

SMD Infrared Emitters and Detectors with 1.8 mm Dome Lens



Vishay's infrared emitters and detectors with a 1.8 mm dome lens are offered in compact gullwing, reverse gullwing, and side view packages. The emitters are available with various wavelengths, radiant intensities, and viewing angles. Matching photo detectors are offered as PIN photodiodes or phototransistors. They can be ordered with or without a daylight blocking filter. AEC-Q101 qualified parts are provided for automotive applications. All devices are RoHS compliant, halogen-free and conform to Vishay "Green" standards.

KEY FEATURES

- Compact package dimensions
 - Gullwing and reverse gullwing package dimensions: 2.3 mm x 2.3 mm x 2.5 mm (2.8 mm)
 - Side-view package dimensions: 2.3 mm x 2.55 mm x 2.3 mm
- IR-emitters
 - Three wavelength options: 850 nm, 890 nm, 950 nm
 - Radiant intensity from 20 mW/sr to 120 mW/sr
 - Viewing angle from $\pm 7^\circ$ to $\pm 28^\circ$
- PIN photodiodes and phototransistors
 - Matching to IR emitters
 - With or without daylight filter
 - Viewing angle $\pm 15^\circ$ or $\pm 35^\circ$
- AEC-Q101 qualified
- RoHS-compliant, halogen-free, Vishay Green

APPLICATIONS

- Remote control
- Light curtains
- Light barriers
- Metering systems
- Photo interrupters
- Optical switches
- Position sensors
- Automotive
- Proximity sensors

RESOURCES

- Optoelectronics product portfolio: <http://www.vishay.com/optoelectronics>
- For technical questions contact sensortechnsupport@vishay.com
- Sales contact: <http://www.vishay.com/doc?99914>



OPTOELECTRONICS

Infrared Emitters and Detectors

GULLWING

Emitter	Package	Angle		± 7°	± 10°	± 12°	± 25°	± 25°	± 28°
		Intensity		60 mW/sr	100 mW/sr to 120 mW/sr	40 mW/sr	20 mW/sr	25 mW/sr	35 mW/sr
		Wavelength	850 nm		VSMY2850G	VSMG2020X01⁽¹⁾ VSMG285011G			VSMY2853G
			890 nm			VSMF2890GX01⁽¹⁾	VSMF2893GX01⁽¹⁾		
			940 nm	VSMB294008G	VSMY2940G	VSMB2020X01⁽¹⁾	VSMB2948G VSMB2943GX01⁽¹⁾	VSMY294310G	VSMY2943G

Detector	Package	Angle		PIN Diode		Transistor	
		Sensitivity		± 15°	± 35°	± 15°	± 35°
		Wavelength	350 nm to 1120 nm	VEMD2520X01⁽¹⁾	VEMD2523X01⁽¹⁾	VEMT2520X01⁽¹⁾	VEMT2523X01⁽¹⁾
			750 nm to 1050 nm	VEMD2020X01⁽¹⁾	VEMD2023X01⁽¹⁾	VEMT2020X01⁽¹⁾	VEMT2023X01⁽¹⁾

REVERSE GULLWING

Emitter	Package	Angle		± 7°	± 10°	± 12°	± 25°	± 25°	± 28°
		Intensity		60 mW/sr	100 mW/sr to 120 mW/sr	40 mW/sr	20 mW/sr	25 mW/sr	35 mW/sr
		Wavelength	850 nm		VSMY2850RG	VSMG2000X01⁽¹⁾			VSMY2853RG
			890 nm			VSMF2890RGX01⁽¹⁾	VSMF2893RGX01⁽¹⁾		
			940 nm	VSMB294008RG	VSMY2940RG	VSMB2000X01⁽¹⁾	VSMB2948RG VSMB2943RGX01⁽¹⁾	VSMY294310RG	VSMY2943RG

Detector	Package	Angle		PIN Diode		Transistor	
		Sensitivity		± 15°	± 35°	± 15°	± 35°
		Wavelength	350 nm to 1120 nm	VEMD2500X01⁽¹⁾	VEMD2503X01⁽¹⁾	VEMT2500X01⁽¹⁾	VEMT2503X01⁽¹⁾
			750 nm to 1050 nm	VEMD2000X01⁽¹⁾	VEMD2003X01⁽¹⁾	VEMT2000X01⁽¹⁾	VEMT2003X01⁽¹⁾

SIDE VIEW

Emitter	Package	Angle		± 25°	± 25°	± 28°
		Intensity		20 mW/sr	25 mW/sr	35 mW/sr
		Wavelength	850 nm			VSMY2853SL
			890 nm	VSMF2893SLX01⁽¹⁾		
			940 nm	VSMB2948SL VSMB2943SLX01⁽¹⁾	VSMY294310SL	VSMY2943SL

Detector	Package	Angle		PIN Diode	Transistor
		Sensitivity		± 35°	± 35°
		Wavelength	350 nm to 1120 nm	VEMD2523SLX01⁽¹⁾	VEMT2523SLX01⁽¹⁾
			750 nm to 1050 nm	VEMD2023SLX01⁽¹⁾	VEMT2023SLX01⁽¹⁾

Notes:

⁽¹⁾ X01 denotes AEC-Q101 qualified