

MORE LIGHT

LED Point Source

LED point sources have a defined, freely selectable and homogeneous light beam area. The beams from LED point sources have a strong focus. This produces a sharply defined and evenly lit luminous spot. Point sources are the preferred option in applications where the speckle patterns produced by laser sources need to be avoided. They have impressively high intensity dynamics. Circular areas of between 8 and 150 micrometers in diameter are used for the majority of applications.

LED point sources are used in optical encoders, in fiber-coupled data transmission, in photoelectric sensors, in motion detectors, as visual aids, and for fluorescence analysis in microscopy.

Our point sources feature impressive efficiency and reliability – in mobile applications, batteries can last for several years as a direct result of using our LED point sources. The point sources are available as LED chips with excellent processing ability (bondability) for COB solutions (Chip on board) and can also be assembled in application-specific housing.

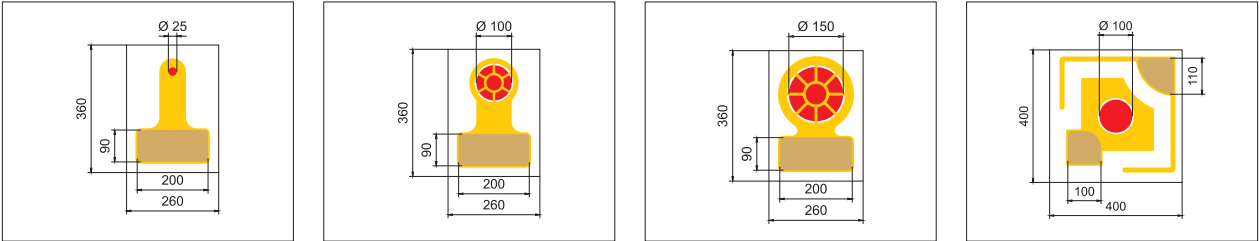
We are the expert at your side in all matters concerning the development and manufacturing of optoelectronic semiconductor devices.

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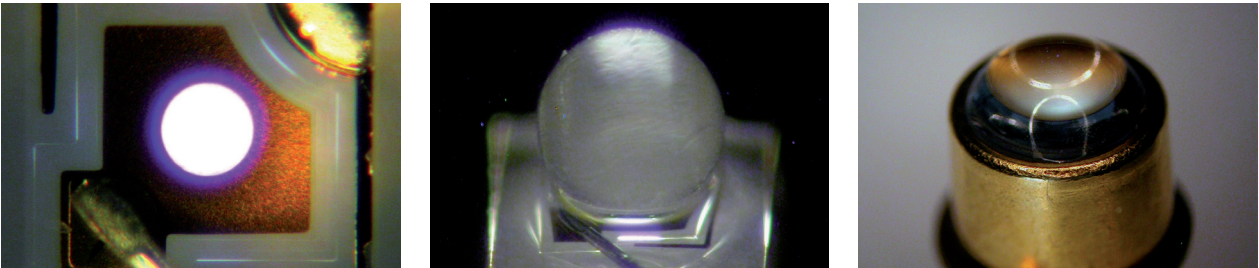
Specifications	Point diameter					Wavelength			
	8 µm	25 µm	50 µm	100 µm	150 µm	360 nm	650 nm	850 nm	1300 nm ²⁾
Applications									
Visual aids	x	x	x				x		
LED print heads	x	x					x		
Optical encoders		x	x				x	x	
Fiber-coupled data transmission		x	x	x			x		x
Fluorescence analysis			x	x		x			
Light barriers				x	x		x	x	
Motion sensors				x	x			x	

Wave-length	Para-meters	Typical optical power						Unit	Wave-length	Para-meters	Typical switching time						Unit
		8 µm	25 µm	50 µm	100 µm	150 µm					8 µm	25 µm	50 µm	100 µm	150 µm		
360 nm	Φ_e	–	–	0.4 ^{1), 3)}	0.61 ¹⁾	–	mW		360 nm	t_r / t_f	–	–	< 10	< 10	–	ns	
	@ I_F	–	–	10	10	–	mA			@ I_F	–	–	10	10	–	mA	
650 nm	Φ_e	0.02 ¹⁾	0.47	0.7	1.4	1.5	mW		650 nm	t_r / t_f	10 ¹⁾	5	5	5	5	ns	
	@ I_F	1	5	10	20	20	mA			@ I_F	1	5	10	20	20	mA	
650 nm	I_v	0.45 ¹⁾	8.5	18	38	38	mcd		850 nm	t_r / t_f	–	–	10/20	10/20	10/20	ns	
	@ I_F	1	5	10	20	20	mA			@ I_F	–	–	20	50	50	mA	
850 nm	Φ_e	–	–	2.0	2.6	3.2	mW										
	@ I_F	–	–	50	50	50	mA										

1) Prototype, 2) on request, 3) 60 µm



Point Source



Surface-emitting semiconductor light-emitting diode: Patent in US, TW: US 8847241 B2, TW435045 | Pending Patent in EP, JP, CN, KR | Registered Utility model in DE202011000758. It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.