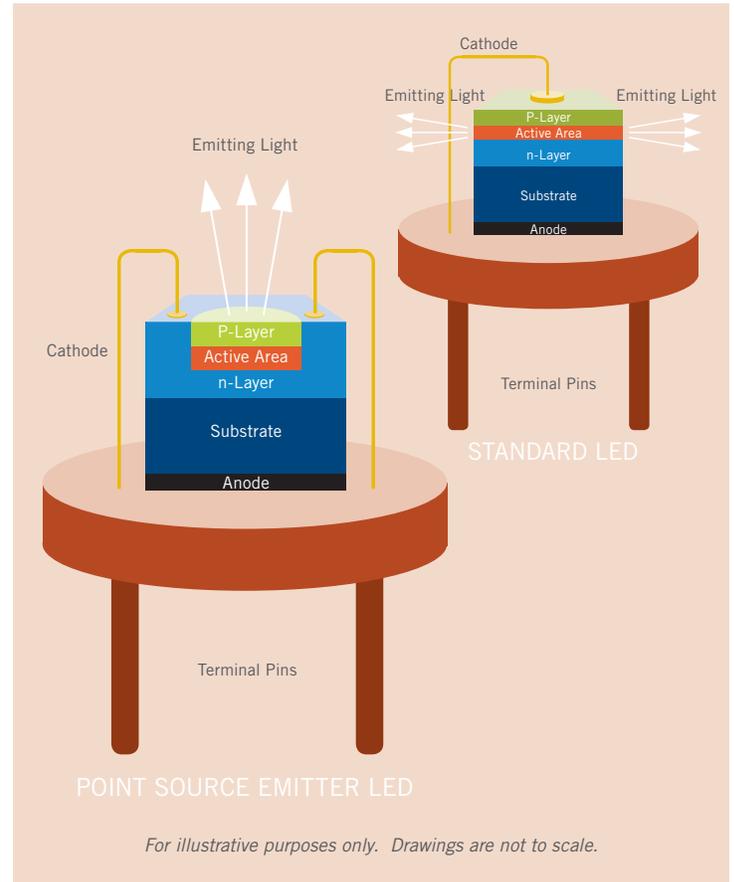


## Product Overview

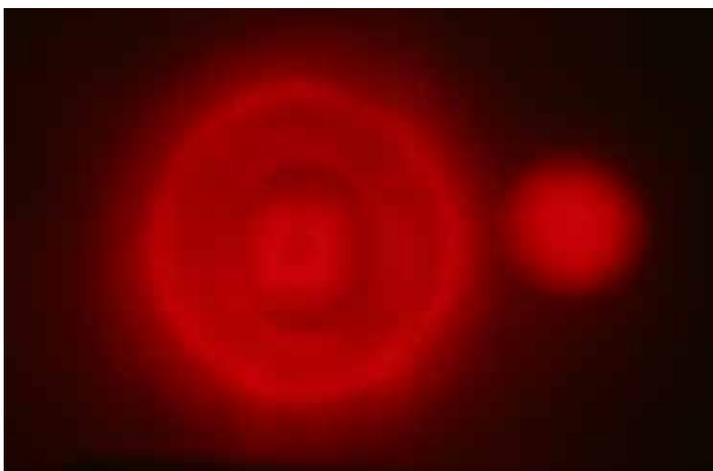
The Marktech Point Source Emitter series incorporates a specially designed LED die and aperture window to create a precise, unobstructed light output pattern. The key design feature of the Point Source LED die is a wire bond which attaches next to the emission window as opposed to the center of the window eliminating any dark spots in the light output pattern. Traditional wire bonding of a standard LED emitter die is attached to the top center of the die which creates a “dark spot” and therefore will effect the light output from device to device. These variations in light output of a standard LED emitter can have a negative affect in a critical sensing application.

The Point Source series outperforms standard emitters at high speeds yielding a stable output pattern and making them the device of choice for applications which include encoders and linear positioning equipment. High reliability package options range from TO-18 and TO-46 metal cans to ceramic surface mount packages. Varying package heights and lensing options provide the designer with optimum flexibility in sophisticated design efforts. Devices supplied without optics are manufactured with a flat glass window allowing the designer to utilize proprietary collimating or other application specific optics to take full advantage of the undistorted beam. Custom packaging designs which include Chip on Board configurations or custom apertures are also available.



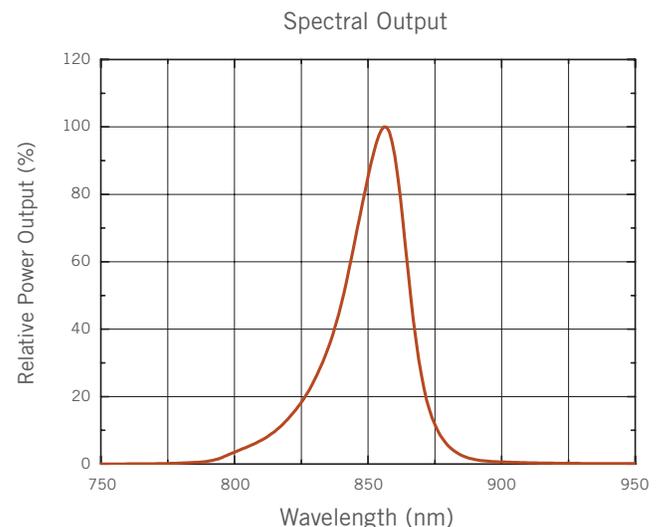
## Unobstructed Light Output

In a simple side by side lighting comparison, the light emitted from the Standard LED (left) has several dark spots due to the wire bonding pad and obstruction from the wire bond. The Point Source Emitter (right) has a narrow, well defined and precise light output pattern.



