



# OptiMOS™ and StrongIRFET™ combined portfolio

20 V–300 V N-channel Power MOSFETs

[www.infineon.com/powermosfet-20V-300V](http://www.infineon.com/powermosfet-20V-300V)



# A powerful combination

Infiniteon's semiconductors are designed to bring more efficiency, power density and cost effectiveness. The full range of OptiMOS™ and StrongIRFET™ N-channel Power MOSFETs enable innovation and performance in applications such as switch mode power supplies (SMPS), motor control and drives, inverters and computing.

## Power MOSFETs 20 V-300 V - OptiMOS™ and StrongIRFET™ families

Infiniteon's highly innovative OptiMOS™ and StrongIRFET™ families consistently meet the highest quality and performance demands in key specifications for power system design such as on-state resistance and figure of merit characteristics. OptiMOS™ is the market leader in highly efficient solutions for power generation (e.g. solar micro inverter), power supply (e.g. server and telecom) and power consumption (e.g. electric vehicle).

### Benefits

- > Expanded product portfolio 20 V-300 V
- > Able to address a broad range of needs
- > Best-in-class technology → OptiMOS™

OptiMOS™ – optimized for high frequency and low  $R_{DS(on)}$  applications



StrongIRFET™ – optimized for low frequency and high rugged applications




# Family attributes overview

OptiMOS™ Power MOSFETs provide excellent best-in-class performance. Features include ultra low  $R_{DS(on)}$  as well as low charge for high switching frequency applications. StrongIRFET™ Power MOSFETs are designed for rugged industrial applications and are ideal for designs with a low switching frequency as well as those that require a high current carrying capability.

## OptiMOS™ family attributes

Designed for high performance applications	Primarily aimed at replacing Trench Power MOSFETs	Provide best-in-class and price/performance products
Ideal for high switching frequency		Industry best figure of merit
Ultra low $R_{DS(on)}$	20 V–300 V portfolio	High efficiency and power density

## StrongIRFET™ family attributes

Designed for industrial applications	Primarily aimed at replacing planar Power MOSFETs	Provide value in traditional Trench MOSFET space
Ideal for low switching frequency		High current carrying capability
Low $R_{DS(on)}$	3.0 Threshold voltage Logic Level also available	Rugged Silicon

Published by  
Infineon Technologies Austria AG  
9500 Villach, Austria

© 2015 Infineon Technologies AG.  
All Rights Reserved.

Order Number: B111-I0163-V1-7600-EU-EC-P  
Date: 08/2015

### Please note!

THIS DOCUMENT IS FOR INFORMATION PURPOSES ONLY AND ANY INFORMATION GIVEN HEREIN SHALL IN NO EVENT BE REGARDED AS A WARRANTY, GUARANTEE OR DESCRIPTION OF ANY FUNCTIONALITY, CONDITIONS AND/OR QUALITY OF OUR PRODUCTS OR ANY SUITABILITY FOR A PARTICULAR PURPOSE. WITH REGARD TO THE TECHNICAL SPECIFICATIONS OF OUR PRODUCTS, WE KINDLY ASK YOU TO REFER TO THE RELEVANT PRODUCT DATA SHEETS PROVIDED BY US. OUR CUSTOMERS AND THEIR TECHNICAL DEPARTMENTS ARE REQUIRED TO EVALUATE THE SUITABILITY OF OUR PRODUCTS FOR THE INTENDED APPLICATION.

WE RESERVE THE RIGHT TO CHANGE THIS DOCUMENT AND/OR THE INFORMATION GIVEN HEREIN AT ANY TIME.

### Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices please contact your nearest Infineon Technologies office ([www.infineon.com](http://www.infineon.com)).

### Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life endangering applications, including but not limited to medical, nuclear, military, life critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.

# Product family positioning

These graphs show the recommended technology for best fit standard components, price performance and differentiated products according to switching frequency.

