

Product brief

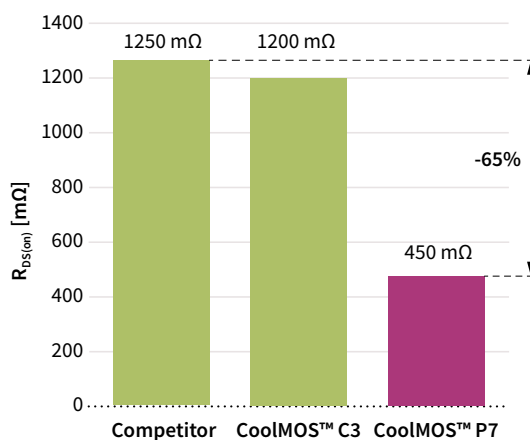
950 V CoolMOS™ P7 SJ MOSFET

Perfect fit for PFC and flyback topologies

Designed to meet the growing consumer needs in the high voltage MOSFETs arena, the latest 950 V CoolMOS™ P7 technology focuses on the low-power SMPS market. This new P7 family addresses applications ranging from lighting, smart meter, mobile phone charger, notebook adaptor, to AUX power supply and industrial SMPS. Offering 50 V more blocking voltage than its predecessor 900 V CoolMOS™ C3, the new 950 V CoolMOS™ P7 series delivers outstanding performance in terms of efficiency, thermal behavior and ease-of-use.

As the all other P7 family members, the 950 V CoolMOS™ P7 series comes with an integrated Zener diode ESD protection. The integrated diode considerably improves ESD robustness, thus reducing ESD-related yield loss and reaching exceptional ease-of-use levels. CoolMOS™ P7 is developed with best-in-class $V_{GS(th)}$ of 3 V and a narrow tolerance of only ± 0.5 V, which makes it easy to drive and design-in.

With over 20 years of experience in superjunction technology, Infineon introduces 950 V CoolMOS™ P7 with best-in-class DPAK on-resistance ($R_{DS(on)}$). This SMD device comes with the $R_{DS(on)}$ of 450 m Ω - more than 60% lower $R_{DS(on)}$ compared to the nearest competitor. Such low $R_{DS(on)}$ value enables higher density designs while decreasing BOM and assembly cost.



Best-in-class DPAK $R_{DS(on)}$

Customer benefits:

- > Possible change from leaded to SMD packages
- > High power density
- > Lower BOM cost
- > Less production cost

Key features

- > Best-in-class FOM $R_{DS(on)} E_{oss}$; reduced Q_g , C_{iss} and C_{oss}
- > Best-in-class DPAK $R_{DS(on)}$ of 450 m Ω
- > Best-in-class $V_{GS(th)}$ of 3 V and smallest $V_{GS(th)}$ variation of ± 0.5 V
- > Integrated Zener diode ESD protection up to Class 2 (HBM)
- > Best-in-class quality and reliability

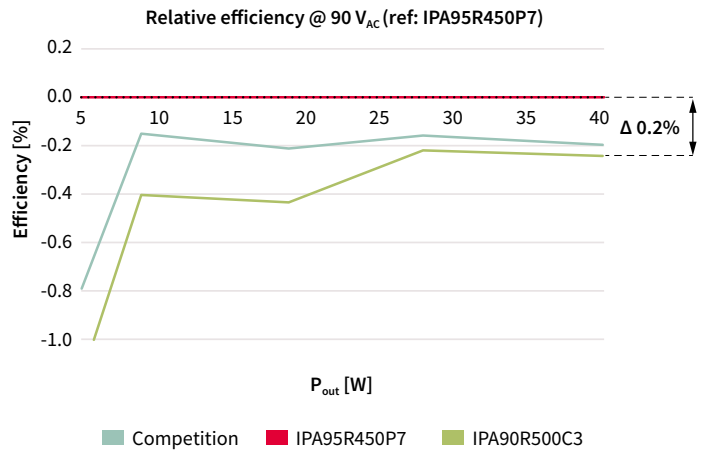
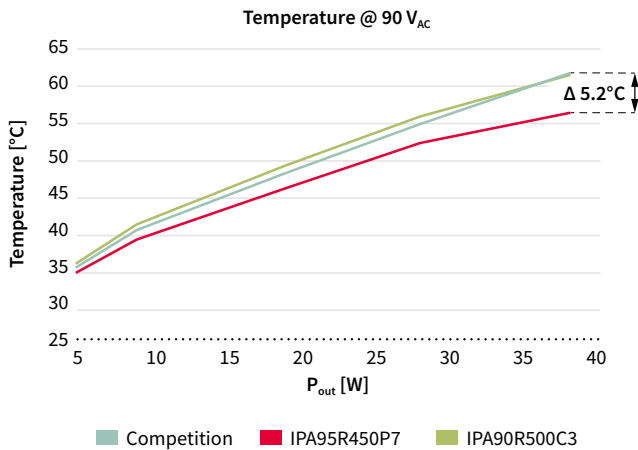
Key benefits

- > Up to 1% efficiency gain and 2°C to 10°C lower MOSFET temperature, compared to CoolMOS™ C3
- > Enabling higher power density designs, BOM savings, and lower assembly cost
- > Easy to drive and to design-in
- > Better production yield by reducing ESD related failures
- > Less production issues and reduced field returns

950 V CoolMOS™ P7 SJ MOSFET

Perfect fit for PFC and flyback topologies

Compared to competition, the 950 V CoolMOS™ P7 delivers best-in-class efficiency and thermal performance. Plug-and-play at 90 V_{AC} in a 40 W adapter reference design, featuring the snubberless concept, demonstrates excellent efficiency gains of up to 0.2 % and lower MOSFET temperature of up to 5.2°C compared to similar competitor technology.



Product portfolio*

R _{DS(on)} [mΩ]	TO-220 FP	IPAK LL	DPAK	SOT-223	ESD protection class	
					HBM	CDM
3700		IPU95R3K7P7		IPN95R3K7P7	1C (> 1 kv)	Class C3 (> 1 kv)
2000		IPU95R2K0P7	IPD95R2K0P7	IPN95R2K0P7	2 (> 2 kv)	
1200	IPA95R1K2P7	IPU95R1K2P7	IPD95R1K2P7	IPN95R1K2P7		
750	IPA95R750P7	IPU95R750P7	IPD95R750P7			
450	IPA95R450P7	IPU95R450P7	IPD95R450P7			

* Optimized for PFC and flyback topologies

Published by
Infineon Technologies Austria AG
9500 Villach, Austria

© 2018 Infineon Technologies AG.
All Rights Reserved.

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).

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.