

### 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: 850 nm or 940 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 product portfolio: [www.vishay.com/optoelectronics](http://www.vishay.com/optoelectronics)
- For technical questions contact [emittertechsupport@vishay.com](mailto:emittertechsupport@vishay.com)
- Sales contact: [www.vishay.com/doc?99914](http://www.vishay.com/doc?99914)










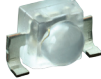






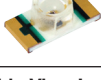
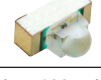


# INFRARED EMITTERS

## SurfLight™ Series

### 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.

PERFORMANCE BENCHMARK						
Package	Part Number	Dimensions L x W x H (mm)	Peak Emission Wavelength (nm)	Angle of Half Intensity (± deg)	Radiant Intensity (mW/sr) <sup>(1)</sup>	Comment
 3 mm	<a href="#">VSLY3850</a>	Ø 3 mm	850	18	70	
 5 mm	<a href="#">VSLY5850</a>	Ø 5 mm	850	3	600	
	<a href="#">VSLY5940</a>		940	3	600	
 0805	<a href="#">VSMY1850</a>	2.0 x 1.25 x 0.85	850	60	10	
	<a href="#">VSMY1850X01</a>		850	60	10	
	<a href="#">VSMY1940X01</a>		940	60	10	
 Dome Lens	<a href="#">VSMY2850RG, -G</a>	2.3 x 2.3 x 2.8	850	10	100	
	<a href="#">VSMY2940RG, -G<sup>(2)</sup></a>		940	10	100	
 Dome Lens	<a href="#">VSMY2853RG, -G</a>	2.3 x 2.3 x 2.55	850	28	35	
	<a href="#">VSMY2943RG, -G<sup>(2)</sup></a>		940	28	35	
 Dome Lens	<a href="#">VSMY2853SL</a>	2.3 x 2.55 x 2.3	850	28	35	
	<a href="#">VSMY294310SL<sup>(2)</sup></a>		940	25	32	I <sub>F</sub> = 70 mA
	<a href="#">VSMY2943SL<sup>(2)</sup></a>		940	28	35	
 PLCC-2	<a href="#">VSMY3850</a>	3.5 x 2.8 x 1.75	850	60	17	
	<a href="#">VSMY3940X01</a>		940	60	15	
 Little Star	<a href="#">VSMY7850X01</a>	6.0 x 7.0 x 1.5	850	60	170	I <sub>F</sub> = 1.0 A 
	<a href="#">VSMY7852X01</a>		850	60	42	I <sub>F</sub> = 250 mA 
 QFN with Lens	<a href="#">VSMY98545</a>	3.85 x 3.85 x 2.24	850	45	350	I <sub>F</sub> = 1.0 A
	<a href="#">VSMY98545DS<sup>(2)</sup></a>		850	45	610	I <sub>F</sub> = 1.0 A, double stack
	<a href="#">VSMY99445DS<sup>(2)</sup></a>		940	45	600	I <sub>F</sub> = 1.0 A, double stack
 Inner Lens	<a href="#">VSMY12850<sup>(2)</sup></a>	3.2 x 1.6 x 1.1	850	40	16	I <sub>F</sub> = 70 mA
	<a href="#">VSMY12940<sup>(2)</sup></a>		940	40	16	I <sub>F</sub> = 70 mA
 Side View Lens	<a href="#">VSMY14940</a>	3.2 x 2.51 x 1.2	940	9	82	I <sub>F</sub> = 70 mA

(1) at I<sub>F</sub> = 100 mA unless other stated  
 (2) pending release