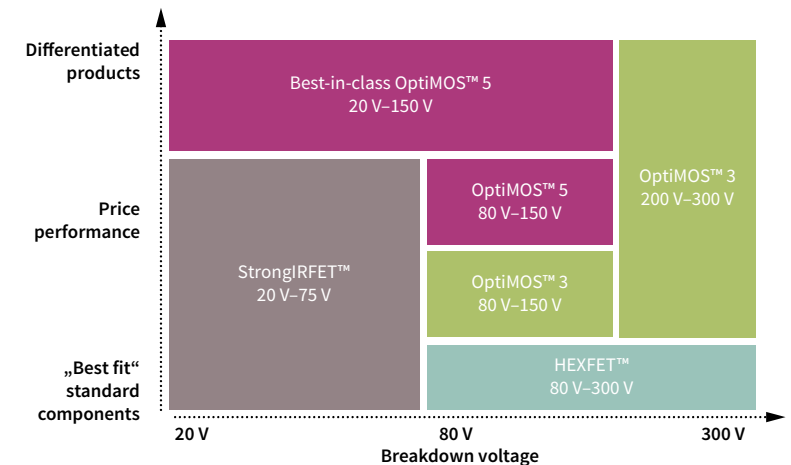
For low frequency applications, OptiMOS™ 5 is the best fit when best-in-class performance is required. However, StrongIRFET™ is recommended for 20 V to 75 V applications when best-in-class performance is not essential and cost is a more significant consideration.

For best-in-class performance at voltages from 80 V to 150 V, OptiMOS™ 5 is recommended. If best-in-class is not essential and price/performance is more important, then OptiMOS™ 3 is the recommendation.

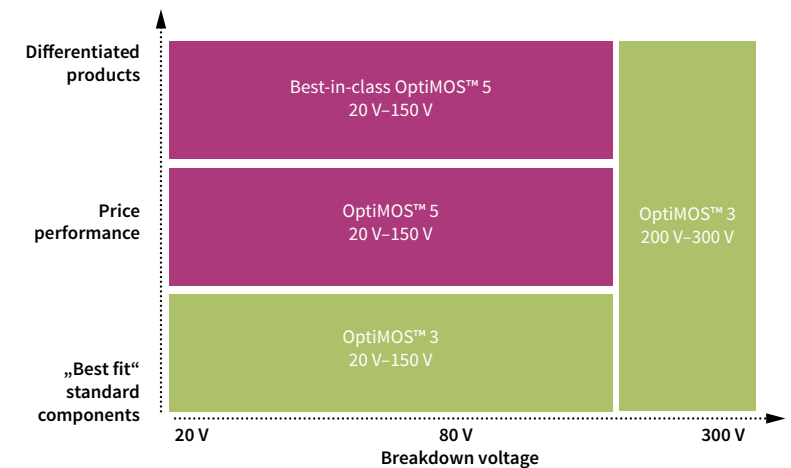
Voltages above 150 V are available in OptiMOS™ 3. In addition, older Trench MOSFETs, shown here as HEXFET™, are an option for highly commoditized markets where cost is the main consideration.

For high frequency applications, OptiMOS™ 5 is recommended for best-in-class and price/performance up to 150 V. OptiMOS™ 3 can be considered where high performance is less essential. As with low frequency applications, OptiMOS™ 3 is available for voltages above 150 V.

## Low frequency applications < 100 kHz



## High frequency applications > 100 kHz



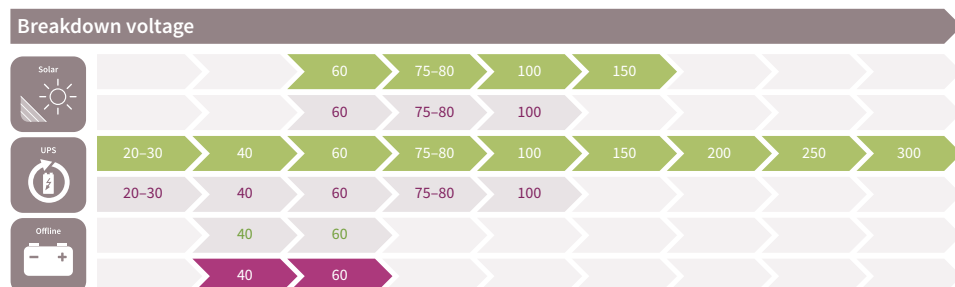
# Combined portfolio

Infiniteon's OptiMOS™ portfolio, now complemented by StrongIRFET™ Power MOSFETs, creates a truly powerful combination. The joint portfolio, covering 20 V up to 300 V MOSFETs, can address a broad range of needs from low to high switching frequencies. The tables below provide a guidance overview for the recommended OptiMOS™ or StrongIRFET™ products for each major sub-application and voltage class.

