The S1 Bulb – High Power LED Lamp

Features & Specs

360° Illumination

The S1 bulb features the same omnidirectional illumination as the conventional bulbs it replaces

Form Factor Freedom Unlocked

The S1 bulb requires no heat sink, enabling form factors to mimic traditional high power bulbs

Easy Installation With Existing Infrastructure

Designed to provide seamless, screw-in replacement for E39/40 base bulbs

Superior Performance & Reliability

Proprietary heat dissipation technology allows the S1 bulb to maintain higher light intensity over longer periods of time

Item	HSS1BXI-W050	HSS1BXI-W090	HSS1BXI-W120	HSS1BXI-W150	HSS1BXI-W180
Power (Watts)	50W	90W	120W	150W	180W
Lumens (lm)	6,500lm	13,500lm	16,800lm	20,250lm	21,600lm
Luminous Efficiency (lm/w)	130lm/w	150lm/w	140lm/w	135lm/w	120lm/w
Color Temperature (K)	2800K / 5700K				
Color Rendering Index (Ra)	75 / 80 / 85 / 90<				

※ Performance may vary depending on conditions

Oftentimes, the biggest barriers to LED lighting adoption are the numerous cost and installation issues associated with retrofitting legacy fixtures due to form factor incompatibilities.

The S1 Bulb is designed to overcome these barriers as the industry's first heatsink-less, omnidirectional, industrial/outdoor (50w-200w) LED bulb. Powered by HS Frame, its heat sink free form factor mimics the illumination and installation properties of conventional high power bulbs, allowing end users to screw the S1 bulb into existing fixtures.

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Redefining How LED Lighting Is Designed

Heat's adverse effects on lighting performance remains the Achilles heel of LED lighting.

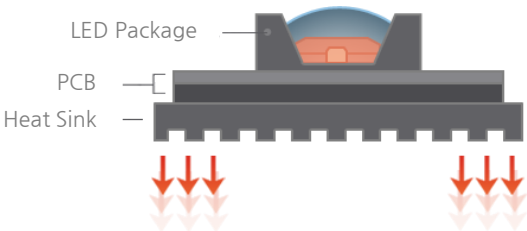
HS Frame is a fundamental rethink of LED module innovation designed to significantly enhance heat dissipation. Within HS Frame's is a superior thermal dissipation architecture that completely eliminates the need for printed circuit boards, associated soldering processes, and most groundbreaking of all-heat sinks.

Superior thermal management means greater light efficiency, reliability, and longer life. Fewer components mean reduced costs, while unlocking newfound form factor freedom and use cases. LED solutions can now be designed to mimic the shape, omnidirectional illumination, and installation ease of traditional lighting fixtures.

HS Frame. Very Thin. Very Light. Yet Very Efficient.

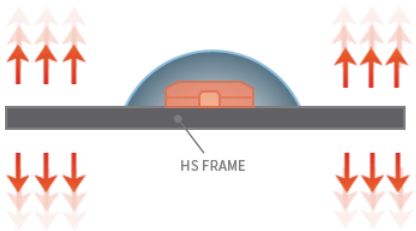
The module itself serves as the heat sink and makes possible bidirectional heat dissipation.
Its superior efficiency is achieved even with the modules thinness and light weight.

Conventional Structure vs. HS Frame Based Lighting



Heat dissipation path:
Chip -> Lead Frame -> Solder -> PCB Solder Pad -> PCB -> Thermal Interface Material ->Heat Sink

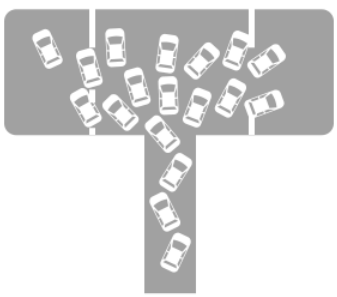
Thermal Resistance:
Over 65 K/W



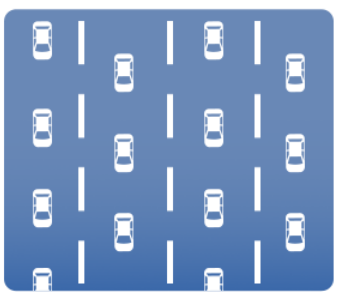
Heat dissipation path:
Chip -> HS Frame (serves the role of lead frame / PCB / heat sink)

Thermal Resistance:
Under 2 K/W

Conventional LED



HS FRAME



Shorter Product Life
Heat accelerates light source degradation

Lower Efficiency
Heat impairs energy conversion into light

Light Quality Inconsistency
Heat leads to color shifts of LED light source

Greater Reliability
More consistent, longer lasting performance

Faster Payback
Higher lumens/watt - lower electricity bills

Unlocks New Use Cases
Eliminating heat sink unlocks new possibilities in LED design

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