

2013 Catalogue

Quick guide to the New Products

■ **Acrich MJT** p.08

Acrich MJT is the flicker-free AC solution using our latest Multi-Junction Technology in voltage range from 13V to 69V. MJT provides competitive Lm/W and Lm/\$ by minimizing converter system.

■ **Acrich2** p.10

The latest Acrich2 module saves energy by up to 50 percent and improves compatibility with phase cut dimmer and analog dimmer.

■ NEW **Z5M1** p.26

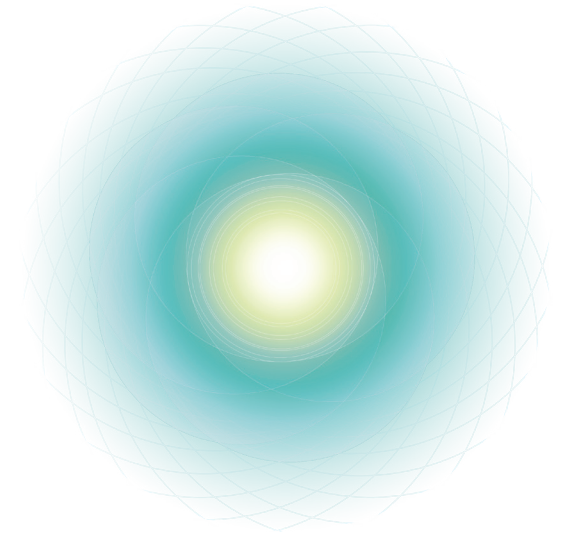
Z5M1 can be driven at Max.1.5A and MacAdam 3 Step binning (Warm White). It is suitable for directional lighting applications including street lights and spot lights.

■ NEW **5630 series** p.28

5630 series provide the world's best performance in light output with 180 lm/W efficacy.

■ NEW **ZC series(COB)** p.36

ZC series provide high luminous efficacy in 6W, 12W, 18W, 25W and 40W.



Contents

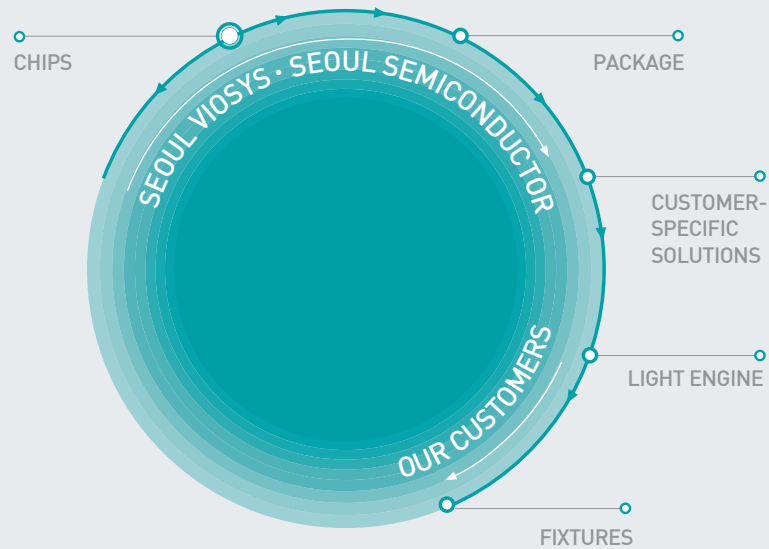


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We create innovations
for innovations.

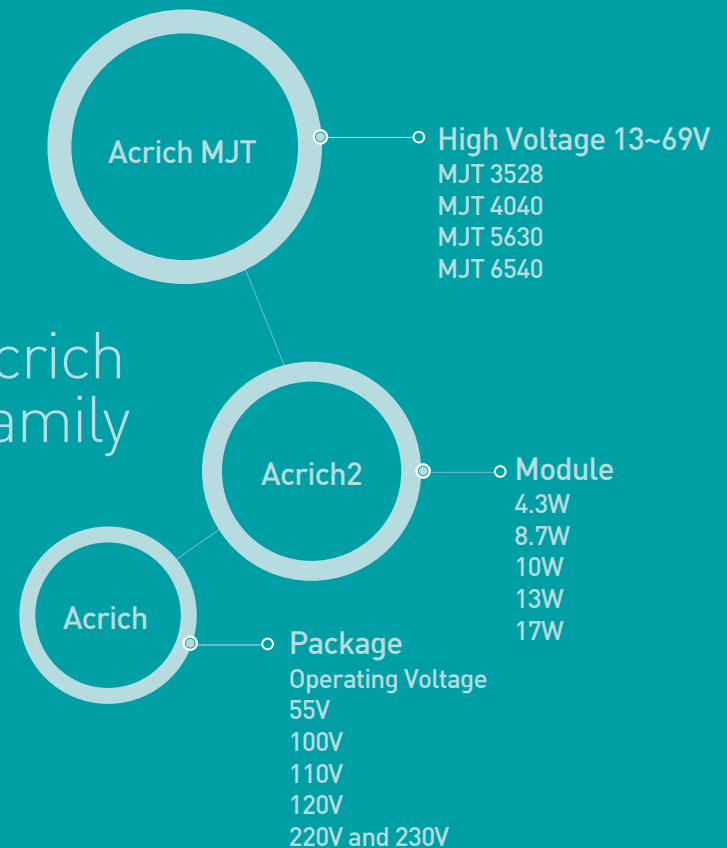
“THE REST IS UP TO YOU!”



Acrich

- › Acrich MJT
- › Acrich 2
- › Acrich

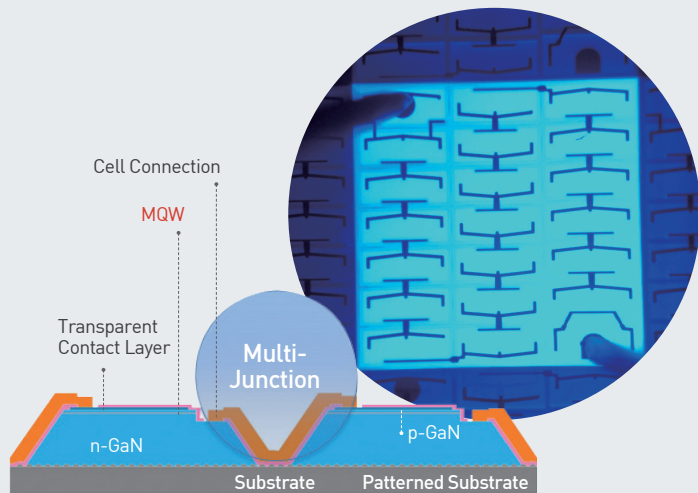
Acrich Family



Acrich MJT

Multi-Junction Technology

Acrich MJT (Multi-Junction Technology) LEDs are single-die, high-voltage, high-power devices providing designers high-voltage options without the large form factors of multi-die chip-on-boards. At 120 lumens/watt (in warm-white DC operation), the increased light density allows for cost-optimized performance in space-constrained applications. Available in a variety of packages, voltages and power levels.



Why Acrich MJT?

