SurfLight™ - High Power IR Emitter

Vishay's SurfLight™ surface emitting technology is redefining performance standards for infrared emitters. With SurfLight, nearly all the light and power is emitted **out the top of the chip**, unlike standard infrared emitters that emit their light in all directions. With most of the light concentrated on the surface, you get higher intensity - **up to five times greater** than standard emitter technology - and that means **fewer emitters** are needed, **lowering the total system cost** of your application.

FEATURES AND BENEFITS

- Based on surface emitting technology
- High radiant power
- High speed
- High pulse current operation
- Peak wavelength: λ_p = 850 nm
- High radiant intensity
- Best in class reliability

APPLICATIONS

- Industrial
  - Machine vision, object detection
  - Light curtains
  - Smoke detectors
  - Closed circuit television illumination
- Infrared data transmission / communication
- 3DTV active glasses synchronization
- Automotive
  - Illumination for heads-up display
- Infrared illumination for CMOS cameras (CCTV)

RESOURCES

- Optoelectronics portfolio: www.vishay.com/en/optoelectronics/
- For technical questions, contact emittertechsupport@vishay.com
- Sales contact: www.vishay.com/doc?99914

VISHAY
The DNA of tech.

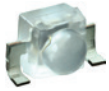
OPTOELECTRONICS

Infrared Emitters

FARTHER WITH FEWER

Vishay's SurfLight series allows you to reduce the number of infrared emitters required for your application by up to 80 % while achieving the same resolution and range. Illumination applications include closed circuit television (CCTV), security cameras, and CMOS image sensors. For data transmission in museums, concert halls, and other public venues, these emitters feature switching times from 10 ns to 20 ns, meeting the requirements for high modulation operation and supporting data transmission rates of up to 16 Mbit/s.

PERFORMACE BENCHMARK

Package	Part Number	Dimensions L x W x H (mm)	Peak Emission Wavelength (nm)	Angle of Half Intensity (± °)	Radiant Intensity (mW/sr)[1]	Comment
3 mm 	VSLY3850	Ø 3 mm	850	18	70	
5 mm 	VSLY5850	Ø 5 mm	850	3	600	
	VSLY5940		940	3	600	
0805 	VSMY1850	2.0 x 1.25 x 0.85	850	60	10	AUTOMOTIVE GRADE
	VSMY1850X01		850	60	10	AUTOMOTIVE GRADE
	VSMY1940X01		940	60	10	
Dome Lens 	VSMY2850RG, -G	2.3 x 2.3 x 2.8	850	10	125	
Dome Lens 	VSMY2853RG, -G	2.3 x 2.3 x 2.55	850	28	50	
Dome Lens 	VSMY2853SL	2.3 x 2.55 x 2.3	850	28	35	
PLCC-2 	VSMY3850	3.5 x 2.8 x 1.75	850	60	17	
	VSMY3940X01		940	60	15	AUTOMOTIVE GRADE
QFN with Lens 	VSMY98545	3.85 x 3.85 x 2.24	850	45	380	
Side-View Lens 	VSMY14940	3.2 x 2.51 x 1.2	940	9	90	

Note: [1] I_F =100 mA unless other stated