



OPTOELECTRONICS

Infrared Emitters

Optoelectronics - IR Emitters with Radiant Intensity up to 600 mW/sr at 100 mA

830 nm, 850 nm, and 870 nm High Intensity and High Optical Power Infrared Emitters



KEY FEATURES

- Radiant intensity up to 600 mW/sr at 100 mA
- Broad option of viewing angles from $\pm 3^\circ$ to $\pm 60^\circ$
- Up to 5x longer life than competing devices
- Six different packages
- 850 nm based on Light Up[®] 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 theatre 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: <http://www.vishay.com/ir-emitting-diodes/>
- Optoelectronics Portfolio: <http://www.vishay.com/optoelectronics/>
- For technical questions, contact emittertechsupport@vishay.com

One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components



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 night time **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 to 20 ns, meeting the requirements for high-modulation operation and supporting data transmission rates of up to 16 Mbit/sec.

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	± 18	80	79	2 %
Competitor A	± 8	171	145	15 %
Competitor B	± 12	107	96	10 %
Competitor C	± 10	130	98	25 %



Little Star



5 mm (T1 3/4)



Reverse Gullwing



Gullwing



PLCC2



0805

PORTFOLIO

PEAK WAVELENGTH (nm)	PART NUMBER	PACKAGE	RADIANT INTENSITY ¹ (mW/sr)	ANGLE OF HALF INTENSITY (°)	RISE, FALL TIME (ns)
830	TSHG5510	5 mm (T1 3/4)	32	± 38	15
	TSHG8200	5 mm (T1 3/4)	180	± 10	20
	TSHG8400	5 mm (T1 3/4)	70	± 22	20
	VSMG2720	PLCC2	14	± 60	15
850	TSHG5210	5 mm (T1 3/4)	230	± 10	20
	TSHG5410	5 mm (T1 3/4)	90	± 18	20
	TSHG6400	5 mm (T1 3/4)	70	± 22	20
	VSLY5850	5 mm (T1 3/4)	600	± 3	10
	VSMY1850	0805	12	± 60	10
	VSMY2850G	Gullwing	100	± 10	10
	VSMY2850RG	Reverse Gullwing	100	± 10	10
	VSMY3850	PLCC2	17	± 60	15
	VSMY7850X01	Little Star	170 ²	± 60	15
	VSMY7852X01	Little Star	42 ³	± 60	15
870	TSFF5210	5 mm (T1 3/4)	180	± 10	15
	TSFF5410	5 mm (T1 3/4)	70	± 22	
	TSFF5510	5 mm (T1 3/4)	32	± 38	
	VSMF4720	PLCC2	16	± 60	

¹I_F=100 mA, ²I_F=1 A, ³I_F=250 mA