

New SiR626DP 60 V TrenchFET[®] MOSFET in PowerPAK[®] SO-8 Combines $R_{DS(on)}$ Down to 1.7 m Ω With Best in Class Gate Charge of 52 nC and Output Charge of 68 nC to Reduce Power Losses and Increase Efficiency

Product Benefits:

- Low maximum on-resistance down to 1.7 m Ω at 10 V reduces conduction loss
- Ultra low gate charge of 68 nC at V_{GS} of 10V and output charge of 68 nC
- Low C_{OSS} of 992 pF
- Decreases power loss from gate driving, charging and discharging output capacitance
- Improves efficiency in synchronous rectification and switching applications
- Offered in the 6.15 mm by 5.15 mm thermally enhanced PowerPAK SO-8 package
- 100 % R_G- and UIS-tested
- RoHS-compliant and halogen-free



Market Applications:

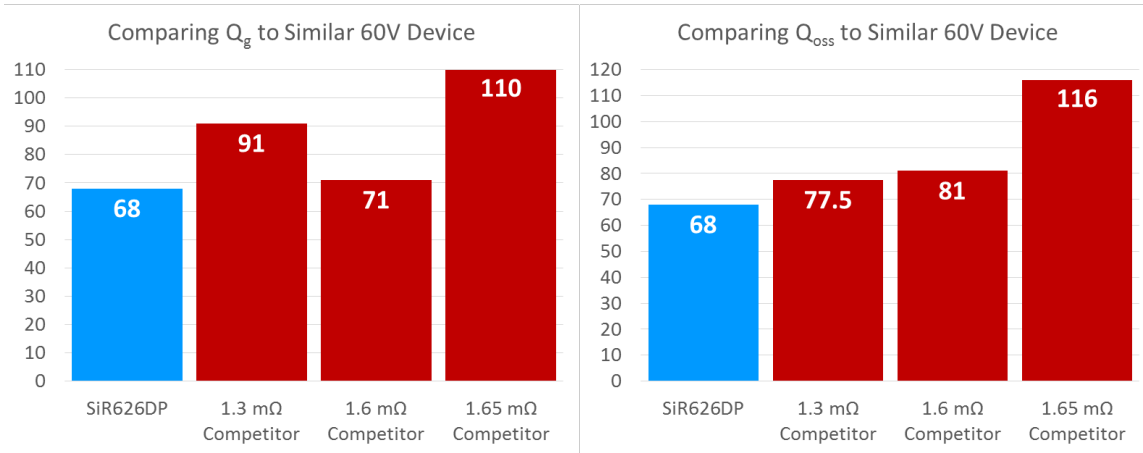
- Synchronous rectification in AC/DC power supplies
- Primary- and secondary-side switching in DC/DC topologies for power delivery in telecom, server, and medical equipment
- Half-bridge power stage and buck-boost converter in voltage regulation for server and telecom equipment
- DC/DC converter in solar micro-inverters
- Motor drive control in power tools and industrial equipment
- Battery switching in battery management modules
- Load switching for 24 V systems

The News:

