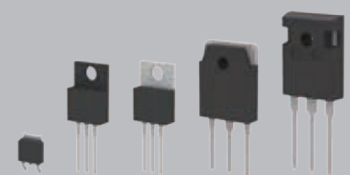


Super-Junction Technology Supports Enhanced Efficiency and Compactness

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 ($R_{DS(on)} \cdot A$) 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)
- Adds the DFN 8×8 package to the lineup

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



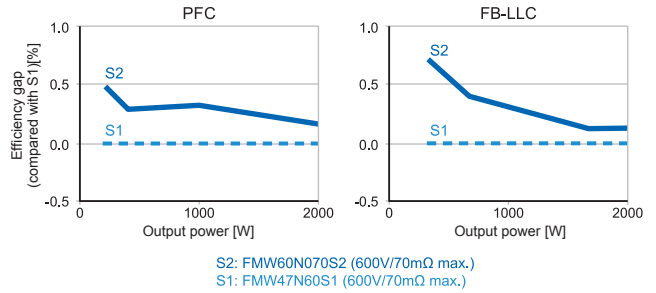
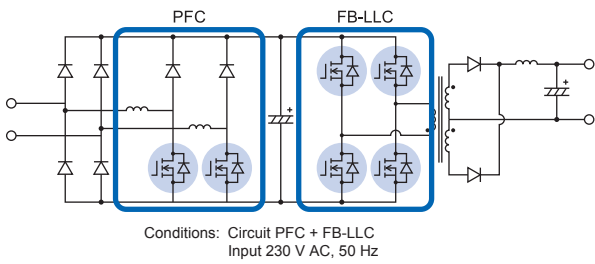
Package: DFN8×8, TO-220F
TO-220, TO-3P, TO-247

Application examples:

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

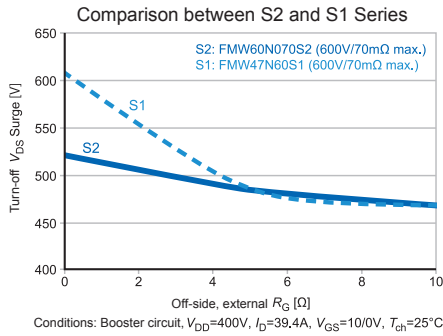
1. About 30% reduction in gate charge (Q_G) and output charge/discharge loss (E_{oss}) compared with conventional products

Comparison of power supply efficiency



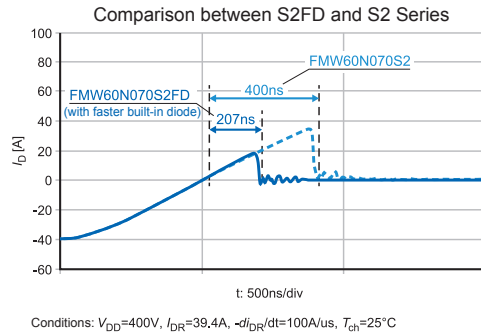
2. Suppressed surge voltage during turn-off

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})

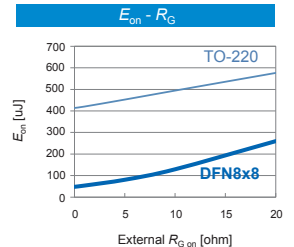
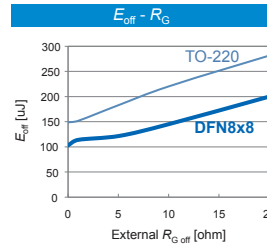
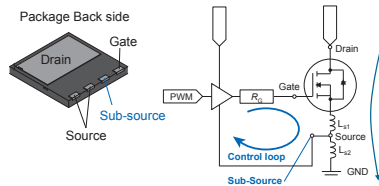


4. Addition of new SMD DFN 8x8*1 package

- Comes with a sub-source terminal to reduce the effect of common source inductance on the gate drive voltage
- Uses a leadless package to reduce ringing via fewer inductors



Significantly reduces turn-off loss and turn-on loss compared to the TO-220 package



Super J MOS[®] S2 Series

V_{DS} (V)	$R_{DS(on)}$ (mΩ)	Product Type & Package			
		TO-220	TO-220F(SLS)	TO-3P(Q)	TO-247 (Type:B)
600	380	FMP60N380S2	FMV60N380S2		
	280	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

*1 DFN(Dual Flat No-lead)

Super J MOS[®] S2FD Series

V_{DS} (V)	$R_{DS(on)}$ (mΩ)	Product Type & Package			
		DFN8x8	TO-220	TO-220F(SLS)	TO-247 (Type:B)
600	191	FML60N191S2FD			
	170		FMP60N170S2FD	FMV60N170S2FD	FMW60N170S2FD
	150	FML60N150S2FD			
	133		FMP60N133S2FD	FMV60N133S2FD	FMW60N133S2FD
	118	FML60N118S2FD			
	105		FMP60N105S2FD	FMV60N105S2FD	FMW60N105S2FD
	104	FML60N104S2FD			
	94		FMP60N094S2FD	FMV60N094S2FD	FMW60N094S2FD
	93	FML60N093S2FD			
	84		FMP60N084S2FD	FMV60N084S2FD	FMW60N084S2FD
	75			FMV60N075S2FD	FMW60N075S2FD
	59				FMW60N059S2FD
	43				FMW60N043S2FD
	27				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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2021-8 FOLS PDF

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