



MEGA Electronics Inc.

GaN FET Power Supply
120W~300W



- Gallium Nitride Based Design
- Small Size / High Power Density
- With 250kHz Switching Frequency
- Efficiency: 95% (Typical)

120 Watt Series **2X Smaller!**



Meet IEC/UL/EN 60950-1 & 62368-1
High Power Density: 9.1W/in³
Output Voltage: 12V-56V

160 Watt **2X Smaller!** / **200 Watt Series** **2.5X Smaller!**



IEC/UL/EN 60950-1 & 62368-1 Approval
High Power Density – 160W: 10W/in³
200W: 12.5W/in³
Output Voltage: 12V-56V
Dimension:
C14: L161 x W54 x H33 (mm)
C6 & C8: L150 x W54 x H33 (mm)

250 Watt **2.3X Smaller!** / **300 Watt Series** **2.5X Smaller!**



IEC/UL/EN 60950-1 & 62368-1 Approval
IEC/EN/ANSI/AAMI ES60601-1 (Edition 3.1)
EMC: IEC60601-1-2 : 2014 (Edition 4.0)
High Power Density – 250W : 11W/in³
300W : 8.9W/in³
Output Voltage: 12V-56V
Dimension:
250W : L171 x W66 x H33 (mm)
300W : L180 x W85 x H36 (mm)

GaN FET vs MOSFET

The new Gallium Nitride technology dramatically reduces the size of AC/DC power supplies while increasing the performance.

The increase in performance and reduction in size does come with a price. At the moment, we have a 200W desktop supply available and the costs are approximately \$8/piece higher than a MOSFET design.

Performance Comparison of GaN FET versus MOSFET in Switching Power Supply application			
Items \ Parts	GaN FET	MOSFET	Advantage
Qg , Qrr	Lower Capacitance	Higher Capacitance	Reduced Power Loss
Switching Power Loss	Less	More	Higher Efficiency
Operating Frequency	200K~500KHz	65K~100KHz	Smaller Magnetics
Power Transformer Dimension	Smaller	Larger	Reduced Size
Package	SMD - smaller	DIP - TO-220 / TO-3P (w/ heat sink)	Reduced Size
$R_{DS(on)}$	Lower	Higher	Increase Efficiency
Weight of Power Supply	Lighter (65% of traditional one)	Heavier	Increase Mobility
Dimension of Power Supply	Compact -2.5X Smaller	Larger	Increase Mobility
Power Density	Higher (12.5W/inch ³)	Lower (5W/inch ³)	Reduced Size
Efficiency	Over 2% Higher than MOSFET	Lower	Green Efficiency
Convenience	Portable, System Package can be Smaller	Inconvenient to carry, Traditional Package	Increase Mobility