MJT Feature	Benefit
Low Current Operation	Increases LED Internal Quantum Efficiency
High Voltage chip	High voltage operation increases driver efficiency and reduces the number of LED packages
Multiple Lumen and Voltage options	Flexibility in lighting module design options and the ability to use the same package in different applications

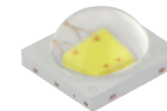


Advantages of Multi-Junction Technology

- Flickerless solution
 - Easy to make LED modules
 - Fewer components
 - A wide range of voltage 13V~69V
 - High luminous efficacy up to 130lm/W
 - Competitive cent/lm with scale merit



▲ MJT 3528



▲ MJT 4040



▲ MJT 5630



▲ MJT 6540

Applications

- Troffer
- Street Light
- Wall Washer
- Flood Light
- Tunnel

Electro Optical Characteristics

Series	Color	Part No.	Size [mm]	VF [V]	Flux [lm]	IF [mA]	Topr[°C]	CCT[K]	2θ 1/2[°]	CRI [Typ]
MJT 3528	WW	SAW8WA2A	3.5*2.8*0.6	32.5	124	40	-30~+85	2,600~3,700	120	82
	CW			32.5	132	40		3,700~7,000		
MJT 4040	CW	SAW09H0A	4.0*4.0*2.2	64	165	20	-30~+85	4,200~6,000	120	70
MJT 5630	WW	SAW8KG0A	5.6*3.0*0.75	19	35	20	-30~+85	2,600~3,700	115	82
	CW			19	40			3,700~7,000		
	WW	SAW8KG0B	5.6*3.0*0.75	22	49			2,600~3,700		
	CW			22	53			3,700~7,000		
MJT 6540	CW	SAW8P42A	6.5*4.0*0.80	13	30	20	-30~+85	3,700~7,000	115	83

Acrich2

Brightens Up the Streets of China with New Streetlights Powered by Acrich2



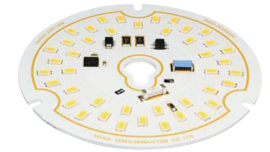
Weiyang road, Yangzhou city

“...Performance was not sacrificed in the installation as the Acrich-powered solution still provides a power factor of up to 0.99 and luminance efficacy of 100lm/W. Additionally, by using a small-sized Acrich IC which replaced existing AD/DC converters, which weigh 2~4kg, significant weight saving was achieved. The overall cost of installation & maintenance was reduced more than 50% in this outdoor streetlight application. In addition, the power consumption saved more than 55% in comparison to high-pressure sodium lamps. The LEDs in these Acrich2 AC LED modules are the Acrich MJT 4040, the new high power version of the Acrich multi-junction technology (MJT) family of high-voltage LEDs...”



Get Plugged in with Acrich2

“The latest Acrich2 16W module saves energy by up to 50 percent and improves compatibility with phase cut dimmer and analog DC dimmer”



Features & Solutions

Acrich2 is a revolutionary family of LED modules that make it easy to convert traditional light sources to solid-state lighting (LEDs). These modules do not require the drivers, bridges or ballasts associated with traditional light sources.

Acrich2 modules are the perfect replacement light sources for flush-mount fixtures, down lights and sconces.

- High Form Factor
- High Power Efficiency
- Connect AC Line Voltage directly
- High Power Factor
- Long Life Time
- UL, TUV certified

Applications

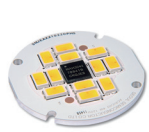
- Downlight
- PAR
- GU10
- Flush Mount
- MR16
- Wall Sconce
- A19 Bulb

Wide Voltage Range	Number of IC	x 1			x 2	...	x n	Dimming	
	277V 240V 230V 220V 120V 110V 100V	A wide range of power distribution	4W	8W	12W	16W	32W	...	200W
	Application	MR (MR16) GU (GU10)	Bulb(A19) Tube	Down Light Spot Lamp PAR Lamp	...	High Watt Application (Street Lighting, HighBay)			Phase Cut Dimming

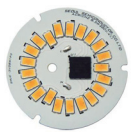
Electro Optical Characteristics

Series	Color	Part No.	VF [V]	Power [W]	CCT[K]	Binning	Flux Bin	Flux[lm] Min.	Flux[lm] Typ.	CRI		
4.3W	CW	SMJE-2V04W1P3	120	4.3W	4,700-6,000	McAdam 4 Step	4a	290	330	Min.80		
	NW				3,700-4,200		4b	380	400			
	WW				2,600-3,200		4c	430	450			
	CW	SMJE-3V04W1P3	220	4.3W	4,700-6,000		4a	290	330			
	NW				3,700-4,200	4b	380	400				
	WW				2,600-3,200	4c	430	450				
8.7W	CW	SMJE-2V08W1P3	120	8.7W	4,700-6,000	McAdam 4 Step	8a	590	650	Min.80		
	NW				3,700-4,200		8b	740	800			
	WW				2,600-3,200		8c	870	910			
	CW	SMJE-3V08W1P3	220	8.7W	4,700-6,000		8a	590	650			
	NW				3,700-4,200	8b	740	800				
	WW				2,600-3,200	8c	870	910				
8.7W-Candle	CW	SMJC-2V08W2P4*	120	8.7W	4,700-6,000	-	ALL	580	670	Min.80		
	WW				2,600-3,200							
	CW	SMJC-3V08W2P4*	220	8.7W	4,700-6,000							
	WW				2,600-3,200							
8.7W-Eco	CW	SMJE-2V08W2P4	120	8.7W	4,700-6,000	-	ALL	580	670	Min.80		
	WW				2,600-3,200							
	CW	SMJE-3V08W2P4	220	8.7W	4,700-6,000							
	WW				2,600-3,200							
NEW 10W	CW	SMJD-HE2V10W3	120	10W	4,700-5,300	-	ALL	1,250	1,350	Min.70		
	WW				2,600-3,200			1,100	1,200	Min.80		
	CW	SMJD-HE3V10W3	220	10W	4,700-5,300			-	ALL	1,250	1,350	Min.70
	WW				2,600-3,200					1,100	1,200	Min.80
12.7W-Eco	CW	SMJE-2V12W2P4	120	12.7W	4,700-6,000	-	ALL			850	930	Min.80
	WW				2,600-3,200							
	CW	SMJE-3V12W2P4	220	12.7W	4,700-6,000							
	WW				2,600-3,200							

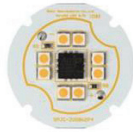
*Under Development



4.3W (Ø33mm)



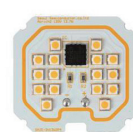
8.7W (Ø46mm)



8.7W candle (Ø30mm)



8.7W Eco (35.9x25.3mm²)



12.7W Eco (36.5x34mm²)

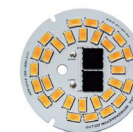
Electro Optical Characteristics

Series	Color	Part No.	VF [V]	Power [W]	CCT[K]	Binning	Flux Bin	Flux[lm] Min.	Flux[lm] Typ.	CRI	
13W	CW	SMJE-2V12W1P3	120	13W	4,700-6,000	McAdam 4 Step	13a	880	1,000	Min.80	
	NW				3,700-4,200		13b	1,140	1,210		
	WW				2,600-3,200		13c	1,300	1,360		
	CW	SMJE-3V12W1P3	220	13W	4,700-6,000		13a	880	1,000		
	NW				3,700-4,200	13b	1,140	1,210			
	WW				2,600-3,200	13c	1,300	1,360			
17W	CW	SMJD-2V16W1P3	120	17W	4,700-6,000	McAdam 4 Step	17a	1,140	1,300	Min.80	
	NW				3,700-4,200		17b	1,480	1,590		
	WW				2,600-3,200		17c	1,700	1,780		
	CW	SMJD-3V16W1P3	220	17.5W	4,700-6,000		17a	1,140	1,300		
	NW				3,700-4,200	17b	1,480	1,590			
	WW				2,600-3,200	17c	1,700	1,780			
	17W	CW	SMJD-2V16W2P3	120	17W	4,700-6,000	McAdam 4 Step	17a	1,140	1,300	Min.80
		NW				3,700-4,200		17b	1,480	1,590	
		WW				2,600-3,200		17c	1,700	1,780	
		CW	SMJD-3V16W2P3	220	17W	4,700-6,000		17a	1,140	1,300	
		NW				3,700-4,200	17b	1,480	1,590		
		WW				2,600-3,200	17c	1,700	1,780		
16W-Eco	CW	SMJD-2V16W2P4*	120	16W	4,700-6,000	-	ALL	1,070	1,260	Min.80	
	WW				2,600-3,200						
	CW	SMJD-3V16W2P4*	220	16W	4,700-6,000						
	WW				2,600-3,200						

*Under Development



10W (Ø100mm)



13W (Ø50mm)



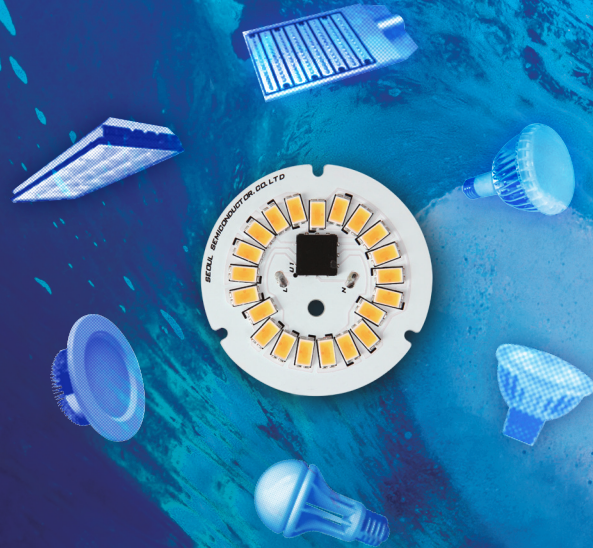
17W (Ø70mm)



17W (Ø100mm)

Experience the New Wave Acrich ⁺is **HERE!**

Fast to market
Reliable life time
Easy to design



AC Powered LED Modules by



SEOUL SEMICONDUCTOR
www.seoulsemicon.com/AcrichNewWave

Acrich2 : Make Way for a New Generation

Article by Dave Neal | Seoul Semiconductor

The next generation of AC solutions for LED bulbs and luminaires has arrived. Traditional AC LEDs have been in production for many years and although they simplify design solutions, they have several limitations. Today's Acrich2 solutions from Seoul Semiconductor combine a AC - integrated power IC technology with patented high voltage, multi-junction LEDs that overcome the shortcomings of traditional AC-powered LED solutions.

