

OptiMOS™3 100V, 120V, 150V

Highest Power Density

THE NEW OptiMOS™3 100V, 120V AND 150V technologies of the OptiMOS™3 low-voltage products from Infineon Technologies offer at the same time the lowest on-state resistances of the industry and the fastest switching behavior, allowing for the achievement of outstanding performance in a wide range of applications.

The IPP030N10N3 G, IPP041N12N3 G and IPP075N15N3 G set a new benchmark for low-ohmic MOSFETs in the 100V, 120V and 150V classes respectively in TO-220. These technologies combined with high performance packages like CanPAK™¹⁾, S308 or SuperSO8 make new solutions for highest efficiencies and power density possible. For example, the BSC060N10NS3 G 100V and the BSC190N15NS3 G 150V with an $R_{DS(on)}$ of 6mΩ and 19mΩ respectively facilitate the change from leaded packages to small and high-efficient SMD packages like SuperSO8.

The new OptiMOS™3 120V technology gives new possibilities for optimized solutions. In cases where the 150V are not required but a 100V MOSFET is not enough, the OptiMOS™3 120V offers a solution, providing a significant increase in performance over 150V technologies.

For high current applications requiring low ohmic parts the new D²PAK 7pin devices from OptiMOS™3 100V, 120V and 150V offer up to 50% lower levels of $R_{DS(on)}$ compared to competition and current capabilities up to 180A.

The outstanding electrical parameters of the OptiMOS™3 100V, 120V and 150V make these technologies the perfect choice for a wide range of industrial and consumer applications. From high-current motor-control applications to fast switching DC/DC converters or Class D audio amplifiers, this new technologies offer the highest efficiency and minimal space requirements.

1) CanPAK™ uses DirectFET™ technology licensed from International Rectifier Corporation. DirectFET™ is a registered trademark of International Rectifier Corporation.

2) CanPAK™ Products are rated for MSL 3

Applications

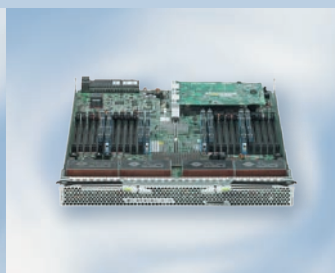
- Synchronous rectification for AC/DC SMPS
- Motor control for 48V–80V systems (i.e. domestic vehicles, power-tools, trucks)
- Isolated DC/DC converters (telecom and datacom systems)
- Or-ing switches and circuit breakers in 48V systems
- Class D audio amplifiers
- Uninterruptable power supplies (UPS)

Features

- Excellent switching performance
- World's lowest $R_{DS(on)}$
- Very low Q_g and Q_{gd}
- Excellent gate charge x $R_{DS(on)}$ product (FOM)
- RoHS compliant-halogen free
- MSL1 rated²⁾

Benefits

- Environmentally friendly
- Increased efficiency
- Highest power density
- Less paralleling required
- Smallest board-space consumption
- Easy-to-design products



OptiMOS™3 100V, 120V, 150V

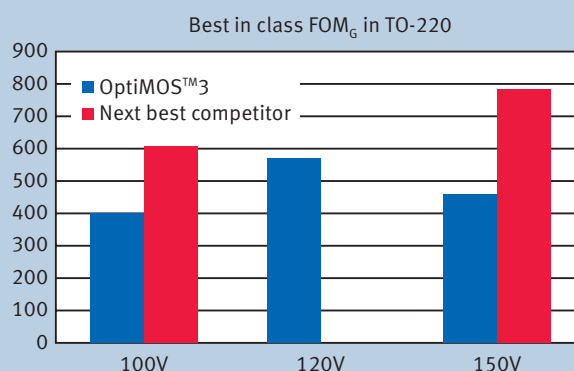
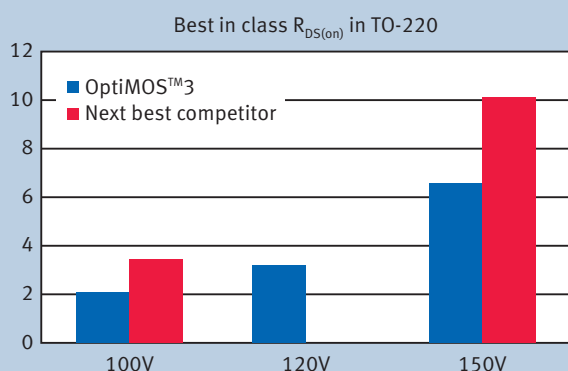
Highest Power Density

OptiMOS™3 100V, 120V and 150V - The best performance for switching applications

The new OptiMOS™3 100V family offers superior solutions for high efficiency, high power-density SMPS. Compared to the next best technology this new OptiMOS™3 100V family achieves a reduction of 30% in both $R_{DS(on)}$ and FOM_G (Figure of Merit).

The OptiMOS™3 150V achieves a reduction in $R_{DS(on)}$ of 40% and of 45% in Figure of Merit (FOM_G) compared to the next best competitor. This drastic improvement opens new possibilities like moving from leaded packages to SMD packages or effectively replacing two old parts with one OptiMOS™3 part.

A broad and optimized portfolio, new packages as the D²PAK 7pin with current ratings up to 180A and silicon features like a low temperature coefficient make these new technologies the best choice for a wide range of applications from motor-control to synchronous rectification or DC/DC primary side switches.



	Package	Name	$R_{DS(on)}$
100V	TO-220	IPP030N10N3 G	3
	D ² PAK 7pin	IPB025N10N3 G	2.5
	SuperSO8	BSC060N10NS3 G	6
	S308	BSZ160N10N3 G	16
	CanPAK™ ³⁾ M	BSB056N10NN3 G ²⁾	5.6 ²⁾
120V	TO-220	IPP041N12N3 G	4.1
	D ² PAK 7pin	IPB036N12N3 G ³⁾	3.6 ³⁾
	SuperSO8	BSC077N12NS3 G	7.7
150V	TO-220	IPP075N15N3 G	7.5
	D ² PAK 7pin	IPB065N15N3 G	6.5
	SuperSO8	BSC190N15N3 G	19
	S308	BSZ520N15N3 G ³⁾	52 ³⁾
	CanPAK™ ³⁾ M	BSB150N15NZ3 G ³⁾	15 ³⁾

1) CanPAK™ uses DirectFET™ technology licensed from International Rectifier Corporation.

DirectFET™ is a registered trademark of International Rectifier Corporation.

2) Preliminary product name and $R_{DS(on)}$

3) Coming in Q3 2009

How to reach us:
<http://www.infineon.com>

Published by
Infineon Technologies AG
81726 Munich, Germany

© 2009 Infineon Technologies AG
All Rights Reserved.

Legal Disclaimer The information given in this Product Brief shall in no event be regarded as a guarantee of conditions or characteristics. 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 the nearest Infineon Technologies Office (www.infineon.com).

Warnings Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office. Infineon Technologies components may be used in life-support devices or systems only 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.