

# 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

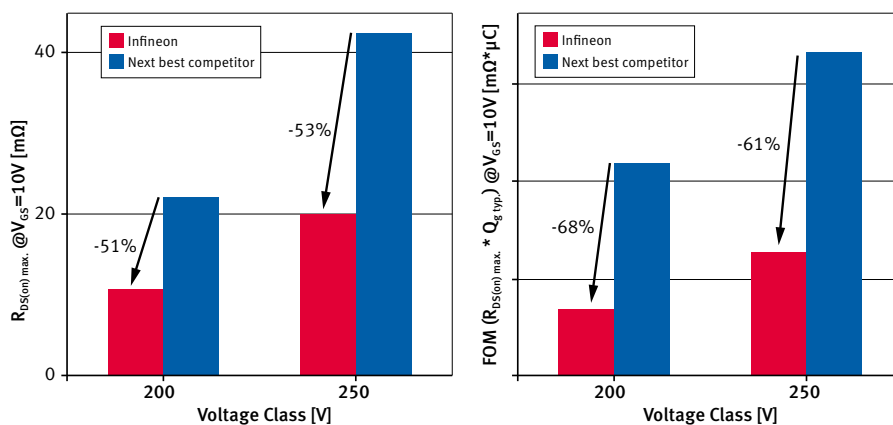
- Highest efficiency
- Highest power density
- Lowest board space consumption
- Less paralleling required
- System cost improvement
- Easy-to-design products
- Environmentally friendly

### 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



# OptiMOS™ 200V and 250V

## Industry's Leading High Performance Products

The outstanding characteristics of OptiMOS™ 200V and 250V products enable the use of a slim SuperSO8 (5x6x1 mm<sup>3</sup>) package for applications that previously required devices in a larger D<sup>2</sup>PAK (9x10x4.5 mm<sup>3</sup>). Using SuperSO8 instead of D<sup>2</sup>PAK 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 <sup>2</sup> PAK	D <sup>2</sup> PAK	TO-220	SuperSO8	S308	Bare Die ( $R_{DS(on)}$ typ.)
200V	IPD320N20N3 G $R_{DS(on)}=32m\Omega$	IPI110N20N3 G $R_{DS(on)}=11m\Omega$	IPB107N20N3 G $R_{DS(on)}=10.7m\Omega$	IPP110N20N3 G $R_{DS(on)}=11m\Omega$	BSC320N20NS3 G $R_{DS(on)}=32m\Omega$	BSZ900N20NS3 G $R_{DS(on)}=90m\Omega$	IPC302N20N3 10mΩ< $R_{DS(on)}$ <20mΩ
		IPI320N20N3 G $R_{DS(on)}=32m\Omega$	IPB107N20NA* $R_{DS(on)}=11m\Omega$	IPP110N20NA* $R_{DS(on)}=11m\Omega$	BSC500N20NS3 G $R_{DS(on)}=50m\Omega$	BSZ12DN20NS3 G $R_{DS(on)}=125m\Omega$	
			IPB320N20N3 G $R_{DS(on)}=32m\Omega$	IPP320N20N3 G $R_{DS(on)}=32m\Omega$	BSC900N20NS3 G $R_{DS(on)}=90m\Omega$	BSZ22DN20NS3 G $R_{DS(on)}=225m\Omega$	
					BSC12DN20NS3 G $R_{DS(on)}=125m\Omega$		
					BSC22DN20NS3 G $R_{DS(on)}=225m\Omega$		
250V	IPD600N25N3 G $R_{DS(on)}=60m\Omega$	IPI200N25N3 G $R_{DS(on)}=20m\Omega$	IPB200N25N3 G $R_{DS(on)}=20m\Omega$	IPP200N25N3 G $R_{DS(on)}=20m\Omega$	BSC600N25NS3 G $R_{DS(on)}=60m\Omega$	BSZ16DN25NS3 G $R_{DS(on)}=165m\Omega$	IPC302N25N3 10mΩ< $R_{DS(on)}$ <20mΩ
		IPI600N25N3 G $R_{DS(on)}=60m\Omega$	IPB600N25N3 G $R_{DS(on)}=60m\Omega$	IPP600N25N3 G $R_{DS(on)}=60m\Omega$	BSC16DN25NS3 G $R_{DS(on)}=165m\Omega$	BSZ42DN25NS3 G $R_{DS(on)}=425m\Omega$	IPC302N25N3A* 10mΩ< $R_{DS(on)}$ <20mΩ

\* Part qualified for Automotive

Published by  
Infineon Technologies Austria AG  
9500 Villach, Austria

© 2013 Infineon Technologies AG.  
All Rights Reserved.

Visit us:  
[www.infineon.com](http://www.infineon.com)

Order Number: B152-H9392-G4-X-7600-DB2013-0011  
Date: 09 / 2013

#### Attention please!

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

#### Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office ([www.infineon.com](http://www.infineon.com)).

#### Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office. Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.