An AC LED is an LED that operates directly off of AC line voltage. The typical characteristics include dual strings of multiple LEDs (to achieve high voltages) arranged in opposite polarity (or configured with a full-bridge rectifier) to accept the AC waveform and a bias resistor to limit input current. While simple and inexpensive the AC LEDs suffer from many drawbacks including flicker, high total harmonic distortion (and subsequently poor power factor) and low efficacy.

No longer do you have to sacrifice power factor, efficiency, light quality or cost to gain the benefits of using AC technology. The Acrich2 IC solution utilizes a bank switching technology combined with a new type of high voltage LEDs that matches LED forward voltage with the line voltage waveform. Unlike the traditional AC LED solution which suffered from a high forward voltage, this approach increase the forward voltage in steps, allowing for a earlier turn on time, and a better matching of the current to the voltage waveform, thereby improving the power factor and THD. In this new solution, is the overall circuit runs on AC power not the LEDs.

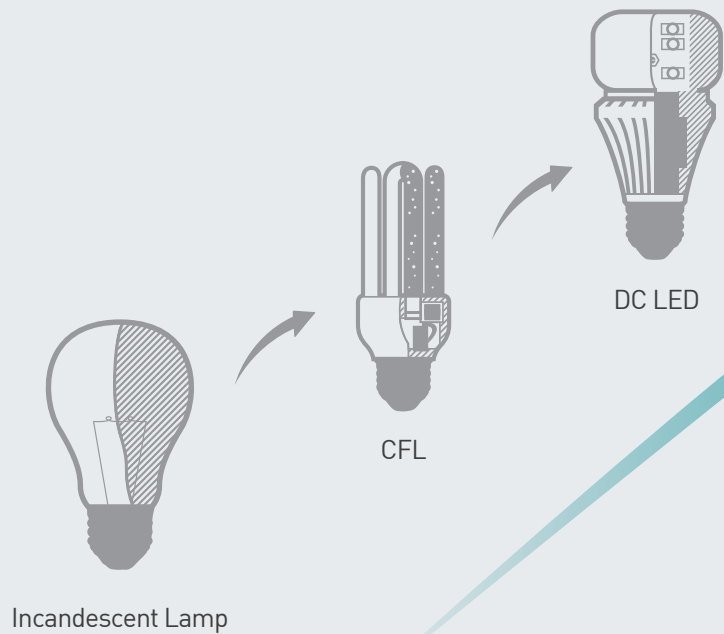
The Acrich2 High-Voltage LEDs with Multi-Junction Technology (AcrichMJT) enable a better AC solution. A multi-junction LED, unlike a standard LED that has a single junction and a 3.0V forward voltage drop, has a single semiconductor chip containing multiple light-emitting junctions within it. It allows the creation of LED packages with higher forward voltages and WITHOUT having to mount and wirebond multiple chips.

The combination of the AC driver IC and the Acrich Multi-junction LED technology allows the creation of modules that maximize efficiency, reduce part count and design complexity, improve reliability, and reduce cost.

	Traditional AC LED Technology	Acrich2 AC Technology Solution
LED Cost	Large Die, half wasted	Optimized dies size for application
Low Efficiency	Bias resistor consumes power	Switched steps for voltage match
Flicker	Higher Voltage String long off time	Switched forward voltage, short off time
Power Factor/THD	Low/High due to current/voltage mismatch	High/Low due to waveform match
High Reliability	Resistor Power consumption	No Electrolytic capacitors

To facilitate the implementation of luminaire designs using this technology, Seoul Semiconductor has created standard Acrich2 AC LED Modules that come in a wide variety of sizes, shapes and light output levels. These modules are UL recognized components and only require the soldering of two wires to connect to the AC line voltage.

“ That’s what we have accomplished so far. ”



- ✓ Lifetime x
- ✓ Power Consumption ÷
- ✓ Design Flexibility x
- ✓ Heatsink size ÷

2

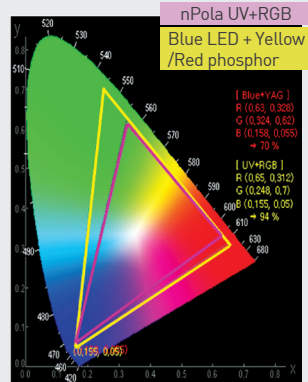
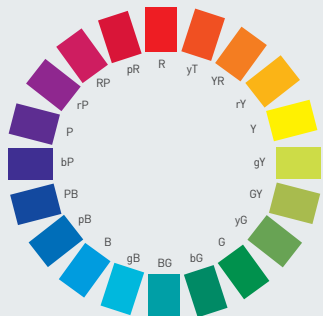
“ The revolution of lighting has been started from **Acrich.** ”

High Quality White LED by nPola UV

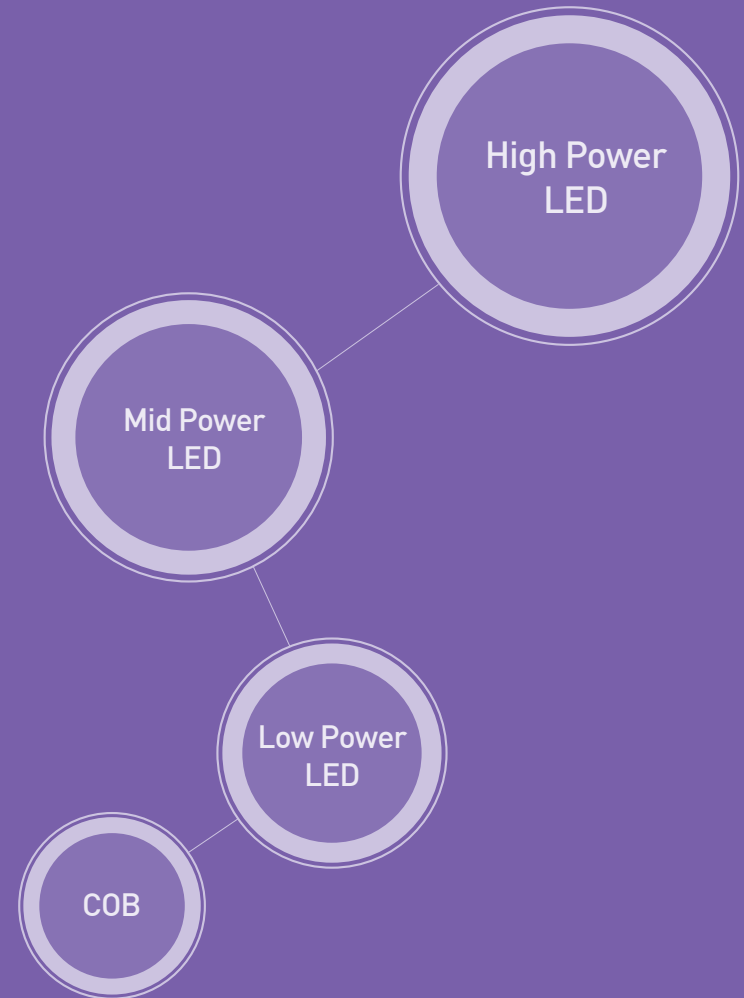
- In White LED Color Quality, R9~R15 is the most important factor. Conventional White LED is using Blue LED + Yellow/Red Phosphor and it has a limitation to reach high CRI in R9 and R15.
- nPola Technology strengthens UV Power from 15 to 20 times compared to conventional technology.
- nPola UV LED + RGB phosphor solution can reach over 95 in all CRI from R1 to R15



