Quick Guide to our Product Portfolio

**Acrich MJT** Multi-Junction Technology  p. 3
Acrich MJT (Multi-Junction Technology) are single-die, high-voltage, high-power devices providing designers high-voltage options without the large form factors of multi-die chip-on-boards.

**Acrich2** AC LED Modules  p. 5
Acrich2 AC LED modules are powered directly from AC voltage and make the perfect replacement light source for flush-mount fixtures, down lights and sconces. These modules are powered without any driver or ballast.

**High-Power LEDs**  p. 9
The High-Power family of high-brightness LEDs includes the Z5, ZSM, Z6, Z7 and ZC series of COBs, have enhanced chip technology for low droop at high temperatures, plus a wide variety of CRI, colors and operating currents.

**Mid-Power LEDs**  p. 11
The Mid-power family includes the 3020, 3030, 5050, and 5630 packages. These LEDs combine a high-reliability LED chip with high performance phosphor in a thermally enhanced package with a heat slug.

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**About Us**
Seoul Semiconductor manufactures and packages a wide selection of light emitting diodes (LEDs). The company is the world’s fifth largest LED supplier, holding more than 10,000 patents globally, while offering a wide range of LED technology and production capacity.

The company’s broad product portfolio includes a wide array of package and device choices such as AC and high-voltage DC LEDs, high-brightness LEDs, mid-power LEDs, side-view LEDs, through-hole type LED lamps and custom displays.
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.

Advantages of Multi Junction Technology

- Good ability to mix bins on PCBs
- 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

Electro Optical Characteristics

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Acrich2 - AC LED Modules

Seoul Semiconductor’s family of Acrich2 AC-LED modules is the perfect replacement light source for flush-mount fixtures, downlights and sconces. These AC-LED modules can be connected to AC line voltage without any driver or ballast. Available in a wide variety of light output levels and form-factors, including 4.3-watt, 8.7-watt, 13-watt and 17-watt modules.

For fast time-to-market and minimal electrical design time, the Acrich2 family combines high-voltage MJT LEDs with a custom power integrated circuit to give optimum light output in standard form factors without external drivers or ballasts.

<table>
<thead>
<tr>
<th>Number of IC</th>
<th>x 1</th>
<th>x 2</th>
<th>...</th>
<th>x n</th>
<th>Dimming</th>
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<tr>
<td>A wide range of power distribution</td>
<td>4W</td>
<td>8W</td>
<td>12W</td>
<td>16W</td>
<td>32W</td>
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<tr>
<td>Application</td>
<td>MR (MR16)</td>
<td>Bulb</td>
<td>Down Light Spot Lamp</td>
<td>PAR Lamp</td>
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<td>Wide Voltage Range</td>
<td>270V</td>
<td>260V</td>
<td>220V</td>
<td>120V</td>
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Analog DC 0–10v
Phase Cut Dimming
## Electro Optical Characteristics


#### 4.3W
- **4.3W Candle**: 8.7W 120
  - **SMJ-2V04W1P3**: CW 430 450 3.700 - 6,000 Min. 80 4b Min 0.95 87
  - **SMJ-2V04W1P3**: WW 290 330 2,600 - 3,200 4c 67

#### 8.7W
- **8.7W Candle**: 12.7W 120
  - **SMJ-2V08W1P3**: CW 870 910 3.700 - 6,000 Min. 80 8b Min 0.95 87
  - **SMJ-2V08W1P3**: WW 790 860 2,600 - 3,200 8c 67

#### 8.7W ECO
- **8.7W ECO**: 16W 120
  - **SMJ-2V12W1P3**: CW 1,100 1,210 3.700 - 6,000 Min. 80 13a Min 100
  - **SMJ-2V12W1P3**: NW 1,140 1,210 3.700 - 6,000 13b Min 0.95 87
  - **SMJ-2V12W1P3**: WW 870 1,000 2,600 - 3,200 13c 67

#### 12.7W ECO
- **12.7W ECO**: 16W 120
  - **SMJ-2V16W1P3**: CW 1,700 1,870 3.700 - 6,000 Min. 80 17a Min 100
  - **SMJ-2V16W1P3**: NW 1,480 1,590 2,600 - 3,200 17b Min 0.95 87
  - **SMJ-2V16W1P3**: WW 1,140 1,300 2,600 - 3,200 17c 67

#### 17W ECO
- **17W ECO**: 16W 120
  - **SMJ-2V16W1P3**: CW 1,070 1,260 3.700 - 6,000 Min. 80 17a Min 100
  - **SMJ-2V16W1P3**: NW 1,140 1,300 2,600 - 3,200 17b Min 0.97 87

## Electro Optical Characteristics


#### 4.3W
- **4.3W Candle**: 8.7W 220
  - **SMJ-2V04W1P3**: CW 430 450 3.700 - 6,000 Min. 80 4b Min 0.95 87
  - **SMJ-2V04W1P3**: WW 290 330 2,600 - 3,200 4c 67

#### 8.7W
- **8.7W Candle**: 12.7W 220
  - **SMJ-2V08W1P3**: CW 870 910 3.700 - 6,000 Min. 80 8b Min 0.95 87
  - **SMJ-2V08W1P3**: WW 790 860 2,600 - 3,200 8c 67

