

PowerPAK® SO-10LR

Top-Side Cooling Automotive MOSFETs

▶ WHERE TO HUNT

Target Customers:

- EV: Tesla, Rivian, Borg Warner, GM, Ford, Aumovio, Schaffler, Vitesco, Valeo, Nidec, Nexteer, Magna, JTEKT, Lear
- Automotive adjacent / Heavy Duty: John Deere, Eaton, Sensata
- AMS / Robotics: Boston Scientific, Stryker, BAE, SpaceX

Door Opener Questions:

- What type of power conversion design are you developing? Motor drive? DC/DC power supplies?
- How are you handling the thermal management – are you using heatsink or cold plate interface above the logic board?
- What is the power net voltage / nominal input? – Validating the break-down voltage margin
- What are the planned load current and power rating? – Defining the appropriate $R_{DS(ON)}$ range
- If you are designing a DC/DC converter, what is the switching frequency? – determining the Q_g range
- Do you plan on using 5V or near-10V for the gate drive?

Automotive: BMS, DC/DC converters, inverters, motor drive control, onboard chargers, power distribution units, LED lighting

AMS / Medical / Industrial: Avionic, satellites, energy storage, robotics

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▶ HOW TO SELL: Sell the Solution, not the component

“Vishay top-side cooled solutions remove PCB thermal constraints, enabling superior heat transfer, higher power density, and simplified PCB layout.”

- SQJ---ER series – Standard level devices, optimized for 12V to 96V automotive power nets
- SQJ---ELR series – Logic-level devices optimized for 5V gate driving operations and eliminating the need for extra level-shifting
- Multi-fab qualification to reinforce supply security and business continuity

▶ HOW TO CLOSE: Advancing the opportunity

“We partner with engineers to design the most energy- and cost-efficient solutions the first time.”

- Pull in Support Early: Engage FAEs / regional technical support at the initial design stage
- Enable the Customer: Provide thermal and electrical models, simulations; quick turn sampling
- Reinforce with resources: infographics, sell sheets, white papers, application notes, toolkits, videos; direct outreach (pMOStechsupport@vishay.com) and tailored follow-ups

PowerPAK® 8 X 8L

The Performance / Cost / Size Optimization Sweet Spot

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“Vishay solutions maximize power density and board-level reliability, supported by a broad portfolio that increases energy efficiency, mitigates solder fatigue, and strengthen supply-chain confidence.”

- SQJQ---E series – Standard level devices, optimized for 12V to 96V automotive power nets
- SQJQ---EL series – Logic-level devices optimized for 5V gate driving operations and eliminating the need for extra level-shifting
- Multi-fab qualification to reinforce supply security and business continuity
- NCNT readiness in 2027

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