# TPSMB Asymmetric TVS Diodes for Anti-Reverse Battery Protection

## TPSMBxx12CA, TPSMBxx16CA and TPSMBxx18CA Series

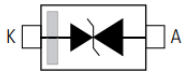
### Problem/Solution

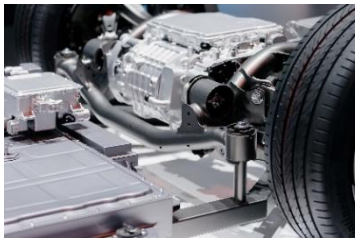
Battery packs, battery management circuits, and MOSFET controllers require protection from positive voltage transients, including motor inductive kickback, load dump, and charger surges. These components also need protection from negative transients such as ground bounce or inductive ringing. The TPSMB Asymmetrical Series (TPSMBxx12CA, TPSMBxx16CA, and TPSMBxx18CA) protects the battery pack and downstream circuitry from both positive and negative transients.

### Technical Resources

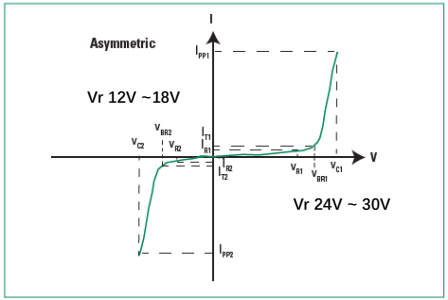
Series Page | Datasheet | Video | Product Brief

### Functional Diagram



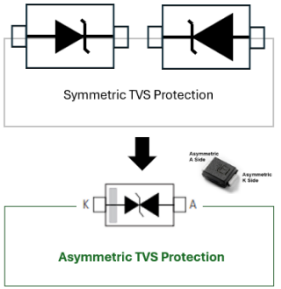



### I-V Curve Characteristics




### Benefits

- Single component for 12 V battery systems with asymmetric clamping for larger positive transients and smaller negative transients
- Withstands high power and large ESD strikes
- Fast response
- High reliability
- Compact size




### Features

- Models with low 24 V – 30 V positive clamping and low 12 V – 18 V negative clamping
- 600 W peak pulse power and 30 kV ESD dissipation
- Less than 1 ns response time
- Wide junction temperature range: -65° C to 175° C and AEC-Q101 qualified
- DO-214AA surface mount package

### Markets/Applications

- Automotive electronics
- Battery circuitry
- Domain and Zonal controllers
- Infotainment and lighting

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