

Golden DRAGON Plus, Golden DRAGON, and Diamond DRAGON (1W-5W Typical)



OSRAM's newly expanded family of DRAGON LEDs offers high-power LED performance from the smallest possible light sources. Featuring proprietary ThinFilm/ThinGaN technology, OSRAM's Golden DRAGON Plus, Golden DRAGON, and Diamond DRAGON LEDs emit maximum light from a small, low-profile package. Reflow solderability, silicone encapsulation for long lifetime, and low thermal resistance provide optimum efficiency in assembly and performance.

Features ▶

- Maximum current ratings of 1,000 mA through 2,000 mA
- Available in 2,700°K to 6,500°K white, red, amber, yellow, true green, verde, blue, and deep blue
- Utilizes OSRAM's patented high-efficiency, low V_F , surface-emitting ThinFilm/ThinGaN die
- Chip-level phosphor conversion for uniform white color across the radiation pattern
- White products available with ANSI-compliant binning

Benefits ▶

- Suitable for ultra high-brightness applications
- Meets a wide variety of application needs; great for multi-color uses
- Saves power and reduces heat while providing more available light
- Low manufacturing cost, reduces depth, survives high temperatures, and transfers heat well
- Ideal radiation pattern for coupling secondary optics

Applications ▶

- General lighting—architectural, decorative, and entertainment
- Transportation lighting—automotive exterior, trucking, and emergency vehicle
- Specialty lighting
- Traffic signals, street and tunnel lighting
- Backlighting large screen LCDs



Golden DRAGON Plus

Product Specifications ▶											
Part Number	Package Type	Color	Color Temp. (°K)	Dominant Wavelength (nm)	Max. Current (mA)	Tested Current (mA)	Forward Voltage (V)	Viewing Angle (°)	Luminous Flux (lm)	Luminous Intensity (mcd)	Markets
LUW W5AM	Golden DRAGON Plus	Daylight white	6,500/5,700	–	1,000	350	3.2	170	82-130	–	CL FL TR BL SI
LW W5AM		White	5,600	–	1,000	350	3.2	170	61-97	–	CL FL TR BL SI
LCW W5AM		Warm white	4,500/4,000/3,500/3,000/2,700	–	1,000	350	3.2	170	45-97	–	CL FL TR BL SI
LR W5AM		Red	–	625	1,000	400	2.2	170	39-71	–	CL BL SI
LA W5AM		Amber	–	617	1,000	400	2.2	170	45-82	–	CL TR BL SI
LY W5AM		Yellow	–	590	1,000	400	2.2	170	39-71	–	CL TR BL SI
LT W5AM		True green	–	528	1,000	350	3.2	170	52-97	–	CL TR BL SI
LB W5AM		Blue	–	470	1,000	350	3.2	170	18-33	–	CL TR BL SI
LD W5AM		Deep blue	–	455	1,000	350	3.2	170	320 mW-500 mW	–	CL BL
LUW W5SM		Golden DRAGON	Daylight white	6,500/5,700	–	1,000	350	3.2	120	61-97	–
LW W5SM	White		5,600	–	1,000	350	3.2	120	52-97	–	CL FL TR BL SI
LCW W5SM	Warm white		4,500/4,000/3,500/3,000/2,700	–	1,000	350	3.2	120	33-82	–	CL BL
LR W5SM	Red		–	625	1,000	400	2.2	120	33-61	–	CL BL SI
LA W5SM	Amber		–	617	1,000	400	2.2	120	39-71	–	CL TR BL SI
LY W5SM	Yellow		–	590	1,000	400	2.2	120	33-61	–	CL TR BL SI
LT W5SM	True green		–	528	1,000	350	3.2	120	45-82	–	CL TR BL SI
LV W5SG	Verde		–	505	500	350	3.8	120	18-33	–	CL BL SI
LB W5SM	Blue		–	470	1,000	350	3.2	120	13-24	–	CL TR BL SI
LD W5SM	Deep blue		–	455	1,000	350	3.2	120	280 mW-450 mW	–	CL BL
LUW W5AP	Diamond DRAGON	Daylight white	6,500/5,700	–	2,000	1,400	3.5	140	210 -390	–	CL FL TR BL SI
LW W5AP		White	5,600	–	2,000	1,400	3.5	140	150-280	–	CL FL TR BL SI
LCW W5AP		Warm white	4,500/4,000/3,500/3,000/2,700	–	2,000	1,400	3.5	140	112-280	–	CL FL TR BL SI
LR W5AP		Red	–	625	2,000	1,400	2.5	140	97-210	–	CL BL SI
LA W5AP		Amber	–	617	2,000	1,400	2.5	140	112-240	–	CL TR BL SI
LY W5AP		Yellow	–	590	2,000	1,400	2.5	140	82-180	–	CL TR BL SI
LT W5AP		True green	–	528	2,000	1,400	3.5	140	130-280	–	CL TR BL SI
LB W5AP		Blue	–	470	2,000	1,400	3.5	140	39-97	–	CL TR BL SI
LD W5AP		Deep blue	–	455	2,000	1,400	3.5	140	900 mW-1,800 mW	–	CL BL

