

## Asymmetrical TVS Diodes for Extended Common-Mode RS-485

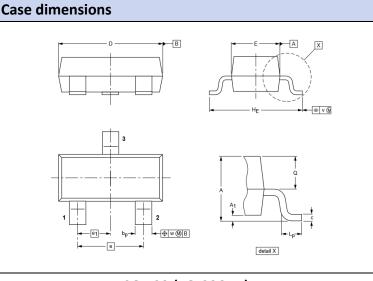
Primary characteristics								
Parameter Symbol Value Unit								
Reverse standoff voltage	V <sub>RWM</sub>	12 7.0	V V					
Peak pulse current	I <sub>PP</sub>	17	А					
Peak pulse power	P <sub>pk</sub>	400	W					

## **Features**

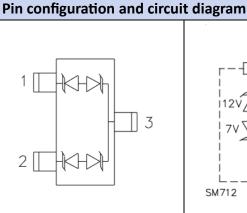
- **SOT-23** case for easy automatic insertion.
- Pb-free and **RoHS** compliant
- Low capacitance
- Low clamping voltage
- Solid-state silicon avalanche technology
- Transient protection for asymmetrical data lines to:
  - IEC 61000-4-2 (ESD) immunity test Air discharge: ±15kV Contact discharge: ±15kV
  - IEC 61000-4-4 (EFT) 40A (5/50ns)
  - IEC 61000-4-5 (Lighting) 12A (8/20μs)

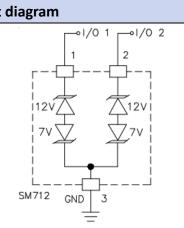
## **Applications**

- Protection of RS-485 transceivers with extended common-mode range
- Security systems
- Automatic teller machines
- HFC systems
- Networks



SOT-23 (TO-236AB)													
Unit	Α	A <sub>1</sub> max	$\mathbf{b}_{\mathbf{p}}$	С	D	E	е	e1	HE	Lp	Q	v	w
mm	1.0 ±0.1	0.1		0.12 ±0.03		1.3 ±0.1	1.9	0.95		0.3 ±0.15	0.5 ±0.05	-	0.1

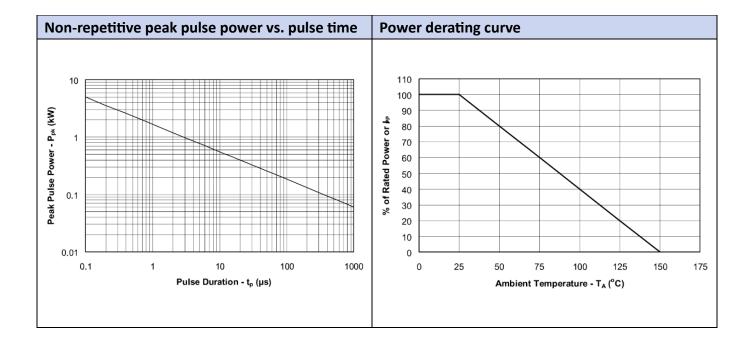




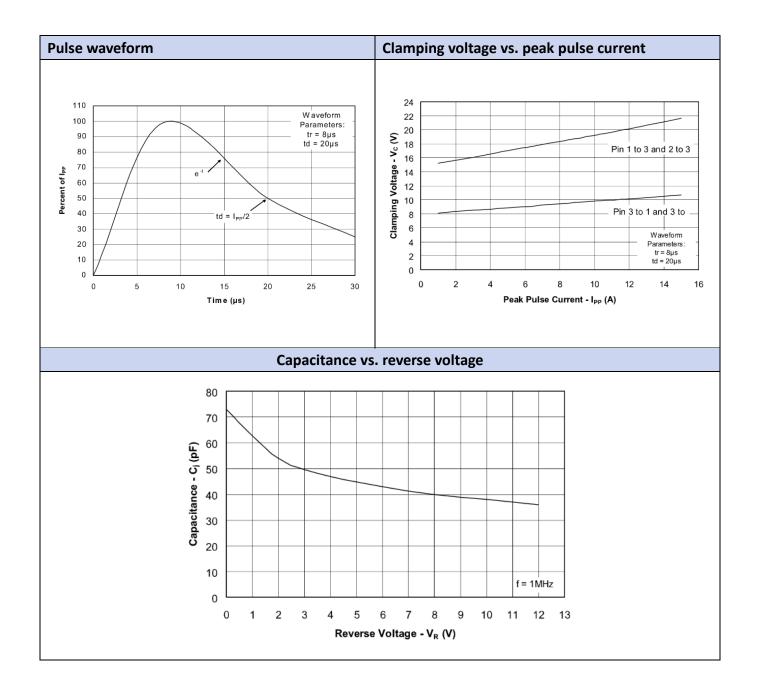
Absolute maximum ratings							
Characteristics	Symbol	Value	Unit				
Peak pulse power (t <sub>p</sub> =8/20μs)	P <sub>pk</sub>	400	W				
Peak pulse current (t <sub>p</sub> =8/20µs)	I <sub>pp</sub>	17	А				
Lead soldering temperature	Τι	260 (10 sec.)	°C				
Operating temperature	ΤJ	-55 ~ 125	°C				
Storage temperature	T <sub>STG</sub>	-55 ~ 150	°C				



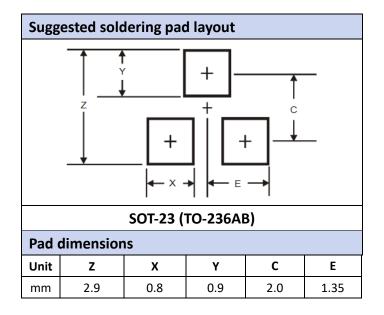
Electrical characteristics										
		Conditions	Value							
Characteristics	Symbol		Pins 1 to 3 and 2 to 3 (12V TVS)			Pins 3 to 1 and 3 to 2 (7.0V TVS)			Unit	
			Min.	Тур.	Max.	Min.	Тур.	Max.		
Reverse stand-off voltage	Vrwm	Pin 3 to 1 or pin 2 to 1	-	-	12	-	-	7.0	V	
Reverse breakdown voltage	V <sub>BR</sub>	IPT=1.0mA	13.3	-	-	7.5	-	-	V	
Reverse leakage current	I <sub>R</sub>	V <sub>R</sub> =V <sub>RWM</sub>	-	-	1.0	-	-	20	μΑ	
Clamping voltage	Vc	I <sub>PP</sub> =5.0A T <sub>p</sub> =8/20μs	-	-	20	-	-	10	V	
Clamping voltage	Vc	Ι <sub>ΡΡ</sub> =17Α Τ <sub>ρ</sub> =8/20μs	-	-	26	-	-	12	V	
Junction capacitance		V <sub>R</sub> =0V, f=1.0MHz	-	-	75	-	-	75		
	Cj	V <sub>R</sub> =V <sub>RWM</sub> , f=1.0MHz	-	45	-	-	45	-	pF	











Ordering information							
Part Number	Package	Shipping Quantity	Dimensions				
SM712	SOT-23	3000 pcs / 7" reel					

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