- Able to reach High Gamut for TV and Monitor



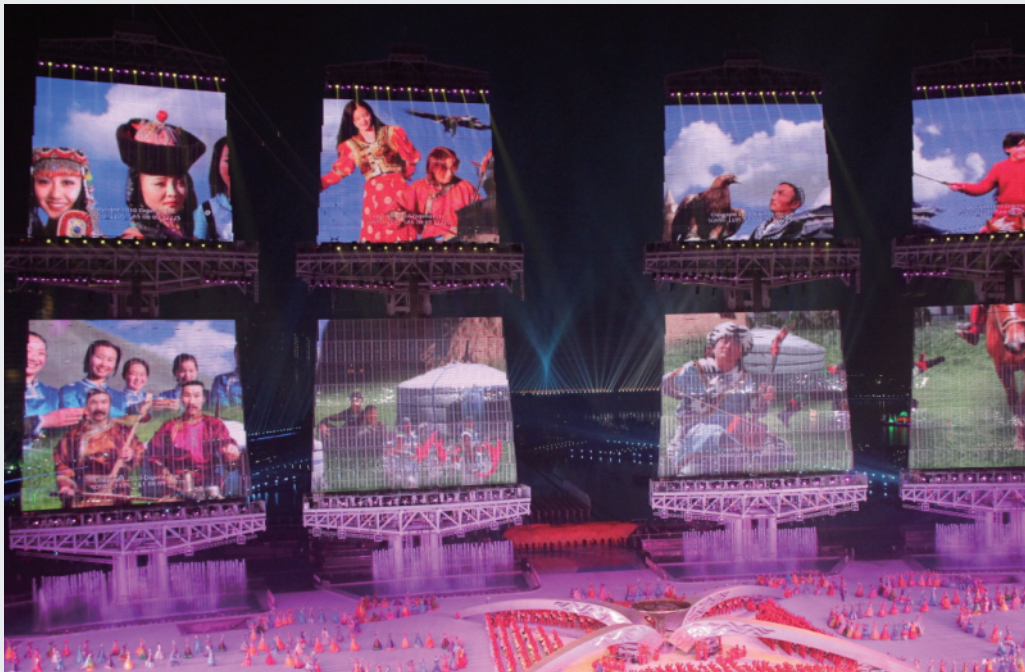
LEDs by Power



High Power LED

Seoul Semiconductor's High Power LEDs are right LEDs for world-famous places.

- 120th anniversary of Eiffel Tower
- 2008 Olympic Games
- 2010 Asian Games

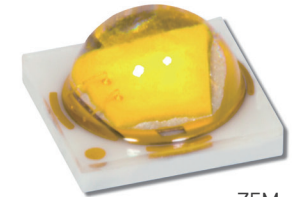


Case Study
Z-power series installed as stage lighting at the opening ceremonies of the Asian Games 2010

Seoul Semiconductor
High Power LED

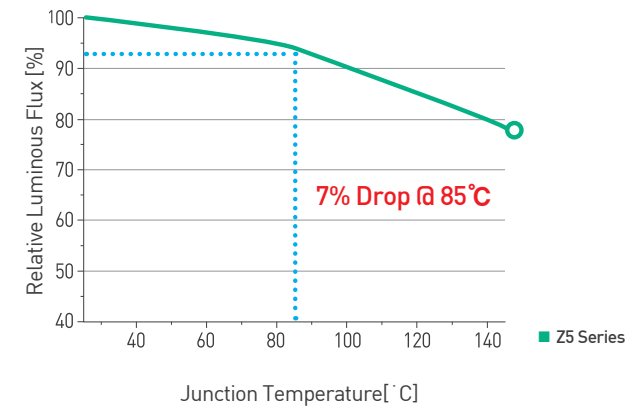
Excellent Hot Lumen Maintenance of Z5 Series

Z5 Series, world's leading high power LEDs, have excellent hot lumen maintenance. Z5 Series show only 7% of luminous flux drop in a junction temperature of 85°C and are even available with a color rendering index(CRI) of 90.



Z5M

- LM80
- AEC-Q101
- ANSI compliant
- RoHS compliant



Z-Power LED (White)

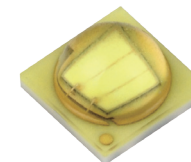
Electro-Optical Characteristics

Series	Part No.	Color	VF[V]	Flux [lm]	CCT[K]	CRI(Typ)	IF[mA]	IF[mA] (Max)	2θ½[°]	Type
Z5M	NEW SZ5-M1-W0-00	CW	2.95	155	5,300	Min.70	350	1,500	118	Emitter
	NEW SZ5-M1-WN-00	NW	2.95	150	4,000	Min.70	350	1,500	118	Emitter
	NEW SZ5-M1-WN-C8	NW	2.95	138	4,000	Min.80	350	1,500	118	Emitter
	NEW SZ5-M1-WW-C8	WW	2.95	128	3,000	Min.80	350	1,500	118	Emitter
	SZ5-M0-W0-00	CW	2.95	142	5,300	Min.70	350	1,500	120	Emitter
	SZ5-M0-W0-C8	CW	2.95	135	5,300	Min.80	350	1,500	120	Emitter
	SZ5-M0-WN-00	NW	2.95	140	4,000	Min.70	350	1,500	120	Emitter
	SZ5-M0-WN-C8	NW	2.95	122	4,000	Min.80	350	1,500	120	Emitter
	SZ5-M0-WN-C9	NW	2.95	95	4,000	Min.90	350	1,500	120	Emitter
	SZ5-M0-WW-C8	WW	2.95	116	3,000	Min.80	350	1,500	120	Emitter
SZ5-M0-WW-C9	WW	2.95	93	2,700	Min.90	350	1,500	120	Emitter	
Z5P	NEW SZ5-P1-W0-00	CW	3.05	148	5,300	Min.70	350	1,000	118	Emitter
	NEW SZ5-P1-WN-00	NW	3.05	143	4,000	Min.70	350	1,000	118	Emitter
	NEW SZ5-P1-WN-C8	NW	3.05	128	4,000	Min.80	350	1,000	118	Emitter
	NEW SZ5-P1-WW-C8	WW	3.05	115	3,000	Min.80	350	1,000	118	Emitter
Z5	SZW05A0A	CW	3.3	105	6,300	70	350	700	120	Emitter
	SZW05A0B	CW	3.3	124	6,000	70	350	700	120	Emitter
	SZWN5A0B	NW	3.3	115	4,200	Min.80	350	700	120	Emitter
	SZWW5A0B	WW	3.3	100	3,000	Min.80	350	700	120	Emitter
Z7	SZW07A0A	CW	3.3	550	6,000	70	1,400	2,800	130	Emitter
Z4	SZWW4A0A	WW	8.6	100	3,000	Min.80	120	200	130	Emitter
Z1	WZ10150	CW	3.6	100	6,300	68	400	450	120	Emitter
	NZ10150	WW	3.6	76	3,000	80	400	450	120	Emitter
P8	SPW08F0D	CW	3.4	82	6,000	73	350	500	120	Emitter
	SPW88F0E	CW	3.4	100	6,000	80	300	400	120	Emitter
	SPWW8F0E	WW	3.4	95	3,000	80	300	400	120	Emitter
P8(AUTO)	SPW08F0Z	CW	3.3	43	6,000	74	150	250	120	Emitter
	SPW08F0D	CW	3.4	82	6,000	73	350	500	120	Emitter
	W42180-07	CW	3.1	108	6,300	80	350	800	127	Emitter
P4	W42180-08	CW	3.3	110	6,000	70	350	1,000	123	Emitter
	W42182-08	CW	3.3	110	6,000	70	350	1,000	123	Star
	W49180-08	CW	3.3	125	6,000	73	350	700	95	Emitter
	S42180-08	NW	3.3	88	4,000	91	350	700	123	Emitter
	S42180H-08	NW	3.3	98	4,000	80	350	700	123	Emitter
	S42182-08	NW	3.3	88	4,000	91	350	700	123	Star
	N42180-08	WW	3.3	84	3,000	91	350	700	123	Emitter
	N42180H-08	WW	3.3	93	3,000	80	350	700	123	Emitter
	N42182-08	WW	3.3	84	3,000	91	350	700	123	Star
	P9	W92050C	CW	3.65	28	6,300	70	150	200	130