MARKETS LEGEND

CL COMMERCIAL LIGHTING FL FLASHLIGHTS TR TRANSPORTATION BL BACKLIGHTING SI SIGNAGE

OSRAM

Opto Semiconductors

Advanced Power TOPLED LEDs (1/2W Typical) and 6-Lead MULTILED

This versatile 6-lead package is the perfect choice for a wide range of applications. Single-color versions feature OSRAM's latest ThinFilm/ThinGaN chips. The MULTILED devices feature three chips in red, green, and blue. Now 50 percent brighter than previous generations, this device offers brightness levels previously available only in higher power LED devices. Silicone encapsulation ensures exceptionally long lifetimes, and the low thermal resistance maximizes brightness and reduces heat. White products available with ANSI-compliant binning.



6-lead MULTILED

Features ▶

- Maximum current ratings of 200 mA to 250 mA for single-color devices, 50 mA or 60 mA for multi-color
- Available in white, four shades of warm white, red, amber, yellow, true green, and blue—plus RGB and AGB versions
- Utilizes OSRAM's patented high-efficiency, low V_F , surface-emitting ThinFilm/ThinGaN die
- Reflow solderable; 1.9 mm package height; +125°C T_j to +150°C T_j
- 120° lambertian radiation pattern

Benefits ▶

- Suitable for high-brightness applications
- Meets a wide variety of application needs; great for multi-color and color-changing applications
- Saves power and reduces heat while providing more available light
- Low manufacturing cost, reduces depth, and survives high temperatures
- Ideal radiation pattern for coupling secondary optics

Applications ▶

- Video walls and displays
- Color-changing and RGB applications
- Automotive, trucking, and transportation applications
- Backlighting medium-sized LCD panels

Product Specifications ▶

Part Number	Package Type	Color	Color Temp. (°K)	Dominant Wavelength (nm)	Max. Current (mA)	Tested Current (mA)	Forward Voltage (V)	Viewing Angle (°)	Luminous Flux (lm)	Luminous Intensity (mcd)	Markets
LW G6SP	Advanced Power TOPLED	White	5,600	–	250	140	3.6	120	25.2 typ.	5,600-11,200	CL FL TR BL SI
LCW G6SP		Warm white	4,500/4,000/3,500/3,000/2,700	–	250	140	3.6	120	22.6 typ.	3,550-11,200	CL TR BL
LR G6SP		Red	–	625	200	140	2.1	120	13.4 typ.	2,800-7,100	CL BL SI
LA G6SP		Amber	–	617	200	140	2.1	120	16.8 typ.	3,550-9,000	CL TR SI
LY G6SP		Yellow	–	590	200	140	2.2	120	12.6 typ.	2,240-7,100	CL TR SI
LT G6SP		True green	–	528	250	140	3.6	120	18.7 typ.	3,550-11,200	CL BL SI
LB G6SP		Blue	–	470	250	140	3.6	120	4.9 typ.	900-2,800	CL BL SI
LRTB G6TG	6-lead MULTILED	Red/true green/blue	–	R=625/TG=528/B=470	70/50/50	20	R=2.1/TG=3.2/B=3.2	120	–	R=280-900/TG=710-1,400/B=180-560	CL TR BL SI
LRTB G6SG		Red/true green/deep blue	–	R=625/TG=528/B=458	70/50/50	20	R=2.1/TG=3.2/B=3.2	120	–	R=280-900/TG=450-1,400/B=112-560	CL TR BL SI
LATB G66B		Amber/true green/blue	–	A=617/TG=528/B=470	70/30/30	20	A=2.0/TG=3.5/B=3.6	120	–	A=180-450/TG=355-1,120/B=71-280	CL TR BL SI
LATB G6FTG	6-lead MULTILED INLINE	Red/true green/blue	–	R=625/TG=528/B=470	40/50/50	20	R=2.05/TG=3.2/B=3.2	120	–	R=355-1,800/TG=900-2,240/B=125-630	CL TR BL SI

