NextPower 80V/100V

Market leading Low Q_{rr} performance

Design benefits

- Low Q_{rr} for higher efficiency and lower spiking
- Low $Q_G \times R_{DS(on)}$ FOM for high efficiency switching applications
- Strong avalanche energy rating (E_{as})
- Avalanche rated and 100% tested
- Ha-free and RoHS compliant LFPAK56 package
- Wave-solderable LFPAK56 package

Key technical features & portfolio

- New 100V portfolio
- Packages: LFPAK56 (SOT669) and LFPAK56E (SOT1023)

Portfolio	Voltage	R_{DSon} (max) @ V_{GS} = 10 V	Package
PSMN3R9-100YSF	100 V	4.3 mΩ*	LFPAK56E
PSMN5R5-100YSF	100 V	5.5 mΩ*	LFPAK56
PSMN6R9-100YSF	100 V	7 mΩ	LFPAK56
PSMN8R7-100YSF	100 V	9 mΩ	LFPAK56
PSMN011-100YSF	100 V	10.9 mΩ	LFPAK56

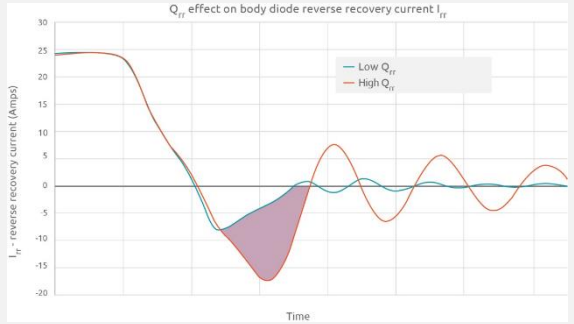
* Preliminary data

Functions & applications

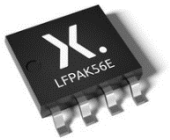
- Synchronous rectifier in AC/DC & DC/DC
- Primary side switch – 48 V DC/DC
- BLDC motor control
- USB-PD adapters & chargers
- Full-bridge and half-bridge applications
- Flyback and resonant topologies

Application performance

Simulations show that choosing a MOSFET with 2x Q_{rr} increases voltage spiking by 8% and reduces efficiency by 5%



Available packages (W x L x H in mm)

LFPAK56 (SOD669)	LFPAK56E (SOT1023)
	
5.0 x 6.0 x 1.0	5.0 x 6.0 x 1.0

- Parts not yet released

For full MFP parts list please see MFP excel.

Additional information

- Benefits of Low Q_{rr} MOSFETs in switching applications (Quick Learning video)
- Benefits of low Q_{rr} MOSFETs in motor control applications (Quick Learning video)
- Q_{rr}: overlooked and underappreciated in efficiency battle (Blog post)