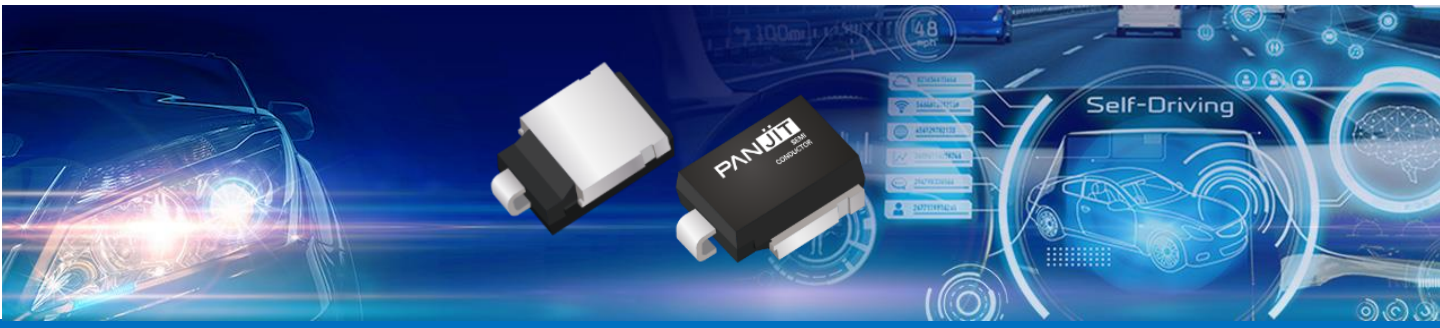


# Automotive Grade Load Dump TVS

Excellent Clamping Capability for Surge Protection



Load dump surge transient occurs when the discharged battery is disconnected while the alternator is charging. The impulse damages the electronic components in automotive electronic modules causing circuit short if no protection is applied. PANJIT introduces a series of automotive-compliant load-dump transient voltage suppressors (TVS) packaged in DO-218AB. These devices are able to dissipate up to 3600W, 4600W, and 6600W per 10/1000µs pulse transient and with the reverse stand-off voltage from 22V to 36V, it is suitable to use for 12V or 24V power system.

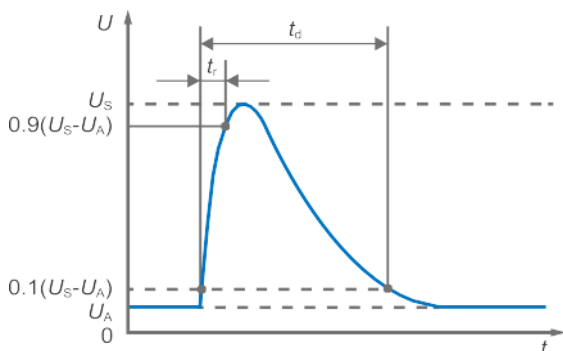
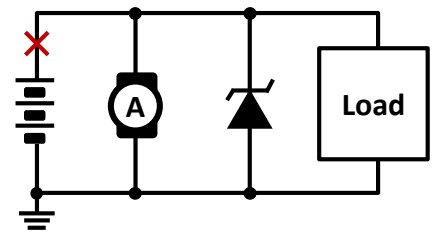
## Key Features

- High current capability
- Low clamping voltage
- Comply with ISO16750-2 (pulse A) surge specification
- Comply with the automotive standard ISO7637-2 (pulses 1, 2a, 2b, 3)
- High surge capability
- AEC-Q101 qualified

## Target Applications

- LED Lighting
- Infotainment
- ECU Subsystems
- Automotive air-conditioner

## Load Dump Circuit and ISO 16750-2 Test A:



Parameter	Type of System		Mini. Test Requirement
	$U_N=12V$	$U_N=24V$	
$U_S$ (V)	$79 \leq U_S \leq 101$	$151 \leq U_S \leq 202$	10 Pulses at intervals of 1 min.
$R_i$ ( $\Omega$ )	$0.5 \leq R_i \leq 4$	$1 \leq R_i \leq 8$	
$t_d$ (ms)	$40 \leq t_d \leq 400$	$100 \leq t_d \leq 350$	
$t_r$ (ms)	$10(+0/-5)$	$10(+0/-5)$	