MARKETS LEGEND

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Advanced Power TOPLED

Power TOPLED and Power TOPLED with Lens

OSRAM's versatile Power TOPLED and Power TOPLED with Lens are high-brightness surface-mount LEDs featuring OSRAM's ThinFilm/ThinGaN chip technology, now 50 percent brighter than previous versions. With a full color palette and choice of three radiation patterns—plus automotive reliability, SMT manufacturing, high-temperature capability, low thermal resistance, and long lifetimes—Power TOPLED is clearly the right choice. White products available with ANSI-compliant binning.

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Power TOPLED

Features ▶

- Maximum current ratings of 70 mA (50 mA for white, blue, and true green)
- Available in white, five shades of warm white, super red, red, amber, orange, yellow, true green, and blue
- Uses OSRAM's patented high-efficiency, low V_F , surface-emitting ThinFilm and ThinGaN die
- Reflow solderable; 1.9 mm package height (flat top), 3.5 mm to 3.8 mm package height (with lens); +125°C T_j
- 120° lambertian, 30°, and 60° radiation patterns

Benefits ▶

- Suitable for high-brightness applications
- Meets a wide variety of application needs; great for multi-color and color-changing applications
- Saves power and reduces heat while providing more available light
- Low manufacturing cost, reduces depth, survives high temperatures
- Ideal for coupling into secondary optics or as stand alone point sources of light

Applications ▶

- Automotive, trucking, transportation exterior, and signal lighting
- Channel letters, video walls and displays, variable message signs
- Interior lighting for cars, trucks, airplanes, and buildings
- Backlighting (LCD, switches, keys, and displays)
- Color-changing and RGB applications

Product Specifications ▶												
Part Number	Package Type	Color	Color Temp. (°K)	Dominant Wavelength (nm)	Max. Current (mA)	Tested Current (mA)	Forward Voltage (V)	Viewing Angle (°)	Luminous Flux (lm)	Luminous Intensity (mcd)	Markets	
LW E6SG	Power TOPLED	Ultra white	6,500/5,700	-	50	30	3.3	120	6.3	1,400-3,550	CL FL TR BL SI	
LW E6SG		White	5,600	-	50	30	3.3	120	4.3	900-1,800	CL FL TR BL SI	
LCW E6SG		Warm white	4,500/4,000/ 3,500/3,000/2,700	-	50	30	3.4	120	3.8	710-2,240	CL TR BL SI	
LS E6SF		Super red	-	633	70	50	2.15	120	4.7	900-2,240	CL BL SI	
LR E6SF		Red	-	625	70	50	2.15	120	4.9	900-2,800	CL BL SI	
LA E6SF		Amber	-	617	70	50	2.15	120	6.4	1,120-3,550	CL TR SI	
LO E6SF		Orange	-	606	70	50	2.15	120	8.8	1,400-4,500	CL TR SI	
LY E6SF		Yellow	-	590	70	50	2.15	120	4.5	900-2,240	CL TR BL SI	
LT E6SG		True green	-	525	50	30	3.4	120	4.0	900-1,800	CL BL SI	
LB E6SG		Blue	-	469	50	30	3.4	120	1.2	224-560	CL TR BL SI	
LS E63F		Power TOPLED with Lens	Super red	-	633	70	50	2.15	30	3.8	5,600-14,000 mlux	CL TR
LS E65F			Super red	-	633	70	50	2.15	60	4.5	2,240-5,600 mlux	CL TR
LA E63F			Amber	-	617	70	50	2.15	30	5.1	7,100-22,400 mlux	CL TR
LA E65F			Amber	-	617	70	50	2.15	60	6.0	2,800-9,000 mlux	CL TR
LY E63F	Yellow		-	590	70	50	2.15	30	3.8	5,600-14,000 mlux	CL TR	
LY E65F	Yellow		-	590	70	50	2.15	60	4.3	2,240-5,600 mlux	CL TR	