## Narrow Spectral Bandwidth

A key feature of the the Point Source LED series is a very narrow spectral bandwidth. Custom sorting of wavelength as well as other key parameters is available. Please contact Marktech to discuss the application.



# Product Selection

Under Development  
740nm & 880nm

Part Number	Wavelength (typ.)	Bandwidth (typ.)	Power Output (typ.)	Aperture Size (typ.)	Beam Angle (typ.)	Forward Current (typ.)	Package
	$\lambda$ (nm)	$\Delta\lambda$ (nm)	PO (mw)	$\phi$ ( $\mu\text{m}$ )	$\Theta$ (deg.)	IF (mA)	
MTPS7065MT <b>NEW</b>	650	15	2.2	150	$\pm 45^\circ$	20	PLCC-4
MTPS7065MC <b>NEW</b>	650	15	1.6	150	$\pm 45^\circ$	20	Flat Top Ceramic SMT
MTPS1065PT	650	20	0.05	25	$\pm 5^\circ$	5	Hermetically Sealed Pigtail
MTPS1065WC	650	20	0.07	25	$\pm 45^\circ$	5	Hermetically Sealed TO-18
MTPS8065WC	650	25	0.9	80	$\pm 45^\circ$	20	Hermetically Sealed TO-18
MTPS9067MC	650	20	0.6	150	$\pm 50^\circ$	20	Flat Top Ceramic SMT
MTPS9067MT	650	20	2.4	150	$\pm 50^\circ$	20	PLCC-4
MTPS9067P	650	20	0.4	150	$\pm 2.5^\circ$	20	Hermetically Sealed TO-18
MTPS9067WC	650	20	0.4	150	$\pm 45^\circ$	20	Hermetically Sealed TO-18
MTPS9067NJ1	650	20	0.4	150	$\pm 5^\circ$	20	Hermetically Sealed TO-46
MTPS8065PT	650	25	0.7	80	$\pm 5^\circ$	20	Hermetically Sealed Pigtail
MTPS2085BWS <b>NEW</b>	850	30	1.7	50	$\pm 5^\circ$	50	Hermetically Sealed TO-18
MTPS2085BSL1 <b>NEW</b>	850	30	0.7	50	$\pm 10^\circ$	50	Focused Ball Lens TO-18"
MTPS2085BSL <b>NEW</b>	850	30	1.0	50	$\pm 15^\circ$	50	Focused Ball Lens TO-18"
MTPS9085P	850	25	2.4	150	$\pm 2.5^\circ$	50	Hermetically Sealed TO-18
MTPS9085NJ1	850	25	1.6	150	$\pm 5^\circ$	50	Hermetically Sealed TO-46
MTPS9085WC	850	25	2.0	150	$\pm 45^\circ$	50	Hermetically Sealed TO-18
MTPS3085MT	850	40	3.0	50	$\pm 50^\circ$	20	PLCC-4
MTPS3085MC	850	40	3.0	50	$\pm 50^\circ$	20	Flat Top Ceramic SMT
MTPS3085CP	850	40	1.6	50	$\pm 6^\circ$	20	Ceramic Dome TOP SMT
MTPS3085P	850	40	2.5	50	$\pm 2^\circ$	50	Hermetically Sealed TO-18
MTPS3085WC1	850	40	2.1	50	$\pm 45^\circ$	50	Hermetically Sealed TO-18
MTPS3085WS	850	40	2.8	50	$\pm 50^\circ$	50	Hermetically Sealed TO-18
MTPS8085MT	850	30	3.0	150	$\pm 50^\circ$	20	PLCC-4
MTPS8085MC	850	30	4.5	150	$\pm 50^\circ$	20	Flat Top Ceramic SMT
MTPS8085CP	850	30	2.5	150	$\pm 6^\circ$	20	Ceramic Dome TOP SMT
MTPS8085P	850	30	3.3	150	$\pm 2.5^\circ$	50	Hermetically Sealed TO-18
MTPS8085NJ1	850	30	3.0	150	$\pm 12^\circ$	50	Hermetically Sealed TO-46
MTPS8085PT	850	30	2.0	150	$\pm 5^\circ$	50	Hermetically Sealed Pigtail
MTPS8085M1	850	30	8.0	150	$\pm 40^\circ$	50	TO-46 Drip Lens
MTPS8085FT	850	30	1.0	150	$\pm 25^\circ$	50	Hermetically Sealed Pigtail
MTPS8085W	850	30	6.0	150	$\pm 20^\circ$	50	Hermetically Sealed TO-18

Electrical & Optical Characteristics (Ta = 25°C)

## Applications

- Encoders
- Linear Positioning
- Line Sensing
- Medical Sensing
- Short Haul Fiber
- Machine Vision
- Edge Sensing
- Optical Switches

## Advantages

- Unobstructed Light Output
- Well Defined Beam for High Accuracy
- High Current Capability
- No Side Light Emissions
- Fiber Optic Cable can be placed close to die
- Narrow Spectral Bandwidth
- Flexible Emission Area (25 $\mu\text{m}$  to 150 $\mu\text{m}$ )