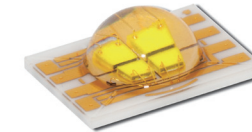
Z-Power LED (Color)

Electro-Optical Characteristics

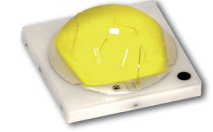
Series	Part No.	Color	VF[V]	Flux[lm]	λd[nm]	IF[mA]	IF[mA] (Max)	2θ½[°]	Type
Z5	SZR05A0A	Red	2.4	55	625	350	700	123	Emitter
	SZG05A0A	Green	3.3	100	525	350	700	128	Emitter
	SZB05A0A	Blue	3.3	22	460	350	700	128	Emitter
	SZA05A0A	Amber	2.3	46	592	350	700	123	Emitter
	P4	R42180	Red	2.3	48	625	350	800	130
G42180		Green	3.25	70	525	350	1,000	130	Emitter
B42180		Blue	3.25	22	465	350	1,000	130	Emitter
A42180		Amber	2.3	48	590	350	800	130	Emitter
A42182		Amber	2.3	48	590	350	800	130	Star
P5-II	F50360	Full Color	2.5	35	625	350	400	120	Emitter
			3.8	57	525	350	400	120	
			3.6	13	460	350	400	120	



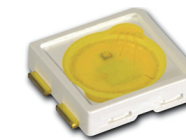
Z5M



Z7



Z4



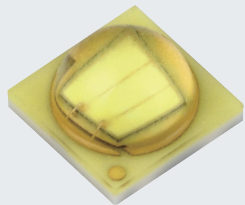
P8



P4

New Product

Z5M1



Superior efficacy and light output from a compact source

Features

- Compact symmetrical footprint (3.5mm x 3.5mm) for high-density arrays
- Full color temperature range from 2600K to 7000K and minimum CRI options of 70 and 80
- Thermal resistance of RthJS (typ.) 4.5 K/W
- Hot tested at real world operating conditions of Tj = 85°C
- Excellent current elasticity: can be driven from 150mA up to 1.5 A with high efficacies
- 1/16th ANSI compatible chromaticity bins for warm CCT color ranks G and H (2600K- 3200K)

Typical Performance Characteristics at 85°C

Part Number	CCT (K)	Typical Luminous Flux ΦV (lm)			Typical Forward Voltage (VF)		
	Typ.	350mA	700mA	1.2A	350mA	700mA	1.2A
SZ5-M1-W0-00	5300	142	258	393	2.78	2.96	3.14
SZ5-M1-WN-00	4000	137	250	380	2.78	2.96	3.14
SZ5-M1-WN-C8	4000	126	229	349	2.78	2.96	3.14
SZ5-M1-WW-C8	3000	117	210	322	2.78	2.96	3.14

Key Applications

- Retrofit Lamps
- Down lights
- Retail lighting
- Office lighting
- Highbay and Lowbay
- Outdoor
- Architectural

Advantages

- **Efficient**
Delivering high lumens per watt and lm/\$ to lower system costs. The new warm white Z5M1 provides Typ.121 lm/W at 3000K, CRI min 80 and Typ.145 lm/W at 6000K, CRI min 70, all at 350mA and real world operating temperature of 85°C.
- **Powerful**
The new Z5M1, with Seoul Semiconductor's latest power chip technology, can be driven up to 1.5A (max) and with efficacies of 82 lm/W warm white (3000K, CRI min 80) and 98 lumens per watt cool white (6000K, CRI min 70), all at 1200mA and real world operating temperature of 85°C.
- **Color Consistency**
The 3 step MacAdam Binning in warm white (2600K - 3200K) color temperatures ensures fixture to fixture color consistency especially for indoor lighting applications.

Our new featured product, the Z5M1 offers great lm/\$ and lm/W for a power LED in its class. For applications where efficiency and cost are the key drivers the Z5M1 outperforms its competitors

Mid Power LED



5630 LEDs, the world's best performance in light output with 180 lm/W efficacy

The 5630 LEDs fulfill requirements such as high color stability, good CRI quality, long life time, and of course, a highly acceptable performance concerning lm/W as well as price per lumen.

Seoul Semiconductor
Mid Power LED

We head towards a better and brighter future with 5630

- Cost competitive with high lm/W (Max 180lm/W)
- Best reliability in the industry
- Max current up to 160mA
- 0.3~0.5W single chip package
- High CRI solutions (min CRI 90)
- Energy star binning
- MacAdam 3 step binning (2600-3200K)
- Optimized for bulb lighting solution



▲ 5630 C

Electro-Optical Characteristics

Part No.	CCT	Luminous Intensity [mcd]	Flux [lm]	VF[V]	Luminous Efficacy [lm/W]	CRI	IF [mA]	Thermal Resistance [RθJ-C, °C/W]
STW8Q14C	5000K	14,000	42.2	3.15	134	Min.80	100 (max. 160)	18
	3000K	12,700	38		120			
STW9Q14C	3000K	12,200	30.9		98	Min.90		

Mid Power LED (White)

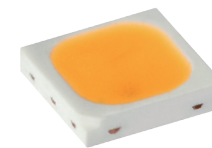
Electro-Optical Characteristics

Part No.	Color	Size[mm]	VF[V]	Iv[mcd]	Iv[mcd] (Max)	CCT[K]	IF[mA]	IF[mA] (Max)	2θ½[°]	CRI(Typ)
STW9B12C	White	3.0*2.0*0.6	3.2	9,500	-	2,600-4,200	100	120	120	Min.90
STW8B12B	White	3.0*2.0*0.6	3.05	5,050	-	2,600-7,000	40	80	120	Min.80
STW8B12C	White	3.0*2.0*0.6	3.15	11,350	-	2,600-7,000	100	120	120	Min.80
C9WT821	White	3.5*2.8*1.9	3.3	4,500	-	2,600-7,000	60	90	120	92
SWT821-S	White	3.5*2.8*1.9	3.2	5,500	-	4,800-12,000	60	90	120	68
STW8C2SA	White	3.0*3.0*0.65	6.1	26,300	27,500	2,600-7,000	100	200	120	Min.80
STW9C2SA	White	3.0*3.0*0.65	6.1	20,000	24,000	2,600-4,200	100	200	120	Min.90
STW7T16A	White	5.0*5.0*1.4	3.1	7,000	-	4,700-7,000	60	90	120	75
STW8T16A	CW	5.0*5.0*1.4	3.1	6,800	7,500	3,700-7,000	60	90	120	Min.80
	WW			6,400	7,000	2,600-3,700				
STW8T36B	White	5.0*5.0*1.4	3.2	5,500	-	2,600-8,200	60	90	120	80
STW9T36B	White	5.0*5.0*1.4	3.2	5,000	-	2,600-8,200	60	90	120	90
STW8T16C	CW	5.0*5.0*1.0	3.1	9,000	-	3,700-8,200	65	100	120	Min.80
	WW	5.0*5.0*1.0	3.1	8,200	-	2,600-3,700				
STW8Q14C	White	5.6*3.0*0.75	3.15	14,000	-	2,600-7,000	100	160	120	Min.80
STW9Q14C	White	5.6*3.0*0.75	3.15	10,200	-	2,600-4,200	100	160	120	Min.90
STW9Q14B	White	5.6*3.0*0.9	3.2	9,500	-	2,600-4,500	100	160	120	Min.90
STW8Q14BE	White	5.6*3.0*0.9	3.2	11,700	-	2,600-7,000	100	160	120	Min.80
STW8Q2PA	White	5.6*3.0*0.9	3.2	8,500	-	2,600-7,000	100	160	120	Min.80

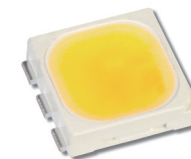
Mid Power LED (Color)

Electro-Optical Characteristics

Part No.	Color	Size[mm]	VF[V]	Iv[mcd]	Iv[mcd] (Max)	λd[nm]	IF[mA]	IF[mA] (Max)	2θ½[°]
SFT825N-S	Full Color	3.5*2.8*1.4	2.1	700	1,100	623	20	30	120
			3.2	1,200	1,600	527			
			3.2	400	560	460			
SFT825Z-S	Full Color	3.5*2.8*1.4	2.1	700	1,100	623	20	30	120
			3.2	1,200	1,600	527			
			3.2	400	560	460			
SFT722N-S	Full Color	6.0*5.0*2.5	2.1	700	1,100	623	20	30	120
			3.2	1,200	1,600	527			
			3.2	200	560	460			



▲ 3030



▲ 5050



▲ 5630

Low Power LED

SMD Type

Best Solution for Retail Lighting



Proper lighting is crucial since the food has to look fresh and appetizing in the food section. Therefore not only the light intensity but also the color spectrum of the used lamps play an important role.

