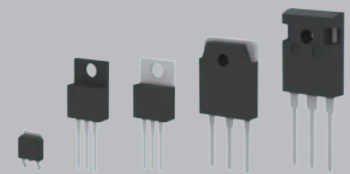


Super-Junction Technology Supports Enhanced Efficiency and Compactness

Optimizing the concentration of the impurity layer in a super-junction structure greatly improved the trade-off between device withstand voltage and on-resistance compared with conventional products (Super J MOS® S1 Series). Keeping the trade-off characteristics between turn-off loss and turn-off dv/dt at the same level as conventional products enables both low-loss and low-noise characteristics, and supports enhanced efficiency and compactness of a power supply.

- Achieve highly efficient power supply:
About 30% reduction in gate charge (Q_G) and output charge/discharge loss (E_{OSS}) compared with conventional products
- Enable package downsizing:
About 25% reduction in on-resistance ($R_{DS(on)}$ ·A) compared with conventional products
- Suppress surge voltage during turn-off
- S2FD Series:
About 50% reduction in reverse recovery time (t_{rr}) of the built-in diode compared with the standard type (S2 Series)

Super J MOS® is a registered trademark of Fuji Electric.



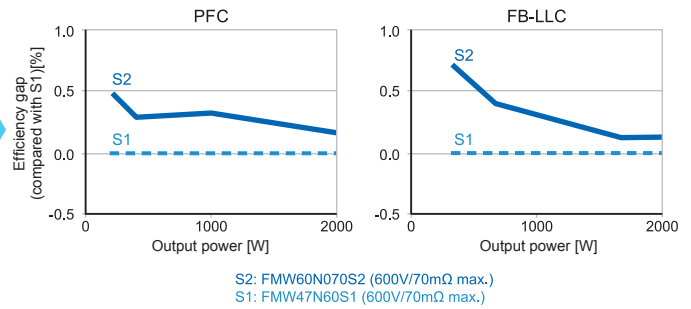
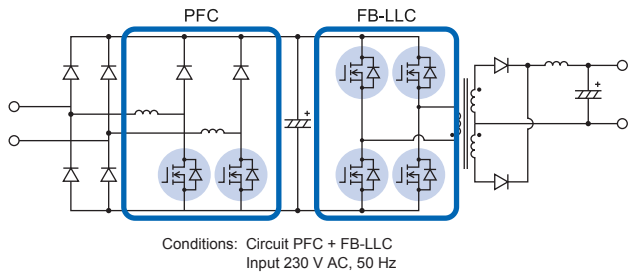
Package: TO-252, TO-220F/220,
TO-3P, TO-247

Application examples:
Server, communication equipment, LED light,
UPS, power conditioning sub-system,
general-purpose power supply,
quick charger for EV, etc.

1. Achieve highly efficient power supply

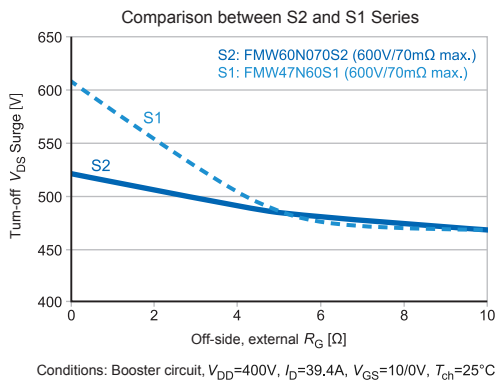
About 30% reduction in gate charge (Q_G) and output charge/discharge loss (E_{OSS}) compared with conventional products

Comparison of power supply efficiency



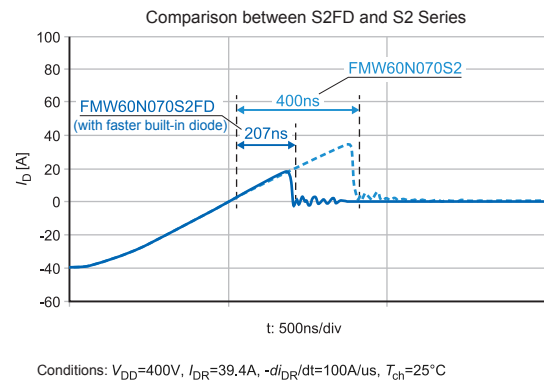
2. Suppressed surge voltage during turn-off

Comparison of surge voltage during turn-off (V_{DS} surge)



3. S2FD: About 50% reduction in t_{rr} (compared with S2)

Comparison of reverse recovery time (t_{rr})



Product Line-up

Super J MOS[®] S2 Series

V_{DS} (V)	$R_{DS(on)}$ (mΩ)	TO-252	TO-220	TO-220F	TO-3P	TO-247
600	380	FMD60N380S2	FMP60N380S2	FMV60N380S2		
	280	FMD60N280S2	FMP60N280S2	FMV60N280S2	FMH60N280S2	
	190		FMP60N190S2	FMV60N190S2	FMH60N190S2	FMW60N190S2
	160		FMP60N160S2	FMV60N160S2		FMW60N160S2
	125		FMP60N125S2	FMV60N125S2		FMW60N125S2
	99		FMP60N099S2	FMV60N099S2		FMW60N099S2
	88		FMP60N088S2	FMV60N088S2		FMW60N088S2
	79		FMP60N079S2	FMV60N079S2		FMW60N079S2
	70			FMV60N070S2		FMW60N070S2
	55					FMW60N055S2
	40					FMW60N040S2
	25.4					FMW60N025S2

Super J MOS[®] S2FD Series

V_{DS} (V)	$R_{DS(on)}$ (mΩ)	TO-220	TO-220F	TO-247
600	170	FMP60N170S2FD	FMV60N170S2FD	FMW60N170S2FD
	133	FMP60N133S2FD	FMV60N133S2FD	FMW60N133S2FD
	105	FMP60N105S2FD	FMV60N105S2FD	FMW60N105S2FD
	94	FMP60N094S2FD	FMV60N094S2FD	FMW60N094S2FD
	84	FMP60N084S2FD	FMV60N084S2FD	FMW60N084S2FD
	75		FMV60N075S2FD	FMW60N075S2FD
	59			FMW60N059S2FD
	43			FMW60N043S2FD
				FMW60N027S2FD

⚠ Safety Precautions

- * Before using this product, read the "Instruction Manual" and "Specifications" carefully, and consult with the retailer from which you purchased this product as necessary to use this product correctly.
- * The product must be handled by a technician with the appropriate skills.

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