices are designed to suppress the red glow effect, while the 850 nm emitters provide a better match with cameras
- The emitters' low thermal resistance provides optimized thermal management and enables their high drive currents

The VSMA series matches the sensitivity range of standard silicon photodiodes and phototransistors, as well as CCD and CMOS cameras. In addition, each wavelength option is offered in four emission angles.

Product Summary for the VSMA Series

Component	I_e (mW/sr) at $I_F = 1$ A	φ (°)	λ_p (nm)	$\lambda_{\text{centroid}}$ (nm)	t_r (ns)
VSMA1085250X02	1350	± 28	850	845	13
VSMA1085400X02	1025	± 40	850	845	13
VSMA1085600X02	510	± 60	850	845	13
VSMA1085750X02	360	± 75	850	845	13
VSMA1094250X02	1350	± 28	945	940	10
VSMA1094400X02	1025	± 40	945	940	10
VSMA1094600X02	510	± 60	945	940	10
VSMA1094750X02	360	± 75	945	940	10