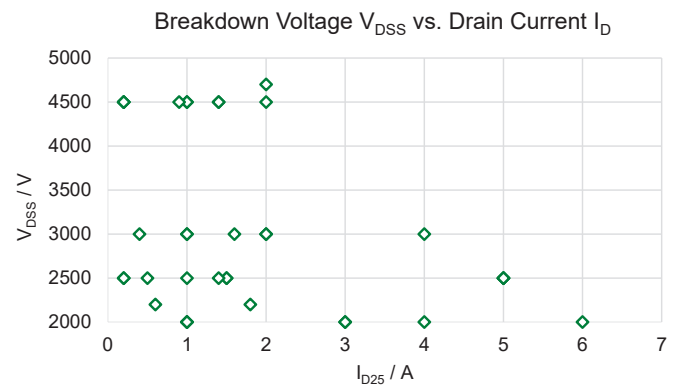


Very High-Voltage MOSFETs

Littelfuse offers an extensive portfolio of discrete Very High-Voltage (VHV) MOSFETs featuring improved overall device performance, reduced losses, increased avalanche robustness, and reliable operation.

Littelfuse VHV MOSFETs ranging from 2000 V to 4700 V, with nominal current ratings from 200 mA to 6 A and power dissipation capability from 78 W to 960 W, are available in both standard and unique packaging options.

VHV MOSFETs are capable of withstanding high avalanche energies and are specifically designed to address demanding, fast-switching power conversion applications requiring very high blocking voltages.

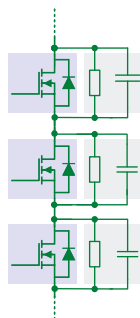


V_{DSS} / kV	I_{D25} / A	$R_{DS(ON)}$ / Ω	P_D / W
2, 2.2, 2.5, 3, 4.5, 4.7	0.2 - 6	4 - 625	78 - 960

Comparison - HV design with Littelfuse VHV MOSFETs vs. series-connected LV MOSFETs

Solution A: Using LV MOSFETs

- Requires several MOSFETs in series
- Higher component count - decreases system reliability - requires sufficient overdesign for acceptable reliability
- Additional RC components are required for uniform voltage sharing
- Complicates gate drive & system design
- Requires additional PCB area
- Cost-inefficient - Not a recommended design

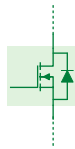


LV MOSFET + RC Element

OR

Solution B: Using VHV MOSFET

- A Single MOSFET is sufficient
- Lower component count - improves system reliability
- Isolated packages simplify design and mounting effort
- Simplifies gate driving and design effort
- Saves PCB area - Increases power density
- Cost-efficient design - Recommended design

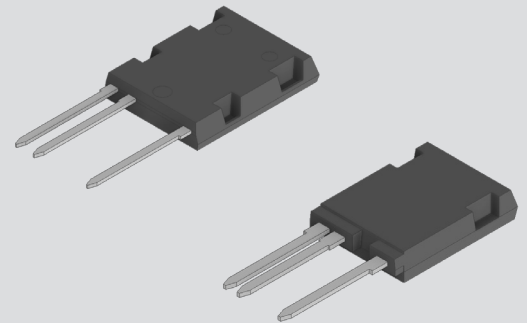


VHV MOSFET



Littelfuse®

Expertise Applied | Answers Delivered



Very High-Voltage MOSFETs

Features

- Very high blocking voltage
- Unique high-voltage packages
- Proprietary isolated packages
- High avalanche energy rating
- High power dissipation capability

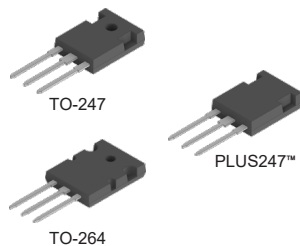
Benefits

- High power density
- Cost-efficient solution
- Improved reliability
- Easy mounting, PCB space saving

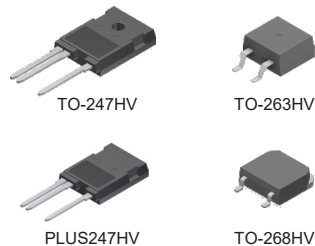
Applications

- Auxiliary power supplies in industrial motor drives, photovoltaic inverters, HVDC grid systems, uninterruptable power supplies, traction drives, and electric vehicles
- Laser and X-ray generation systems
- High-voltage power supplies
- Pulsed power applications

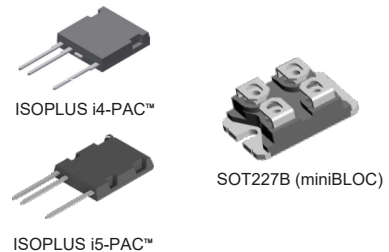
Standard & Plus Packages



High Voltage Packages



Isolated Packages



Unique and Proprietary Packages from Littelfuse



Scan this QR code to access the webpage on Very High Voltage MOSFETs at littelfuse.com



Scan this QR code to access the article on Littelfuse High-Voltage Discrete Silicon MOSFETs and their Applications



Littelfuse®

Expertise Applied | Answers Delivered