One of the largest retailers in Switzerland installed new, environmentally friendly and energy efficient Lighting System with Seoul Semiconductor's 803 series. Seoul Semiconductor's 803 series are ideal for retail lighting applications which require homogeneous light distribution and high color rendering index.

SMD Type:Top View LED

Electro-Optical Characteristics

Part No.	Color	Size[mm]	VF[V]	Iv[mcd]	Iv[mcd] (Max)	CCT[K] λd[nm]	IF[mA]	IF[mA] (Max)	2θ½[°]	CRI(Typ)
KWT803-S	White	3.0*2.0*1.2	3.2	2,100	2,500	5,300-8,900	20	30	115	Min.60
C8WT803	White	3.0*2.0*1.2	3.2	1,800	2,300	2,600-7,000	20	30	115	80
C9WT803	White	3.0*2.0*1.2	3.2	1,500	2,000	2,600-7,000	20	30	115	90
ELWT801-S	White	3.5*2.8*1.9	3.4	840	1,120	-	20	30	120	-
EWT801-S	White	3.5*2.8*1.9	3.4	1,680	2,240	-	20	30	120	-
AWT801-S	White	3.5*2.8*1.9	3.3	1,600	-	2,700-4,500	20	30	120	-
ERT801-S	Red	3.5*2.8*1.9	2	90	130	635	20	30	120	-
LUYT801-S	Yellow	3.5*2.8*1.9	2.1	130	210	587	20	30	120	-
FAT801-S	Amber	3.5*2.8*1.9	2.2	220	320	606	20	30	120	-
UYGT801-S	Yellow Green	3.5*2.8*1.9	2.1	90	105	572	20	30	120	-
UPGT801-S	Green	3.5*2.8*1.9	2.2	17	36	562	20	30	120	-
MBT801-S	Blue	3.5*2.8*1.9	3.2	335	600	470	20	30	120	-

Low Power LED

Through Hole Type

Holiday lighting in Belgium using 4 Φ Can type Lamp LED



Copyright by MK Illumination

Designing and implementing decorative but energy efficient illumination displays are always the most delicate issue for holiday like Christmas – the luminaires or displays must be able to be dealt with wintertime outdoor conditions such as rain, snow and ice, or very cold temperatures.

Our 4 Φ Can type Lamp LEDs in cool white and warm white provide a perfect solution for decoration lighting and we proudly deliver high quality LEDs customized for special outdoor projects.

Through Hole Type:Lamp LED Electro-Optical Characteristics

Part No.	Color	VF[V]	Iv[mcd]	IF[mA]	IF[mA] (Max)	CIE[x,y] λ_d [nm]	2 $\theta_{1/2}$ [°]	CRI(Typ)	
Ø5 Round	LW514	White	3.2	26,000	20	30	0.31,0.31	15	Typ.68
	LW520A	White	3.2	14,000	20	30	0.31,0.31	22	Typ.68
	LW540A	White	3.3	6,000	20	30	0.31,0.31	40	Typ.68
	LW540AS	White	3.3	6,000	20	30	0.31,0.31	40	Typ.68
	LW551A	White	3.2	2,200	20	30	0.31,0.31	52	Typ.68
	LB520	Blue	3.2	3,500	20	30	470	22	-
	LR521	Red	2	7,500	20	30	625	22	-
	LR530	Red	2.2	6,500	20	30	625	30	-
	LY530	Yellow	2.2	6,000	20	30	590	30	-
Ø5 Oval	LR770D	Red	2.2	700	20	30	625	70	-
Ø5 Cylinder	LB580A	Blue	3.6	250	20	30	470	80	-
Ø3 Round	LW340A	White	3.3	5,500	20	30	0.31,0.31	44	68
	LB340	Blue	3.6	800	20	30	470	40	-
	LY350	Yellow	2.2	2,500	20	30	590	45	-

Through Hole Type:High Flux LED Electro-Optical Characteristics

Part No.	Color	VF[V]	VF[V] (Max)	Φ_v [lm]	Iv[mcd]	IF[mA]	IF[mA] (Max)	CIE[x,y] λ_d [nm]	2 $\theta_{1/2}$ [°]	CRI
HW321A	White	3.4	4	6	2,500	30	30	0.31,0.31	70	68
HW331A	White	3.4	4	6	1,600	30	30	0.31,0.31	110	68
HR310	Red	2.6	3	6	10,000	70	70	625	40	-

Chip On Board

The ZC series are High Flux and High Efficacy COB (Chip On Board) series designed for easy attaching to lighting fixture directly without reflow process. The thermal management performance exceeds other high power LED solutions.

Due to the small size of COB light source, it is easier to make an omni directional lamp. In addition, COB eliminates shadow effect while multiple light source of SMD packages cause many shadows. Since there is no Ag metal in Seoul Semiconductor's COB, there is no color changes occurred by SO2 and H2S.

Short Thermal Path
→ Improve Reliability

Only One Light Source
→ Best Quality of Light
→ No Shadow Effect

Small Optic Size

Electro-Optical Characteristics

Series	Part No.	Color	Power [P]	Size	VF [V]	Flux [lm]	Effi-cacy [lm/W]	CCT [K]	CRI [Typ]	IF [mA]	2θ [1/2°]	Rθj-s [K/W]	Junction Temp. [°C]
ZC6	SDW01F1C	CW	6.7	13.5*13.5	37	870	130	5,000	Min.70	180	120	2.6	120
	SDW81F1C	WW	6.7	13.5*13.5	37	710	105	2,700	Min.80	180	120	2.6	120
ZC12	SDW02F1C	CW	13	19.0*19.0	37	1,780	135	5,000	Min.70	350	120	1.7	120
	SDW82F1C	WW	13	19.0*19.0	37	1,440	110	2,700	Min.80	350	120	1.7	120
ZC18	SDW03F1C	CW	18.5	19.0*19.0	37	2,520	135	5,000	Min.70	500	120	1.7	120
	SDW83F1C	WW	18.5	19.0*19.0	37	2,050	110	2,700	Min.80	500	120	1.7	120
ZC25	SDW04F1C	CW	25.9	28.0*28.0	37	3,650	140	5,000	Min.70	700	120	0.4	120
	SDW84F1C	WW	25.9	28.0*28.0	37	3,000	115	2,700	Min.80	700	120	0.4	120
ZC40	SDW05F1C	CW	37	28.0*28.0	37	5,030	135	5,000	Min.70	1,000	120	0.4	120
	SDW85F1C	WW	37	28.0*28.0	37	4,100	110	2,700	Min.80	1,000	120	0.4	120

