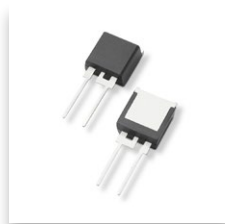


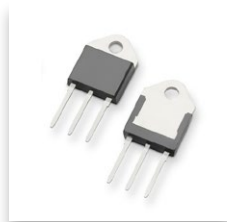
High Power Solutions for Surge Protection

Power line failures, lightning, and switching surges can cause permanent product damage, data loss, or worse. Designers need to choose the most appropriate protection to guard against these risks. Five types of popular high power protection solutions are provided for different requirements.

| Solution Types | Current Rating / Peak Pulse Power (@8/20 μ S) | Typical Voltage Clamping Speeds | Component Lifetime |
|---|---|---------------------------------|--------------------|
| High Power TVS Diode | 1kA-20kA | Fastest | Excellent |
| SIDACtor® Protection Thyristor + Varistor | 500A-10kA | Very Fast | Very Good |
| GDT+ Varistor | 1kA-20kA | Fast | Good |
| Varistor | 500A-22kA | Moderate | Fair |
| GDT | 500A-100kA | Fast | Very Good |



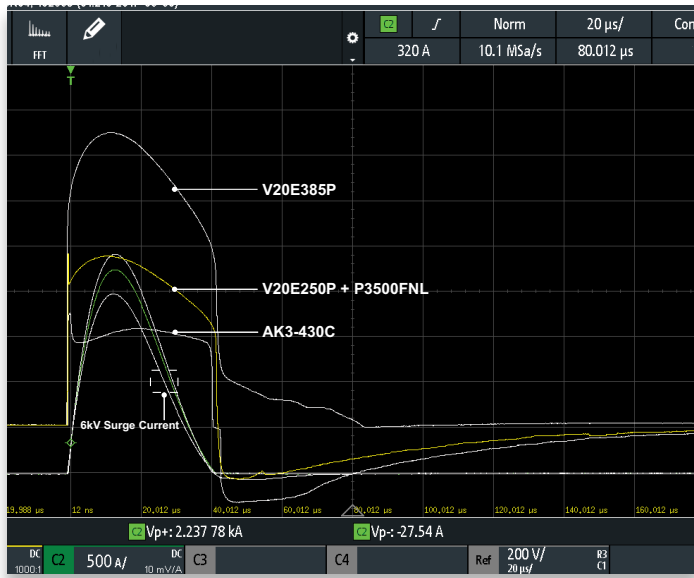
DC Power Protection



AC Power Protection

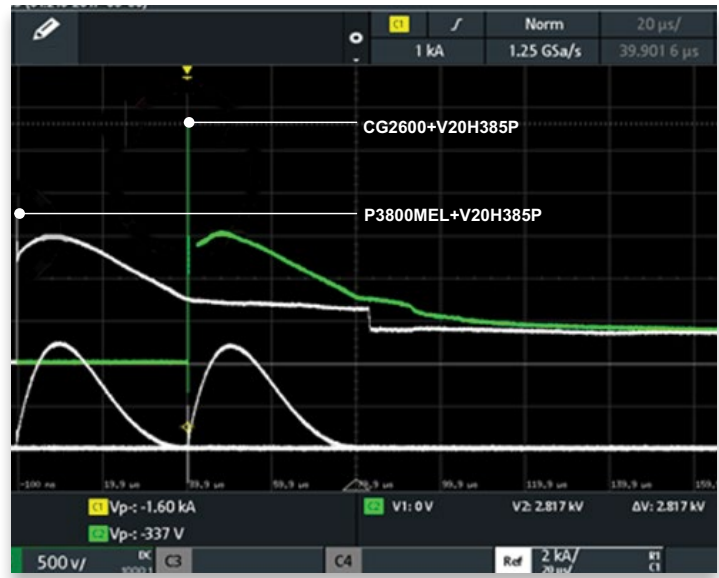
High Power Solutions Test 1. (Clamping Performance Comparison) AK TVS vs. SIDACtor+Varistor vs. Varistor

| Types | High Power TVS Diode | Varistor + SIDACtor® Protection Thyristor | Varistor |
|----------------------------------|----------------------|---|----------|
| Component(s) used for below test | AK3-430 | V20E250P + P3500FNL | V20E385P |



High Power Solutions Test 2. (Overshoot Voltage Comparison) GDT+Varistor vs. SIDACtor+Varistor, Ipp=5kA

| Types | GDT+ Varistor | Varistor + SIDACtor® Protection Thyristor |
|----------------------------------|-----------------|---|
| Component(s) used for below test | CG2600+V20H385P | V20H385P + P3800MEL |



High Power Products Offering

| Series | Description | Voltage | Unidirectional/Bidirectional | Package Type | Product Type |
|--|--------------------|-----------------------|------------------------------|--------------|--------------------------------|
| AK families Series (including LTKAK) | 1kA-20kA@8/20µS | 12-530V | Uni / Bi | Axial /SMT | TVS Diode |
| P600 Packaged Series | 5kW-30kW | 5V-360V | Uni / Bi | Axial | |
| SMDJ Series* | 3kW | 5V-440V | Uni / Bi | SMT | |
| 5.0SMDJ Series Staked Dies* | 5kW | 12V-170V | Uni / Bi | SMT | |
| 5.0SMDJxxS Single Chip Series* | 5kW | 6V-58V | Uni / Bi | SMT | |
| 8.0SMDJ* | 8kW | 12V-110V | Uni / Bi | SMT | |
| Pxxx0FNL Series in TO-262M | 3kA@8/20µS | 150V-380V | Bi | SMT | SIDACtor® Protection Thyristor |
| Pxxx0ME Series in TO-218 | 5kA@8/20µS | 150V-430V | Bi | SMT | |
| CG2 Series | 10-20kA@8/20µS | 75V-1000V | Bi | Axial /SMT | GDT |
| CG3 Series | 5kA@8/20µS | 1000V-7500V | Bi | Axial /SMT | |
| DC60 Series | 20kA@8/20µS | 48V | Bi | SMT | |
| LV UltraMOV Varistor Series | 0.5kA-10kA@8/20us | 11-95 Vdc / 14-125Vac | Bi | Radial | Varistor |
| TMOV or UltraMOV Varistor Series | 1.75kA-10kA@8/20us | 115-750Vac | Bi | Radial | |
| TMOV25S or UltraMOV25S Varistor Series | 20kA-22kA@8/20us | 115-750Vac | Bi | Radial | |

*SMDJ, 5.0SMDJ, 5.0SMDJxxS and 8.0SMDJ Series TVS Diode are perfect fit for the applications such as data center, server PoE, and other high power but small size requirements for 1kV, 2kV, 3kV, 4kV or even 6kV protection either single device or two in series or parallel.