

Mid Power LEDs

LED Technology



SEOUL SEMICONDUCTOR

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Mid Power LEDs from Seoul Semiconductor

Innovative solutions leading in brightness, efficacy, reliability and cost

Product family	3528			
Part Number	STW8A12D	STW8A12D-E1	STW8A12D-E2	STW8A12D-E3
Size (mm)	3.5 x 2.8 x 0.7	3.5 x 2.8 x 0.7	3.5 x 2.8 x 0.7	3.5 x 2.8 x 0.7
Forward Current	150mA	65mA	65mA	65mA
Typical Forward Voltage	3.2V	2.88V	2.85V	2.79V
Efficacy (4,000K)	126lm/W	162lm/W	167lm/W	185lm/W
Max. Forward Current	180mA	200mA	200mA	200mA
Thermal Resistance (K/W)	35	25	20	15
Technology	Standard	Standard	Standard	Standard
LM80	✓	✓	✓	✓
3-Step MacAdam binning	Available	Available	Available	Available
ESD Sensitivity	Class 2	Class 2	Class 2	Class 2

Product family	3030			
Part Number	STW8C1SB	STW8C2SB	STW8C2PB	STW8C2PB-E1
Size (mm)	3.0 x 3.0 x 0.6	3.0 x 3.0 x 0.6	3.0 x 3.0 x 0.6	3.0 x 3.0 x 0.6
Forward Current	65mA	100mA	200mA	65mA
Typical Forward Voltage	2.78V	6.1V	3.05V	2.85V
Efficacy (4,000K)	190lm/W	151lm/W	140lm/W	190lm/W
Max. Forward Current	400mA	200mA	400mA	400mA
Thermal Resistance (K/W)	10	10	17	11
Technology	Standard	Standard	Standard	Standard
LM80	✓	✓	✓	✓
3-Step MacAdam binning	Available	Available	Available	Available
ESD Sensitivity	Class 3A	Class 3A	Class 2	Class 3A

Features and Benefits

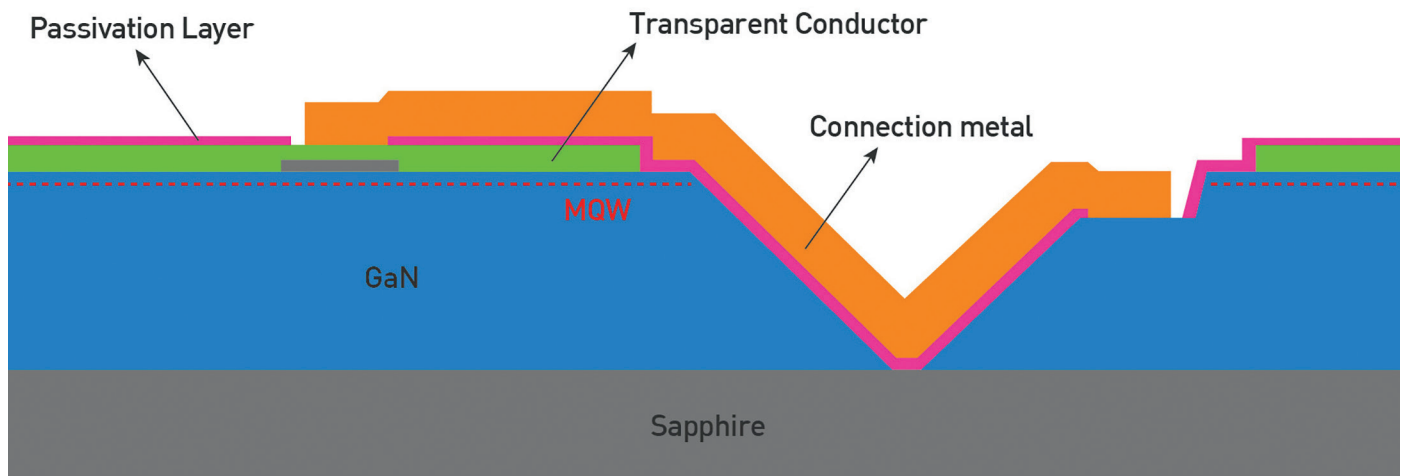
- Highest efficacy (up to 210lm/W)
- Optimized thermal properties
- High CRI (min. CRI 80 and min. CRI 90 available)
- High reliability
- ANSI & MacAdam 3-step compliant

Key Applications

- General lighting
- Indoor lighting
- Linear and panel lighting
- Decorative lighting
- Industrial lighting

Product family	5630			
Part Number	STW8Q14D	STW8Q14D-E1	STW8Q14D-E3	SAW8Q24D
Size (mm)	5.6 x 3.0 x 0.65	5.6 x 3.0 x 0.65	5.6 x 3.0 x 0.65	5.6 x 3.0 x 0.65
Forward Current	65mA	65mA	65mA	32mA
Typical Forward Voltage	2.8V	2.79V	2.75V	5.45V
Efficacy (4,000K)	170lm/W	185lm/W	210lm/W	208lm/W
Max. Forward Current	200mA	200mA	200mA	100mA
Thermal Resistance (K/W)	15	15	10	7
Technology	Standard	Standard	Standard	MJT
LM80	✓	✓	✓	✓
3-Step MacAdam binning	Available	Available	Available	Available
ESD Sensitivity	Class 3A	Class 3A	Class 3A	Class 3A

Cross-sectional View



Acrich MJT Die Structure

* Multi-junction LEDs

Unlike standard LEDs that have a die with a single junction and typically a 3.0V forward voltage drop, Multi-Junction Technology (MJT) LEDs have a die with many junctions. The key to this technology is at the chip level, where a metallization layer is used to create the on-chip connection between the individual cells. By changing the number of junctions within the chip, LED packages can still be manufactured with a single die hence single optical center but with different forward voltages.



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