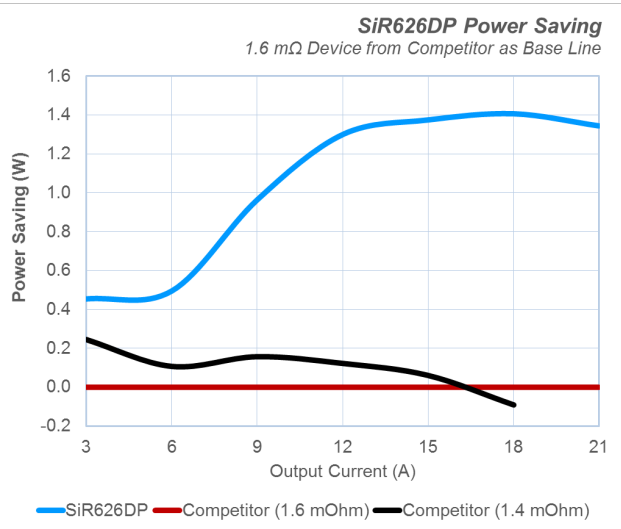
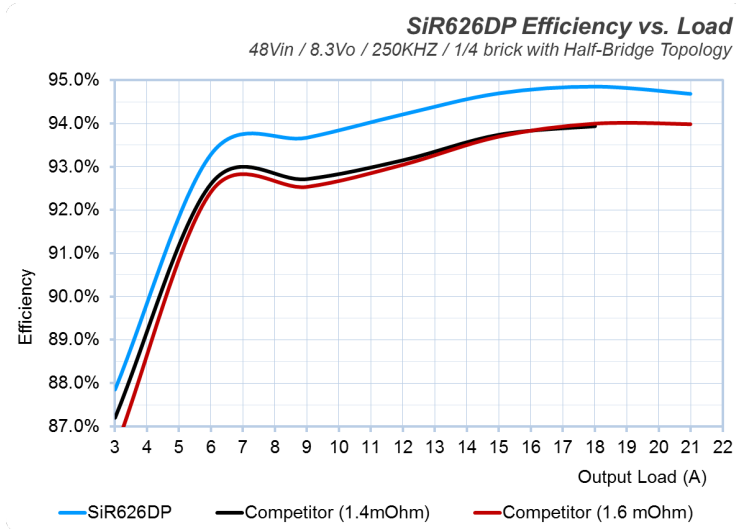
Vishay Intertechnology introduces a new 60 V TrenchFET Gen IV n-channel power MOSFET in the 6.15 mm by 5.15 mm PowerPAK SO-8 single package. Designed to increase the efficiency of power conversion topologies, the Vishay Siliconix SiR626DP offers 36 % lower on-resistance than previous-generation devices, while delivering the lowest gate charge and output charge in its class.

- Compared to previous-generation devices:
 - 32 % lower gate charge times on-resistance FOM
 - 45 % lower output charge times on-resistance FOM
 - 69 % lower C_{OSS}
- Compared to the closest competing products:
 - More than 4 % better gate charge
 - 16 % better output charge

- 17 % less output capacitance at V_{DS} of 30 V



- The SiR626DP's improved specifications are fine-tuned to minimize conduction and switching losses for applications using hard switching or zero voltage switching (ZVS) schemes
- The combination of low $R_{DS(ON)}$, Q_g , and Q_{oss} is particularly beneficial for synchronous rectification in power supplies for server, telecom, and industrial equipment
- The power delivery to internet of thing (IoT) connectivity infrastructure becomes more efficient as less energy is wasted during the power conversion from AC to microprocessors
- 0.7 % higher efficiency while saving close to 1.4 W in a benchmarking test against several competing high performance products
 - Test platform is an off-the-shelf quarter brick DC/DC converter
 - All three devices functioned as synchronous rectification
 - Optimization wasn't possible, as removing passive components could damage the circuit





The Key Specifications:

- Drain-source voltage: 60 V
- On-resistance:
 - At 10 V: 1.7 m Ω
 - At 7.5 V: 2.0 m Ω
 - At 6 V: 2.6 m Ω
- Gate charge: 68 nC at 10 V and 52 nC at 7.5V
- Output charge: 68 nC
- C_{oss}: 992 pF
- Package: PowerPAK SO-8

Availability:

Samples of the SiR626DP are available now. Production quantities are available with lead times of 30 weeks subject to market conditions.

To access the product datasheet on the Vishay Website, go to <http://www.vishay.com/ppg?75255> (SiR626DP)

Contact Information:

The Americas

Vishay Americas
LVM_Americas@vishay.com

Europe

Vishay Electronic GmbH
LVM_Europe@vishay.com

Asia

Vishay Intertechnology Asia Pte Ltd.
LVM_Asia@vishay.com