

OptiMOS™ 200V and 250V

Industry's Leading High Performance Products

With OptiMOS™ 200V and 250V Infineon continues to deliver Best-in-Class on-state resistance ($R_{DS(on)}$) power MOSFETs with unique performance. The leading $R_{DS(on)}$ and Figure of Merit (FOM) characteristics reduce power losses, improve overall efficiency and increase power density. The 200V and 250V product families are optimized for applications such as Lighting for 110V AC networks, HID lamps, DC-DC converters and Power over Ethernet (PoE).

OptiMOS™ 200V and 250V feature up to 53% lower $R_{DS(on)}$ than alternative devices - 10.7mΩ in 200V and 20mΩ in 250V - and up to 68% lower FOM, which translates into the lowest power losses and excellent switching behavior.

Features

- Industry's lowest $R_{DS(on)}$
- Lowest Q_g and Q_{gd}
- World's lowest FOM
- RoHS compliant – halogen free

Benefits

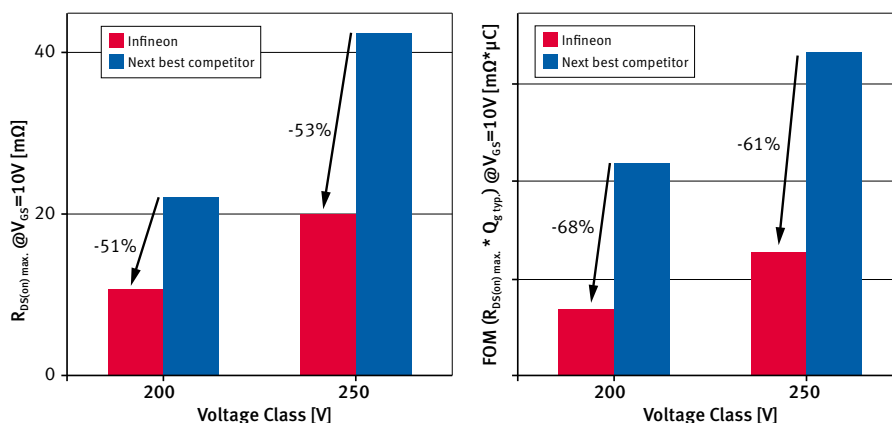
- Highest efficiency
- Highest power density
- Lowest board space consumption
- Less paralleling required
- System cost improvement
- Easy-to-design products
- Environmentally friendly

Applications

- Lighting for 110V AC networks
- Power over Ethernet (PoE)
- DC-DC for Telecom and Industrial application
- HID lamps



OptiMOS™ 200V and 250V, Benchmark in $R_{DS(on)}$ and FOM




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The outstanding characteristics of OptiMOS™ 200V and 250V products enable the use of a slim SuperSO8 (5x6x1 mm³) package for applications that previously required devices in a larger D²PAK (9x10x4.5 mm³). Using SuperSO8 instead of D²PAK reduces the space requirements by more than 90% and enables higher power density systems. Leadless packages such as SuperSO8 provide optimized switching behavior and high efficiency levels.

Furthermore, the OptiMOS™ 200V and 250V family allows system cost improvement through reduced device paralleling, smaller heat sinks can be used as a result of the low $R_{DS(on)}$ and due to optimized switching behavior the design process is simplified.

OptiMOS™ 200V and 250V Product Portfolio

Voltage Class	DPAK	I ² PAK	D ² PAK	TO-220	SuperSO8	S308	Bare Die ($R_{DS(on)}$ typ.)
200V							
	IPD320N20N3 G $R_{DS(on)} = 32\text{m}\Omega$	IPI110N20N3 G $R_{DS(on)} = 11\text{m}\Omega$	IPB107N20N3 G $R_{DS(on)} = 10.7\text{m}\Omega$	IPP110N20N3 G $R_{DS(on)} = 11\text{m}\Omega$	BSC320N20NS3 G $R_{DS(on)} = 32\text{m}\Omega$	BSZ900N20NS3 G $R_{DS(on)} = 90\text{m}\Omega$	IPC302N20N3 $10\text{m}\Omega < R_{DS(on)} < 20\text{m}\Omega$
		IPI320N20N3 G $R_{DS(on)} = 32\text{m}\Omega$	IPB107N20NA* $R_{DS(on)} = 11\text{m}\Omega$	IPP110N20NA* $R_{DS(on)} = 11\text{m}\Omega$	BSC500N20NS3 G $R_{DS(on)} = 50\text{m}\Omega$	BSZ12DN20NS3 G $R_{DS(on)} = 125\text{m}\Omega$	
			IPB320N20N3 G $R_{DS(on)} = 32\text{m}\Omega$	IPP320N20N3 G $R_{DS(on)} = 32\text{m}\Omega$	BSC900N20NS3 G $R_{DS(on)} = 90\text{m}\Omega$	BSZ22DN20NS3 G $R_{DS(on)} = 225\text{m}\Omega$	
					BSC12DN20NS3 G $R_{DS(on)} = 125\text{m}\Omega$		
250V					BSC22DN20NS3 G $R_{DS(on)} = 225\text{m}\Omega$		
	IPD600N25N3 G $R_{DS(on)} = 60\text{m}\Omega$	IPI200N25N3 G $R_{DS(on)} = 20\text{m}\Omega$	IPB200N25N3 G $R_{DS(on)} = 20\text{m}\Omega$	IPP200N25N3 G $R_{DS(on)} = 20\text{m}\Omega$	BSC600N25NS3 G $R_{DS(on)} = 60\text{m}\Omega$	BSZ16DN25NS3 G $R_{DS(on)} = 165\text{m}\Omega$	IPC302N25N3 $10\text{m}\Omega < R_{DS(on)} < 20\text{m}\Omega$
		IPI600N25N3 G $R_{DS(on)} = 60\text{m}\Omega$	IPB600N25N3 G $R_{DS(on)} = 60\text{m}\Omega$	IPP600N25N3 G $R_{DS(on)} = 60\text{m}\Omega$	BSC16DN25NS3 G $R_{DS(on)} = 165\text{m}\Omega$	BSZ42DN25NS3 G $R_{DS(on)} = 425\text{m}\Omega$	IPC302N25N3A* $10\text{m}\Omega < R_{DS(on)} < 20\text{m}\Omega$

* Part qualified for Automotive

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