

# OptiMOS™ 75V

## Optimized for Synchronous Rectification

Infineon's OptiMOS™ 75V power MOSFET family is optimized for Synchronous Rectification in AC/DC Switched-Mode Power Supplies (SMPS), such as those used in desktop computers and servers. OptiMOS™ 75V devices features industry leading on-state resistance ( $R_{DS(on)}$ ) and Figure of Merit (FOM) characteristics, reducing power losses and improving overall efficiency under all load conditions in SMPS DC/DC converters, Solar Micro Inverters as well as Motor Control and fast switching Class D Audio Amplifiers.

Infineon's OptiMOS™ 75V delivers outstanding performance, thus enabling power supply manufacturers to meet energy efficiency targets such as 80PLUS® Platinum and Titanium requirements initiated by the Climate Savers Computing Initiative.

### Features

- Optimized technology for Synchronous Rectification
- Industry's lowest  $R_{DS(on)}$
- World's lowest FOM
- Very low  $Q_g$  and  $Q_{gd}$
- RoHS compliant - halogen free

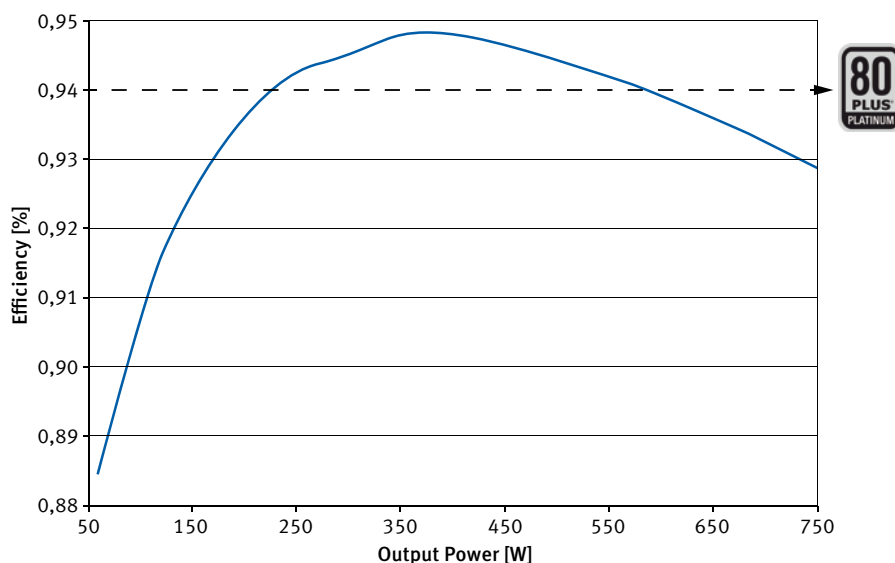
### Benefits

- Highest system efficiency
- Less paralleling required
- Increased power density
- System cost reduction
- Very low voltage overshoot

### Application

- Synchronous Rectification in server and desktop
- Isolated DC/DC converters
- Motor Control for 12-48V systems
- Solar micro inverter
- OR-ing switches
- Circuit breakers
- Class D Audio Amplifiers

OptiMOS™ 75V fulfills 80PLUS® platinum on a 750W server power supply

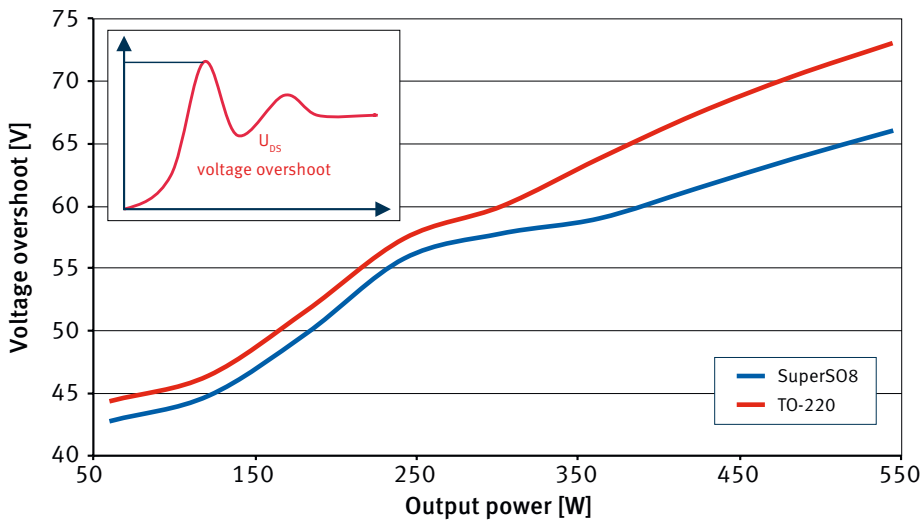


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The Infineon OptiMOS™ 75V family offers products in SuperSO8, a space saving package, which provides optimized switching behavior and high efficiency levels.  $R_{DS(on)}$  values which could previously only be achieved in larger packages such as the TO-220, can now be reached with the slim SuperSO8 (5x6x1mm<sup>3</sup>), that provides ideal switching behavior and high efficiency levels.

### SuperSO8 versus TO-220 voltage overshoot comparison



SuperSO8 enables a board space reduction of 96% compared to TO-220 enabling to more compact designs. Increased power density, high efficiency and low voltage overshoot can be achieved on a system level due to minimized package parasitics.

### OptiMOS™ 75V Product Portfolio

CanPAK™ S	I <sup>2</sup> PAK	D <sup>2</sup> PAK	TO-220	SuperSO8	Bare Die ( $R_{DS(on)}$ typ.)
BSF450NE7NH3 G $R_{DS(on)} = 45\text{m}\Omega$	IPI023NE7N3 G $R_{DS(on)} = 2.3\text{m}\Omega$	IPB020NE7N3 G $R_{DS(on)} = 2.0\text{m}\Omega$	IPP023NE7N3 G $R_{DS(on)} = 2.3\text{m}\Omega$	BSC036NE7NS3 G $R_{DS(on)} = 3.6\text{m}\Omega$	IPC302NE7N3 $2\text{m}\Omega < R_{DS(on)} < 4\text{m}\Omega$
	IPI034NE7N3 G $R_{DS(on)} = 3.4\text{m}\Omega$	IPB031NE7N3 G $R_{DS(on)} = 3.1\text{m}\Omega$	IPP034NE7N3 G $R_{DS(on)} = 3.4\text{m}\Omega$	BSC042NE7NS3 G $R_{DS(on)} = 4.2\text{m}\Omega$	
	IPI052NE7N3 G $R_{DS(on)} = 5.2\text{m}\Omega$	IPB049NE7N3 G $R_{DS(on)} = 4.9\text{m}\Omega$	IPP052NE7N3 G $R_{DS(on)} = 5.2\text{m}\Omega$		
			IPP062NE7N3 G $R_{DS(on)} = 6.2\text{m}\Omega$		

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