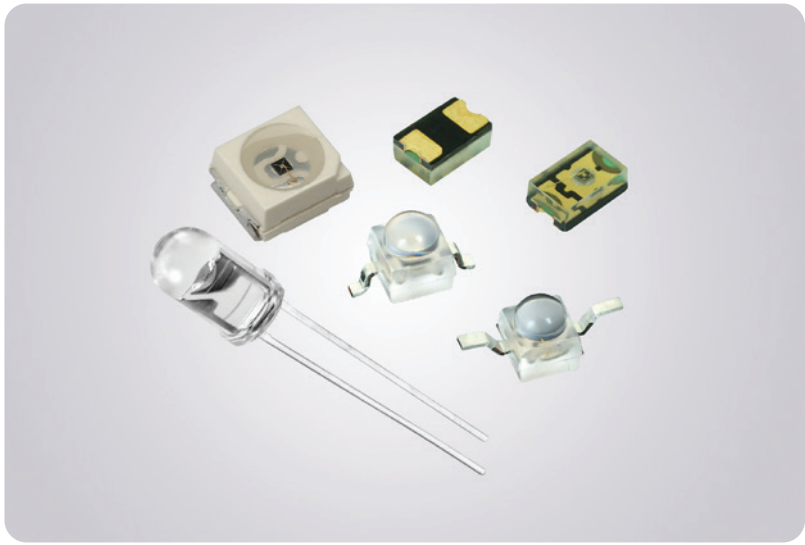
850 nm High Intensity and High Optical Power Infrared Emitters



KEY FEATURES

- Radiant intensity up to 600 mW/sr at 100 mA
- Broad range of viewing angles from ± 3° to ± 60°
- Up to 5x longer life than competing devices
- Six different packages
- 850 nm based on surface emitting technology

BENEFITS

- Reduce the number of emitters required to produce equivalent optical power – longer range and better resolution
- Extremely fast switching times for high speed applications
- 4x the radiant intensity of competing devices. Continuous or pulsed current source

APPLICATIONS

- Illumination for closed circuit TV (night vision) and CMOS image sensors
- Wireless audio transmission in concert halls, museums, and home theater surround sound systems
- Emergency response remote control of traffic lights
- Emitter for 3DTV active glasses synchronization
- Automotive - illumination for heads-up display and back-up camera

RESOURCES

- Datasheets: www.vishay.com/en/ir-emitting-diodes/
- Optoelectronis portfolio: www.vishay.com/en/optoelectronics/
- For technical questions, contact emittertechsupport@vishay.com

The DNA of tech.

OPTOELECTRONICS

Infrared Emitters

FARTHER WITH FEWER

Reduce the number of infrared emitters by up to half while achieving the same resolution and range by using Vishay's infrared emitters for nighttime **illumination** in closed circuit television (CCTV), security camera, and CMOS image sensor applications. 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.

MINIMIZE DEGRADATION

Applications rely on the emitter to maintain performance over time. Designers can not afford to use an emitter that rapidly degrades. Vishay has the lowest degradation when tested against the other leading infrared emitters. The lowest degradation means the best emitters, the longest life.

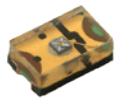
Part Number	Angle of Half Intensity (°)	Intensity (mW/sr)		Degradation (%)
		0 hours	4000 hours	
Vishay TSHG5210	± 10	230	225	2 %
Vishay TSHG5410	± 15	80	79	2 %
Competitor A	± 8	171	145	15 %
Competitor B	± 12	107	96	10 %
Competitor C	± 10	130	98	25 %


5 mm (T1¾)


Reverse Gullwing


Gullwing


PLCC-2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PORTFOLIO

Peak Wavelength (nm)	Part Number	Package	Radiant Intensity[1] (mW/sr)	Angle of Half Intensity (°)	Rise, Fall Time (ns)
850	TSHG5210	5 mm (T1¾)	215	± 10	10
	TSHG5410	5 mm (T1¾)	100	± 15	10
	TSHG6400	5 mm (T1¾)	105	± 27	10
	VSLY5850	5 mm (T1¾)	600	± 3	10
	VSMY1850	0805	10	± 60	10
	VSMY2850G	Gullwing	125	± 10	10
	VSMY2850RG	Reverse gullwing	125	± 10	10
	VSMY3850	PLCC-2	17	± 60	10

Note: [1]I_F=100 mA , [2]I_F=1 A, [3]I_F=250 mA