Solution Partners

Electronic

Company Name	Region	Website	E-mail	Tel
Macroblock		www.mblock.com.tw	sandra@mblock.com.tw	+886-3-579-0068
FAIRCHILD Semiconductor	Worldwide	www.fairchildsemi.com/ledlighting		+1-972-910-8000
Taiwan Semiconductor	USA	www.taiwansemi.com	sales@tscus.com	+1-909-525-9777
	Germany		munich@tsceu.com	+49-81-0699-6360
	France		infoparis@tsceu.com	+33-1-6939-2829
	UK		pat.howard@tsceu.com	+44-178-5660-440
	China		sales_china@mail.ts.com.tw	+86-21-6876-5776
	Japan		sales@tscj.jp	+81-3-5840-6381
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CIRRUS LOGIC	USA	www.cirrus.com		+1-512-851-4000
	Korea		douglas.kim@reigncomtech.com	+82-02-525-7942
CrucialChips	Korea	www.crucialchips.com	crucialchips@crucialchips.com	+82-070-4473-2544
	Taiwan			+886-4-2312-5478
	Japan			+81-3-3454-2792
	China			+86-21-6440-0376
DONGWOON ANATECH	Korea	www.dwanatech.com	sales@dwanatech.com	+82-2-3465-8765
TEXAS INSTRUMENTS		www.ti.com		972-995-2011
STMicroelectronics		www.st.com		+41-22-929-2929
National semiconductor		www.national.com		972-995-2011
Infineon		www.infineon.com		+49-89-234-65555
Supertex		www.supertex.com		408-222-8888
Austriamicrosystems		www.ams.com	info@ams.com	+43-3136-5003-2110
NXP Semiconductors		www.nxp.com		+31-4027-29960
Maxim		www.maximintegrated.com		408-601-1000
Power Integrations		www.powerint.com	ir@powerint.com	408-414-9200
Diodes	Worldwide	www.diodes.com	inquiries@diodes.com	972-987-3900
Rohm Electronics		www.rohm.com		+81-75-311-2121
Exar		www.exar.com	commtechsupport@exar.com	510-668-7000
Power Analog Microelec-tronics		www.poweranalog.com	marketing@poweranalog.com	408-733-8801
Skyworks		www.skyworksinc.com		+1-781-376-3000
Analog Devices		www.analog.com		781-329-4700
Freescale		www.freescale.com		+1-800-521-6274
Linear Technology		www.linear.com		+1-408-432-1900
Semtech		www.semtech.com		+1-805-498-2111
Monolithic Power Systems		www.monolithicpower.com	usinfo@monolithicpower.com	+408-826-0600
Intersil		www.intersil.com		+1-408-432-8888

Thermal

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Ceramtec	Europe	www.ceramtec.de	r.herrmann@ceramtec.de	+49-7153-6110
Fischer Elektronik		www.fischerelektronik.de	info@fischerelektronik.de	+49-2351-4350
DDP		www.datadisplay.com	ronald@datadisplay.com	+1-310-563-3413
FujiPoly	USA	www.fujipoly.com	info@fujipoly.com	+1-732-969-100
Nuventix		www.nuventix.com	info@neventix.com	+1-512-382-8100
Yongshenkeji	China	www.szyongsen.cn	lol98288@163.com	+86-755-2992-6070
CCI	Taiwan	www.ccic.com.tw	scott_wu@ccic.com.tw	+886-2-2995-2666
SUNON		www.sunon.com	ronchen@email.sunon.com.tw	+886-2-2799-2383
Coolone	Korea	www.coolone.kr	shc1215@gmail.com	+82-70-7707-1114

Optical

Company Name	Region	Website	E-mail	Tel
Carclo	Europe	www.carclo-optics.com	sales@carclo-optics.com	+44-1753-575-011
Gaggione		www.lednlight.com	d.veryser@gaggione.com	+33-04-7476-1266
Khatod		www.khatod.com	khatod@khatod.com	+39-02-6601-3695
LEDIL		www.ledil.fi	sales@ledil.com	+358-1-833-8330
Polymer Optics		www.polymer-optics.co.uk	info@polymer-optics.co.kr	+44-118-989-3341
Fraen	USA	www.fraensrl.com	j_gilbert@fraen.com	+1-781-205-5325
LEDLink	Taiwan	www.ledlink-optics.com	joe_chen@ledlink-optics.com	+886-2-8227-6126
Shenzhen Likeda	China	www.ledlens.cn	aimee@ledlens.cn	+86-755-3366-0926
BOEIM	Korea	www.boeim.com	mki86@boeim.net	+82-10-9890-9015
Sekonix	Korea	www.sekonix.com	navi307@sekonix.com	+82-31-860-1062

Optic Solution: Single

Beam Angle	Manufacturers										
	Products	Carclo	Fraen	Gaggione	Khatod	LEDIL	Polymer Optics	LEDlink	Shenzhen Likeda	BOEIM	Sekonix
1-10 °	Z5	o		o		o		o		o	
	Z6									o	
	Z7									o	
	A2						o				
	A3						o				o
	A4							o			
	A7									o	
	P4	o	o	o	o	o	o	o	o		
	P5- II				o						
10-20 °	Z5	o		o	o	o		o	o	o	
	A2	o									o
	A3			o	o						o
	A4							o			
	P4	o			o	o	o	o	o		o
	P5- II	o				o	o				
	Z1	o						o			

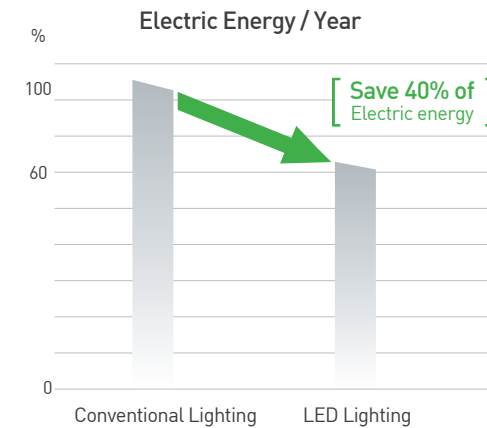
Beam Angle	Manufacturers										
	Products	Carclo	Fraen	Gaggione	Khatod	LEDIL	Polymer Optics	LEDlink	Shenzhen Likeda	BOEIM	Sekonix
20-30 °	Z5	o		o	o			o	o	o	
	Z6									o	
	Z7									o	
	Z1	o						o			o
	A2	o									o
	A3			o	o						o
	A4							o			o
	A7									o	
	P4	o	o	o	o	o	o	o	o		o
30-40 °	P5- II	o		o	o	o					
	P9				o						
	Z5	o			o	o	o	o		o	
	A2	o									o
	A3			o	o						o
	A4							o			o
	P4	o	o	o	o	o		o			o
	P5- II	o				o					
	P9					o					
40-50 °	Z1							o			
	Z5	o			o	o	o	o	o		
	Z1	o						o			o
	A4							o			
50-60 °	P4						o	o	o		
	Z5						o	o	o		
	Z1							o			
60-70 °	A4							o			
	P4				o			o	o		
	Z5							o			
70-80 °	Z1							o			
	A4							o			
	P4							o			
80-90 °	P4								o		
	Z5							o			
90 °~	P4								o		
	Z5	o			o	o	o	o	o		
Asymmetric	Z7										
	Z1	o						o			
	A2	o									o
	A3										o
	A4							o			
	P4	o	o	o	o	o	o	o	o	o	o
	P5- II	o									
P9					o						

Optic Solution : Multi

Beam Angle	Products	Manufacturers									
		Carclo	Fraen	Gaggione	Khatod	LEDIL	Polymer Optics	LEDlink	Shenzhen Likeda	BOEIM	Sekonix
1-10 °	Z5			o	o	o		o			
	Z1							o			
	A3										
	A4							o			
	P4		o	o	o			o			
	P5- II			o	o						
10-20 °	P9			o							
	Z5	o		o	o	o		o	o		
	Z1							o			
	A4							o			
	P4			o				o	o		
	P9							o			
20-30 °	Z5	o		o	o	o		o	o		
	Z1							o			
	A4							o			
	P4		o	o	o			o	o		
	P5- II		o	o	o						
	P9				o						
30-40 °	Z5			o	o	o		o	o		
	Z1							o			
	A4							o			
	P4		o	o	o			o	o		
	P5- II		o		o						
	P9				o						
40-50 °	Z5	o		o	o	o		o			
	Z1							o			
	A4							o			
	P4							o			
	P5- II										
	P9				o						
50-60 °	Z5			o	o	o		o	o		
	Z1							o			
	P4			o	o	o		o			
	P5- II				o						
	P9				o						
	A4							o			
70-80 °	P4							o			
	Z1							o			
	P4							o			
	P4							o			
90 °~	Z5								o		
	Z5	o		o		o			o		
Asymmetric	Z1							o			
	P4			o				o	o		