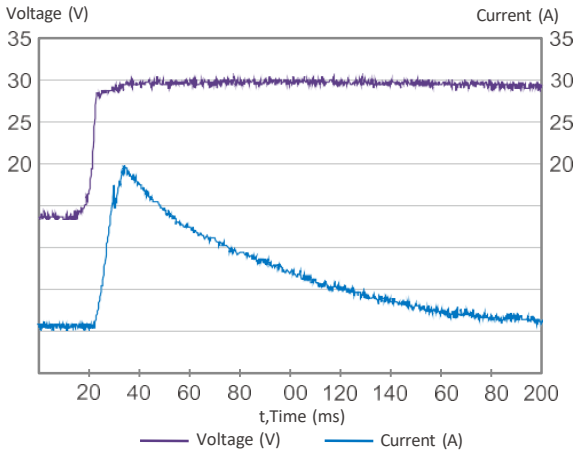
## ▶ Clamping Voltage Performance

### SM8S24A-AU

Test Rule: ISO 16750-2 Pulse A

Condition:  $R_i=3\Omega$

System: 12V Nominal Voltage

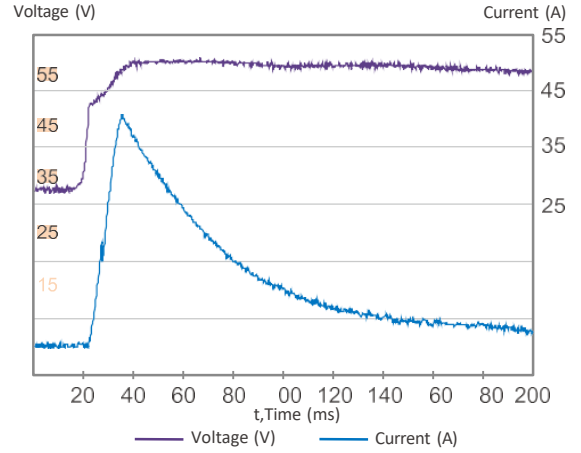


### SM8S36A-AU

Test Rule: ISO 16750-2 Pulse A

Condition:  $R_i=3\Omega$

System: 24V Nominal Voltage



## ▶ Products

### • 12V Power System

Part Number	UNI/BI	$P_D$	$V_{RWM}$	$V_{BR}(V)$		$I_T$	$V_C@I_{PP}$ Max.	$I_{PP}$	$I_R@V_{RWM}$
		W	V	Min.	Max.	mA	V	A	uA
SM8S22A-AU	UNI	6600	22	24.4	26.9	5	35.5	186	0.5
SM8S24A-AU	UNI	6600	24	26.7	29.5	5	38.9	170	0.5
SM6S22A-AU	UNI	4600	22	24.4	26.9	5	35.5	130	0.5
SM6S24A-AU	UNI	4600	24	26.7	29.5	5	38.9	118	0.5
SM5S22A-AU	UNI	3600	22	24.4	26.9	5	35.5	101	0.5
SM5S24A-AU	UNI	3600	24	26.7	29.5	5	38.9	93	0.5

### • 24V Power System

Part Number	UNI/BI	$P_D$	$V_{RWM}$	$V_{BR}(V)$		$I_T$	$V_C@I_{PP}$ Max.	$I_{PP}$	$I_R@V_{RWM}$
		W	V	Min.	Max.	mA	V	A	uA
SM8S33A-AU	UNI	6600	33	36.7	40.6	5	53.3	124	0.5
SM8S36A-AU	UNI	6600	36	40	44.2	5	58.1	114	0.5
SM6S33A-AU	UNI	4600	33	36.7	40.6	5	53.3	86	0.5
SM6S36A-AU	UNI	4600	36	40	44.2	5	58.1	79	0.5
SM5S33A-AU	UNI	3600	33	36.7	40.6	5	53.3	68	0.5
SM5S36A-AU	UNI	3600	36	40	44.2	5	58.1	62	0.5