

ISSUE: [October 2026](#)

600-V SJ MOSFETs Support Optimized Electrical/Thermal Paths

[Alpha and Omega Semiconductor](#)'s AOGT037V60DE2 and AOGT060V60DE2 α MOS E2 600-V top-side-cooled superjunction (SJ) MOSFETs are designed to deliver the power density and robustness required by high-performance power systems and solar inverters. That includes a wide range of higher-voltage applications, including servers, workstations, telecom rectifiers, motor drives and industrial power systems. These devices are said to meet the critical requirements in multiple topologies such as boost PFC, totem-pole PFC (slow leg), LLC resonant, PSFB and cyclo-converters.

AOS' α MOS E2 high-voltage superjunction MOSFET platform features exceptional body-diode ruggedness ($di/dt = 1500 \text{ A}/\mu\text{s}$), superior avalanche (UIS) capability, and short-circuit withstand time (SCWT). This enhanced ruggedness translates into higher system-level reliability, helping to ensure robust operation even under abnormal scenarios.

Furthermore, AOS combines this α MOS E2 silicon with its top-side-cooled GTPAK package to maximize thermal performance via the top-side cooling pad (see the figure). As a result, system designers can fully optimize thermal dissipation and reclaim PCB space to maximize overall power density. By co-optimizing both the electrical and thermal paths, system performance and long-term reliability are greatly enhanced.

These devices also features gull-wing leads, which deliver superior board-level reliability in mission-critical environments, and are designed to prevent self-turn-on, ensuring reliable operation under dynamic conditions.

The AOGT037V60DE2 (600 V, 37 m Ω) and AOGT060V60DE2 (600 V, 60 m Ω) are now available in production quantities with a lead time of 16 weeks. The unit prices for 1,000-piece quantities are \$6.00 and \$3.00, respectively.

For more information, see the [AOGT037V60DE2](#) and [AOGT060V60DE2](#) pages.

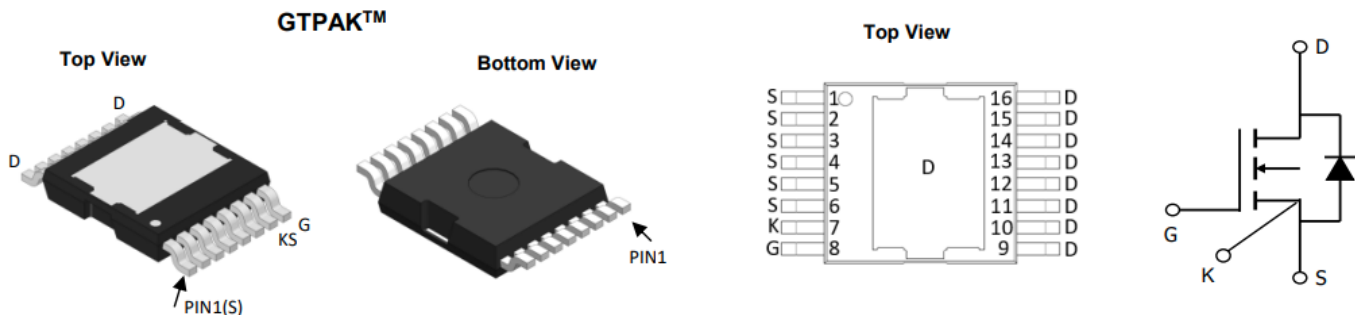


Figure. "Our top-side cooled GTPAK products, such as the AOGT037V60DE2 and AOGT060V60DE2, are engineered to meet the demands of high-performance ac-dc power supplies, dc-dc converters and dc-ac solar inverters. Electromagnetic emission (EMI) and density bottlenecks of traditional bottom-side cooling have been a major engineering hurdle. Our α MOS E2 top-side cooled solutions give designers a premier solution for mid-to-high-power systems, empowering the performance-driven power infrastructure, power supply units, and renewable energy systems," said Simon Yu, senior manager of HV Product Line at AOS.