SEOUL SEMICONDUCTOR ECO-FRIENDLY MANUFACTURING STARTS WITHIN OUR OWN FACILITY

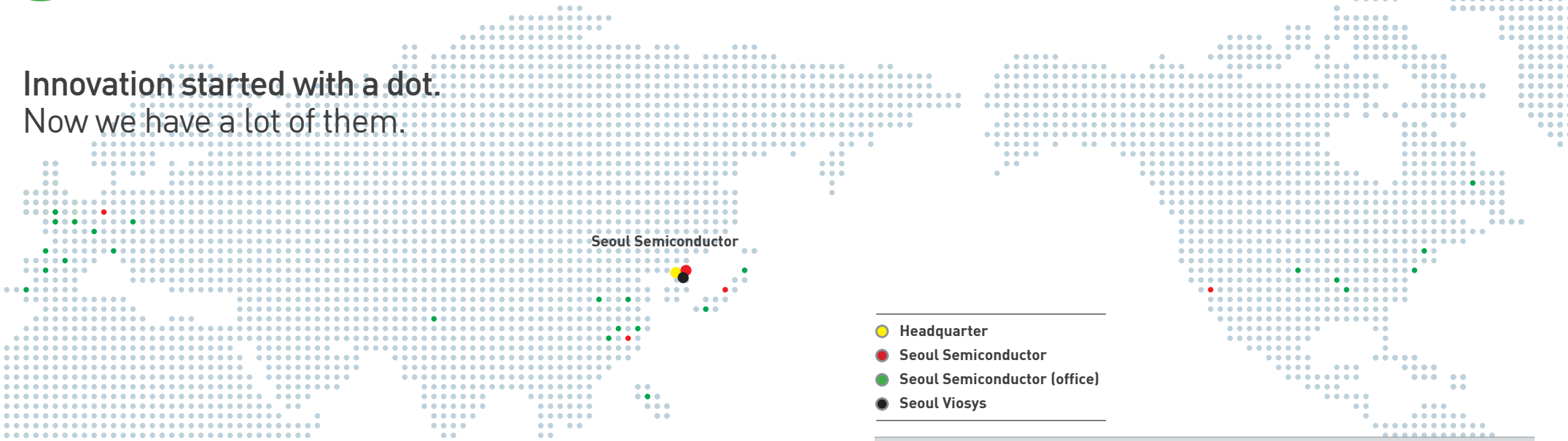
The new factory of SEOUL SEMICONDUCTOR has adopted LED for all its interior and exterior lightings which would help to reduce electrical energy cost by 40%, and it reduces environmental pollution by reusing deionized water in the manufacturing process. This philosophy is the foundation of efficient products keeping premium performance.



During last 1 year, Seoul Semiconductor has saved total 40% of electric energy usage of its new building. It also saved 0.8 million US\$ per year comparing to when using conventional lighting in the past. This new LED building has been ISO 14001 certified.



Innovation started with a dot.
Now we have a lot of them.



Seoul Semiconductor

- Headquarter
- Seoul Semiconductor
- Seoul Semiconductor (office)
- Seoul Viosys

Where to find us

October, 2013 ~ December, 2013

Date	Place	Contents
Oct. 27-30	Hong Kong (Wanchai)	Hong Kong International Lighting Fair
Nov. 05-08	Russia (Moscow)	Interlight Moscow

Seoul Semiconductor Co., Ltd (Headquarter)			
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Tel	+82-1566-2771	Fax	+82-31-500-7600
e-mail	info.kr@seoulsemicon.com		
Seoul Semiconductor Europe GmbH			
Add	Claudius-Keller-Strasse 3B, 81669 Munich, Germany		
Tel	+49-89-450-3690-0	Fax	+49-89-450-3690-45
e-mail	info.europe@seoulsemicon.com		
Seoul Semiconductor, Inc (USA)			
Add	5856 Corporate Ave., Suite 240, Cypress, CA 90630		
Tel	+1-714-995-7151	Fax	+1-678-550-8374
e-mail	info.na@seoulsemicon.com		

China Seoul Semiconductor			
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	Tel	+86-755-8831-1696 (Lighting) +86-755-8831-2165 (BLU)	
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	Tel	+86-21-6270-3282	
	Fax	+86-21-6208-5754	
e-mail	info.cn@seoulsemicon.com		info.tw@seoulsemicon.com
Japan Seoul Semiconductor Co., Ltd			
Add	KS Bldg. No2 6F, 1-11-17, Shinjuku, Shinjuku-ku-Tokyo, 160-0022, Japan		
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e-mail	info.jp@seoulsemicon.com		
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	Tel	+91-9029004858	
	e-mail	pradeep.shah@seoulsemicon.com	
South East Asia	e-mail	info.sea@seoulsemicon.com	
Australia & Middle East Asia	e-mail	info.aume@seoulsemicon.com	
South America	e-mail	info.sa@seoulsemicon.com	

Where to buy

Europe

Country	Distributors	Website
Pan-European	Freeway electronics	www.freeway-lighting.com
	Silica	www.silica.com
East Europe	Microdis	www.microdis.net
Belgium	Alcom electronics nv	www.alcom.be
Czech-Republic	Official Electronic	www.official.cz
Finland	OEM	www.oemelectronics.fi
France	High Tech Detection System	www.htds.fr
Germany	Neumueller Elektronik	www.neumueller.com
Italy	Acsel	www.acsel.it
	Melchioni S.p.a	www.melchioni.it
Poland	Soyter Sp. z o.o.	www.soyter.pl
Russia	MicroEM	www.microem.ru
	Symmetron	www.symmetron.ru
Slovenia/Croatia	IC Elektronika	www.ic-elect.si
Spain	Venco Electronica	www.vencoel.com
Turkey	Ozdisan	www.ozdisan.com
Ukraine	Elecom	www.elecom.kiev.ua
UK	Freeway electronics	www.freeway-lighting.com

North America

Country	Distributors	Website
United States Canada Mexico	DigiKey	www.digikey.com
	Mouser	www.mouser.com
	Avnet	www.avnet.com
Mexico	Electronica SETA	www.electronicaseta.com

Asia

Country	Distributors	Website
China	AllTek Technology Corp.	www.alltek.com
	Chows Electronic	www.chowsopto.com
	Excelpoint International Trading	www.excelpoint.com.cn
	KeiKong Electronic LTD.	www.keikong.com
	WeiKeng International(CN)	www.weikeng.com.cn

Asia

Country	Distributors	Website / Tel
Korea	Ecoluxe	+82-2-739-5300
	I-light	+82-2-6679-8098
	Frenertech	+82-70-7525-0880
	KH-electronics	www.khelec.com
	LMHKorea	www.lmhkorea.com
	Segyung-britestone	www.segyung.com-
	Seoby-corporation	+82-31-494-6269
	Sun-ha-electronics	+82-2-859-7496
	Twonone-teychnolog	+82-2-2083-2577
	Twintech	www.twintech21.com
Japan	USeong-Electronics	+82-31-211-0630
	Tokyo	+81-52-265-8402
	Osaka	+81-6-6191-7620
Taiwan	Nagoya	+81-3-5360-7620
	AllTek Technology Corp.	www.alltek.com.tw
	WeiKeng Industrial(TW)	www.weikeng.com.tw

Middle East / South East Asia

Country	Distributors	Website
Argentina	Nuvittech	www.unvitech.com.ar
Australia	Braemac	www.braemac.com.au
Brazil	Dae-Han Hi-Light	www.ledth.com.br
	Inter LED	www.intertk.com.br
	PPC Comercial	www.ppceltronicos.com.br
India	Excelpoint	www.excelpoint.com
	Elektronika	www.elektronikasales.com
	Arihant Elsys Pvt. Ltd	www.arihantelectricals.com
Iran	NBS	www.nbs-co.com
Israel	LED Link	www.ledlink.co.il
Philippines	Pangaea International	www.pangaea.com.ph
Singapore	Avnet Singapore	www.em.avnetasia.com
	Excelpoint SG	www.excelpoint.com
	Pascom	www.pascom.com.sg
South Africa	NuVision	www.nuvisionelec.com

