EFFICIENT UPS

Silicon Carbide also handles higher voltages, frequencies, and temperatures better than its forerunner, silicon. The sum of all of these advantages leads to higher efficiencies and translates into lower energy usage and operating costs, all while operating in true online double conversion without compromising load and power protection, unlike Eco or Standby modes.

ABOUT US

The Mitsubishi Electric name has long been recognized as one of the world’s leaders in the manufacture of electrical products. From its founding in 1921, Mitsubishi Electric has been at the forefront of technical ingenuity and product innovation. Since 1964, Mitsubishi Electric has been manufacturing precision engineered highly reliable Uninterruptible Power Supplies and solving the challenges of American critical facilities since 1985. Mitsubishi Electric leads the way in technological advances of uninterruptible power supplies and is the only major brand that manufactures its own semiconductors. Mitsubishi Electric holds the highest efficiency rating for the AC-Doubling Conversion (AFU) category on the Energy Star web site and openly shares reliability data.

The compact molecular structure of SiC inherently possesses extraordinary strength and hardness, and imparts many desirable characteristics in a power device that enable the semiconductor material to be much thinner and effectively shrink the UPS cabinet size.

Mitsubishi Electric’s superior expertise in optimizing power device control is proven by the flatness of the SUMMIT’s efficiency curve, demonstrating high performance across all load levels.

Higher Efficiencies Realized

 nog

IT’S TIME TO RETHINK YOUR UPS.

Powering with Mitsubishi Electric’s revolutionary Silicon Carbide (SiC) semiconductors, the SUMMIT Series delivers ultra-high efficiency in a small footprint and minimal total cost of ownership.

The SUMMIT Series’ revolutionary use of silicon carbide in its semiconductors unsheds the power within and delivers the highest efficiency of any true online double conversion UPS on the market.*


Higher efficiencies realized translate into lower energy usage and operating costs, all while operating in true online double conversion without compromising load and power protection, unlike Eco or Standby modes.

THE #1 MOST

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SUMMIT SERIES®
MOST EFFICIENT UPS

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**The #1 Most Efficient UPS**

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* Energy Star website: https://bit.ly/2xDoEg0

Higher Efficiencies Realized

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<thead>
<tr>
<th>Efficiency [%]</th>
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![SiC MOSFET vs. Si IGBT]

“Wide band gap semiconductors (such as SiC) are a foundational technology that will transform multiple industries, resulting in billions of dollars of savings.”

- US Department of Energy

Significant Savings Realized Over Time

- $141K Total Savings over 15 years
- ROI realized in just over 2 years
If downtime in your business equals disaster, Mitsubishi Electric delivers the highest reliability among backup power equipment suppliers through robust proprietary technology designed to deliver continuous power in the most demanding environments. Whereas competitors only estimate their reliability, Mitsubishi Electric’s installed base of uninterruptible power supplies has sustained load carrying capability better than 99.999% of their actual operational history.

Mitsubishi Electric has long been at the forefront of Uninterruptible Power Supplies with the most technologically advanced designs coupled with unparalleled reliability. The use of SiC is a game changer in the UPS market with a number of ground-breaking advancements, all adding up to deliver unprecedented efficiencies.

The efficiency gains from SiC directly correlate to lower energy losses of the SUMMIT when compared against the competitor’s latest UPS. SiC is the most disruptive technology in the power electronics industry since the invention of the Insulated Gate Bipolar Transistor (IGBT).

SiC possesses approximately 10 times the critical breakdown strength of silicon, enabling a large reduction in electrical resistance and, in turn, reduces power loss.

Utilizing SiC enables the use of Schottky Barrier Diodes (SBDs), delivering higher switching frequencies and better sine wave re-creation and ultimately leading to higher efficiencies.

SiC exhibits 70% less inverter loss than Si!

IGBT Module (Silicon)

MOSFET Module (Silicon Carbide)

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> 99.999% Uptime

Mitsubishi Electric’s highly reliable and efficient products are backed by a full range of Field and Factory Services.
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Power Losses Reduced

Inverter Loss Reduced

Mitsubishi Electric’s highly reliable and efficient products are backed by a full range of Field and Factory Services

FACTORY TESTING & STARTUP
Every UPS from Mitsubishi Electric is tested prior to shipment and is furnished with the signed test report. Startup and commissioning are performed by certified technicians on site. Customized demos and factory witness tests can also be conducted at our Warrendale, PA facility.

24/7 CUSTOMER SUPPORT
Highly skilled technical support representatives are available to troubleshoot by phone and, if necessary, are able to dispatch a certified technician to your site.

MAINTENANCE & REPAIRS
Equipment reliability depends on periodic maintenance and inspection. Mitsubishi Electric offers a variety of customized maintenance solutions and comprehensive services to troubleshoot, diagnose, and repair system irregularities.

BATTERIES & BATTERY SERVICES
As batteries are the leading cause of UPS failure, Mitsubishi Electric offers a wide range of maintenance, monitoring, and replacement services designed to keep your batteries fully operational.

Simply call 800-887-7830 for assistance.

High Speed Switching Realized

SiC MOSFET structure

Gate

Source

Drain electrode

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On-state losses

SiC Module (Silicon Carbide)

Summit demonstrates 74% less energy loss!

On-state losses

Si Module (Silicon)

COMPETITOR's UPS

SUMMIT

Energy Losses Reduced

SiC exhibits 70% less inverter loss than Si!

Switching losses

DC-Link losses

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SiC Module (Silicon Carbide)

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Significant Savings Realized Over Time

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US Department of Energy


$400K $350K $300K $250K $200K $150K $100K $50K $0

0 2 4 6 8 10 12 14 16

Cumulative Cost

Years of Operation

$1,416 Total Savings over 15 years

ROI realized in just over 2 years

SUMMIT delivers the same capacity of competitors’ models in just 60% of the floor space.

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