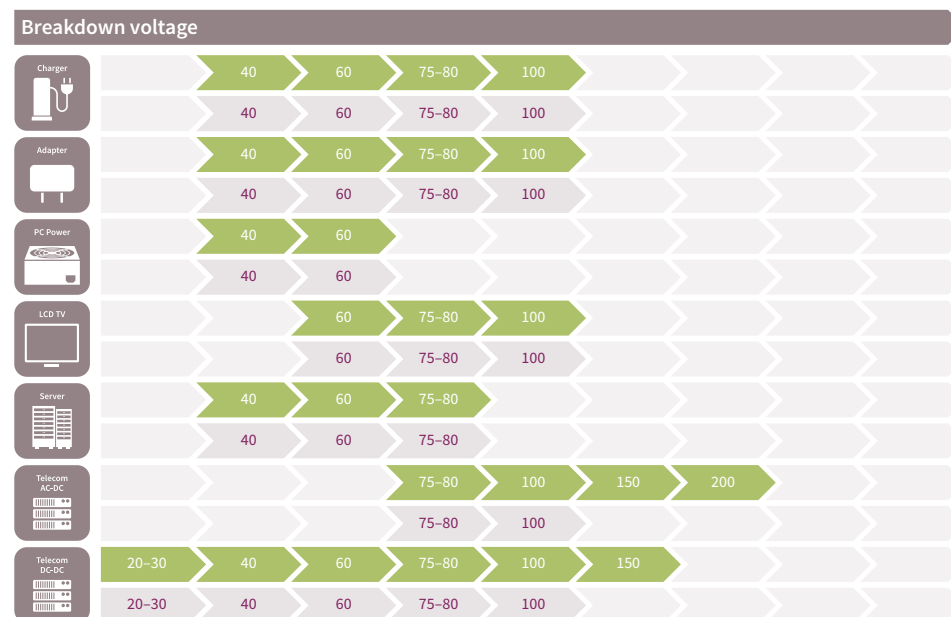
## Drives



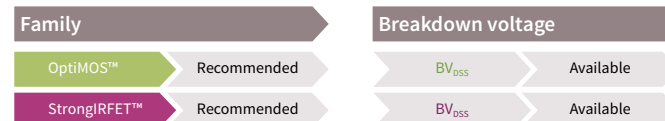
## Inverters



## SMPS



## Legend















# Packages available by voltage class

## Packages – Surface Mount Devices Technology

20 V–80 V	100 V–150 V	200 V–300 V
D <sup>2</sup> PAK 7pin 	D <sup>2</sup> PAK 7pin 	D <sup>2</sup> PAK 7pin 
D <sup>2</sup> PAK 	D <sup>2</sup> PAK 	D <sup>2</sup> PAK 
TO-Leadless 	TO-Leadless 	TO-Leadless 
DPAK 	DPAK 	DPAK 
DirectFET™ 	DirectFET™ 	DirectFET™ 
SuperSO8 	SuperSO8 	SuperSO8 
SO-8 	SO-8 	SO-8 
PQFN 3.3x3.3 	PQFN 3.3x3.3 	PQFN 3.3x3.3 
PQFN 2x2 		

## Packages – Through Hole Devices Technology

20 V–80 V	100 V–150 V	200 V–300 V
TO-247 	TO-247 	TO-247 
TO-220 	TO-220 	TO-220 
TO-220 FullPAK 	TO-220 FullPAK 	TO-220 FullPAK 
I <sup>2</sup> PAK 	I <sup>2</sup> PAK 	I <sup>2</sup> PAK 

The combined portfolio covers a broad range of packages. Shown here are the packages available by voltage class range. Please note, not all packages are available in each voltage class. For new products, there will be a consolidation of package names. CanPAK™, S308 and PQFN 5x6 will be named DirectFET™, PQFN 3.3x3.3 and SuperSO8 respectively in the future.