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  - **SMJ-2V12W1P3**: NW 1,140 1,210 3.700 - 6,000 13b Min 0.95 87
  - **SMJ-2V12W1P3**: WW 870 1,000 2,600 - 3,200 13c 67

#### 12.7W ECO
- **12.7W ECO**: 16W 220
  - **SMJ-2V16W1P3**: CW 1,700 1,870 3.700 - 6,000 Min. 80 17a Min 100
  - **SMJ-2V16W1P3**: NW 1,480 1,590 2,600 - 3,200 17b Min 0.95 87
  - **SMJ-2V16W1P3**: WW 1,140 1,300 2,600 - 3,200 17c 67

#### 17W ECO
- **17W ECO**: 16W 220
  - **SMJ-2V16W1P3**: CW 1,070 1,260 3.700 - 6,000 Min. 80 17a Min 100
  - **SMJ-2V16W1P3**: NW 1,140 1,300 2,600 - 3,200 17b Min 0.97 87
High Power LEDs & Chip-on-Board (COB) LEDs

The High Power (Z-Power) Family of high-brightness LEDs includes the Z5, Z5 color, Z6, and Z7. Each of these LEDs have enhanced chip technology for low droop at high temperatures, plus a wide variety of CRI, colors and operating currents.

Chip-On-Board (COB) is an array of individual LED die placed in a high performance ceramic package to maximize light density and improve reliability over discrete solutions. The die is electrically connected to operate at high voltages compatible with standard power supplies.

Chip-on-Board (COB) LEDs

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<td>Min. 80</td>
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<td>3.4</td>
<td>80</td>
<td>W: 5300</td>
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<td>70(CRI)</td>
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Mid-Power LEDs

The Mid-Power family includes the 3020, 3030, 5050, and 5630 – these LEDs combine a high reliability LED chip with high performance phosphor in a thermally enhanced package with a heat slug.

### Electro Optical Characteristics

#### 3020 Series

|--------|----------|-------|-------|--------|---------|------|--------|-----|------|------
| 3020   | STW9B12C | WW    | 3.2   | 3,700-7,000 | 2,600-3,200 | 36.6 | 0.3W | 100 | 120 | Min.80 | 120
|        | STW9B12C | CW    | 3.15  | 3,700-7,000 | 2,600-3,200 | 36.6 | 0.3W | 100 | 120 | Min.80 | 120

#### 3030 Series

|--------|----------|-------|-------|--------|---------|------|--------|-----|------|------
| 3030   | STW8C25A | WW    | 6.3   | 3,700-7,000 | 2,600-3,200 | 72.6 | 0.6W | 100 | 200 | Min.80 | 120
|        | STW8C25A | CW    | 6.7   | 3,700-7,000 | 2,600-3,200 | 104.6 | 1W | 150 | 200 | Min.80 | 120

#### 5050 Series

|--------|----------|-------|-------|--------|---------|------|--------|-----|------|------
| 5050   | STW8T16A | WW    | 3.1   | 4,700-7,000 | 2,600-3,700 | 20.7 | 0.2W | 60 | 90 | 75
|        | STW8T16A | CW    | 3.1   | 4,700-7,000 | 2,600-3,700 | 20.7 | 0.2W | 60 | 90 | Min.80
|        | STW8T36A | WW    | 3.2   | 3,700-8,200 | 2,600-3,700 | 19.2 | 0.2W | 60 | 90 | 80
|        | STW8T36A | CW    | 3.2   | 3,700-8,200 | 2,600-3,700 | 19.2 | 0.2W | 60 | 90 | 80
|        | STW8T36B | WW    | 3.2   | 3,700-8,200 | 2,600-3,700 | 19.2 | 0.2W | 60 | 90 | 80
|        | STW8T36B | CW    | 3.2   | 3,700-8,200 | 2,600-3,700 | 19.2 | 0.2W | 60 | 90 | 80
|        | STW8T16C | WW    | 3.1   | 3,700-8,200 | 2,600-3,700 | 27.5 | 0.2W | 65 | 100 | Min.80

#### 5630 Series

|--------|----------|-------|-------|--------|---------|------|--------|-----|------|------
| 5630   | STW9Q14C | WW    | 3.15  | 3,700-7,000 | 2,600-3,700 | 42.2 | 0.3W | 100 | 160 | Min.80
|        | STW9Q14C | WW    | 3.15  | 3,700-7,000 | 2,600-3,700 | 42.2 | 0.3W | 100 | 160 | Min.80
|        | STW9Q14B | WW    | 3.2   | 3,700-4,500 | 2,600-3,700 | 28.5 | 0.3W | 100 | 160 | Min.80
|        | STW9Q14BE | WW  | 3.2   | 3,700-7,000 | 2,600-3,700 | 35  | 0.3W | 100 | 160 | Min.80
|        | STW9Q14BE | WW  | 3.2   | 3,700-7,000 | 2,600-3,700 | 33  | 0.3W | 100 | 160 | Min.80

Visualize LED Innovation, Seoul Semiconductor