MARKETS LEGEND

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IR Golden DRAGON

High-Efficiency and Ultra High-Power Infrared LEDs

OSRAM offers one of the largest selections of 850 nm and 940 nm infrared LEDs. OSRAM's unique ThinFilm technology enables very high efficiency and output powers of up to 3.6W. Designed specifically for CCTV applications and for use in night vision equipment, they deliver a wavelength specially adapted to CMOS/CCD camera systems. These LEDs are offered in thru-hole packages and a variety of surface-mount packages such as TOPLED, Power TOPLED, MIDLED, Golden DRAGON, and OSTAR Observation. OSTAR Observation is the optimum choice when long distances and extensive areas need to be covered and monitored with infrared light, especially in applications that require continuous operation and/or high ambient temperatures.

Features ▶

- Small dimensions, big performance
- 50 mW output power from 0.3 mm x 0.3 mm die and 500 mW from 1 mm x 1 mm die
- Low forward voltage of 1.8V
- Maximum DC current of 1A
- High forward currents allowed at high temperatures

Benefits ▶

- High optical IR output, even in continuous operation
- Exceptionally low thermal resistance for optimum thermal management
- Certified for automotive applications at temperatures up to +125°C
- Easy design for external lenses
- Low forward voltage provides longer life in battery operated devices

Applications ▶

- Infrared illumination for CMOS cameras
- Surveillance systems
- Automotive—driver assistance systems
- Machine vision
- IR data transmission

Product Specifications ▶									
Part Number	Package Type	Dominant Wavelength (nm)	Max Current (mA)	Tested Current (mA)	Forward Voltage (V)	Viewing Angle (°)	Radiant Flux (mW)	Radiant Intensity (mW/sr)	Markets
SFH 4050	SmartLED	850	100	100	1.5	160	50	7	TR
SFH 4230	Golden DRAGON	850	1,000	1,000	1.8	120	440	170	FL TR
SFH 4231		940	1,000	1,000	1.8	120	1,000	200	FL TR
SFH 4250	Power TOPLED	850	100	100	1.5	120	40	15	TR
SFH 4240		940	100	100	1.5	120	45	15	FL TR
SFH 4243		940	70	50	1.5	120	33	11	TR
SFH 4255	SIDELED	850	100	100	1.5	120	40	15	TR
SFH 4244		940	70	50	1.5	120	33	11	TR
SFH 4257	TOPLED	850	100	100	1.5	120	18	7	TR
SFH 4252		850	100	100	1.5	120	40	16	TR
SFH 4258	Power TOPLED with Lens	850	100	100	1.5	30	45	90	TR
SFH 4259		850	100	100	1.5	50	45	55	TR
SFH 4248		940	100	100	1.5	30	50	100	TR
SFH 4249		940	100	100	1.5	50	50	55	TR
SFH 4350	3 mm (T1)	850	100	100	1.5	26	50	70	TR
SFH 4550	5 mm (T1 3/4)	850	100	100	1.5	6	50	700	TR
SFH 4650	MIDLED	850	100	100	1.5	40	40	40	TR
SFH 4655		850	100	100	1.5	40	40	40	TR
SFH 4730	OSTAR Observation	850	1,000	1,000	1.8	120	3,000	1,000	FL TR
SFH 4740		850	1,000	1,000	1.8	120	3,600	1,200	FL TR

MARKETS LEGEND

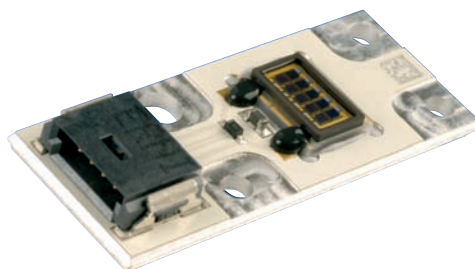
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OSTAR Observation