

High Power Solutions for Surge Protection

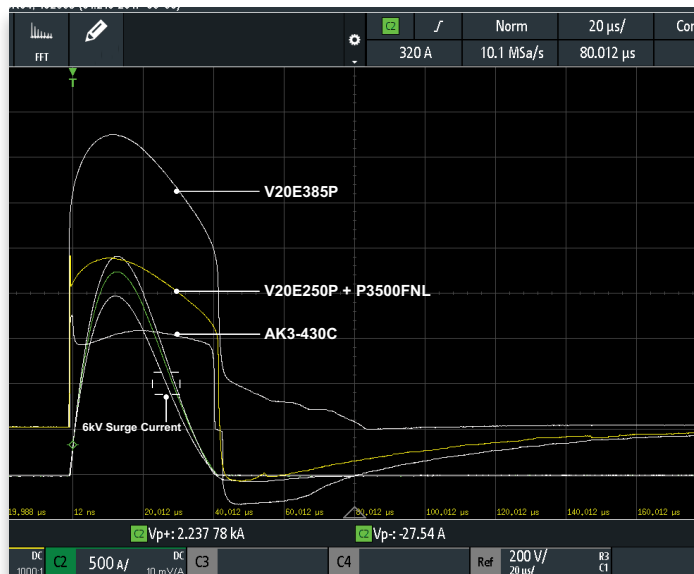
Power line failures, lightning, and switching surges can cause permanent product damage, data loss, or worse. Designers need to choose the most appropriate protection to guard against these risks. Five types of popular high power protection solutions are provided for different requirements.

Solution Types	Current Rating / Peak Pulse Power (@8/20μS)	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



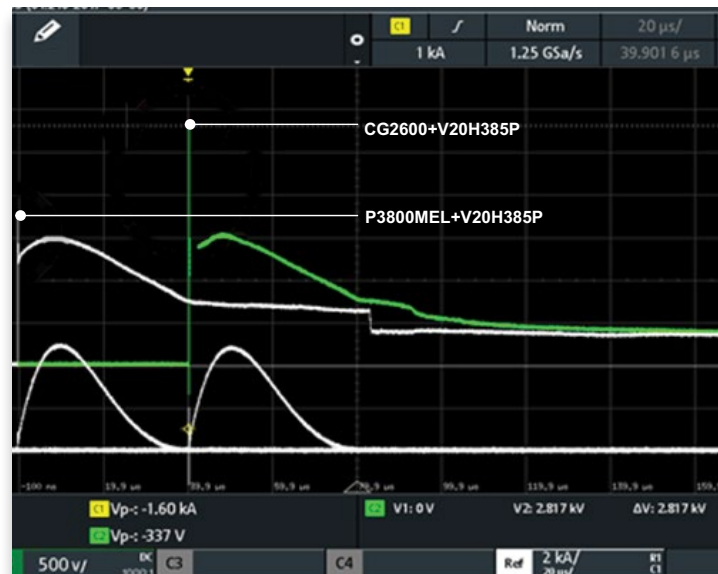
High Power Solutions Test 1. (Clamping Performance Comparison) AK TVS vs. SIDACTor+Varistor vs. Varistor

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	SIDACTor® Protection Thyristor
Pxxx0FNL Series in TO-262M	3kA@8/20µS	150V-380V	Bi	SMT	
Pxxx0ME Series in TO-218	5kA@8/20µS	150V-430V	Bi	SMT	GDT
CG2 Series	10-20kA@8/20µS	75V-1000V	Bi	Axial /SMT	
CG3 Series	5kA@8/20µS	1000V-7500V	Bi	Axial /SMT	
DC60 Series	20kA@8/20µS	48V	Bi	SMT	Varistor
LV UltraMOV Varistor Series	0.5kA-10kA@8/20us	11-95 Vdc / 14-125Vac	Bi	Radial	
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 8.0SMD 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.