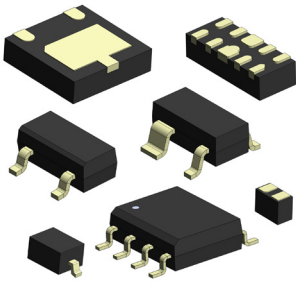


TVS diode ESD suppressors



Fast-acting ESD suppressors with ultra-low capacitances for high-speed circuits



Eaton TVS diodes provide reliable protection against overvoltage/ESD events in a wide range of electronic products.

Product description

Eaton Transient Voltage Suppressor (TVS) diodes provide highly reliable protection against overvoltage/ESD events in a wide range of electronic products. These devices utilize silicon avalanche technology with very fast response times and low capacitance options (down to 0.15 pF) to address the most rapid voltage transients. Eaton's TVS diodes allow customers to meet IEC 61000-4-2 ESD protection standards (up to 30 kV air and contact discharge), as well as the 8/20 μ s waveform typical of lightning strikes.

Eaton's TVS diodes are available in discrete or array packages across several industry-standard footprints. Each product offers a low clamping voltage and high peak power/current dissipation with no performance degradation over multiple ESD events. Eaton's TVS diodes operate by shunting overcurrent to ground and clamping overvoltage (< 1 nanosecond) to safe levels during ESD strikes, thereby protecting critical downstream circuit elements.

Markets:

- **Consumer:** Mobile devices, wearables, tablets
- **Computing:** PCs, IoT, servers, databases
- **Energy:** Smart meters, solar & wind
- **Medical:** Homecare, hospital care, diagnostics
- **Industrial:** Industrial connectivity, logistics, automation, remote monitoring

Applications:

- USB data ports
- Touchpads and buttons
- HDMI, VGA, RS-232
- DC power
- RJ-45 (telecom, ethernet, xDSL PoE, etc.)
- RF antenna
- Video and audio ports



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TVS diode selection and sizes

Package size	Family	Reverse working voltage	ESD withstand range	Peak pulse current (8/20 μ s)	Capacitance range
DFN0603	STN061050B300	5.0 V	30 kV	Up to 7 A	4 pF
	STN06XXXB101	3.3 V to 5.0 V	30 kV	Up to 7 A	10 pF
	STN06XXXBL15	3.3 V to 5.0 V	15 kV	Up to 4 A	0.15 pF
	STN061050BL40	5.0 V	18 kV to 20 kV	Up to 5 A	0.4 pF
DFN1006	STN10XXXXLXX	5.0 V	15 kV	Up to 5 A	0.8 pF to 0.9 pF
	STN101XXXBXXX	3.3 V to 12 V	30 kV	Up to 8 A	10 pF to 11 pF
	STN101050B301	5.0 V	30 kV	Up to 20 A	30 pF
	STN101050BL30	5.0 V	20 kV	Up to 4.5 A	0.3 pF
	STN101050BL25	5.0 V	25 kV	Up to 5 A	.25 pF
DFN1610	STN161XXUXXX	5.0 V to 15 V	30 kV	Up to 110 A	330 pF to 850 pF
DFN2x2	STN202XXUXXX	7.5 V to 15 V	30 kV	Up to 240 A	900 pF to 1700 pF
DFN2010	STN204033BL60	3.3 V	30 kV	Up to 20 A	1.0 pF
DFN2510	STN254033UL33 & STN254033UL50	3.3 V	15 kV	Up to 3 A	0.2 pF to 0.5 pF
	STN254050UL50 & STN254050UL50H	5.0 V	15 kV to 20 kV	Up to 5 A	0.25 pF to 0.5 pF
	STN265033U380	3.3 V	30 kV	Up to 25 A	2 pF to 3.8 pF
SOT23-6L	STS234XXUXXX	3.3 V to 5.0 V	20 kV to 30 kV	Up to 24 A	0.3 pF to 3 pF
SOD-523	STS521XXUXXX	3.3 V to 36 V	15 kV to 30 kV	Up to 10 A	16 pF to 110 pF
	STS521XXXBXXX	3.3 V to 5.0 V	8 kV to 30 kV	Up to 20 A	0.9 pF to 95 pF
SOD-323	STS32XXXXXX	5.0 V to 15 V	30 kV	Up to 110 A	330 pF to 850 pF
	STS321XXXBXX0	3.3 V to 24 V	30 kV	Up to 20 A	1 pF
	STS321XXXBXX1	3.3 V to 36 V	30 kV	Up to 30 A	14 pF to 40 pF
	STS321XXUXXX	3.3 V to 36 V	8 kV to 30 kV	Up to 25 A	35 pF to 200 pF
	STS321045B502	4.5 V	30 kV	Up to 140 A	450 pF
SOT23	STS232033U202	3.3 V	15 kV	Up to 25 A	200 pF
	STS232050UL40	5.0 V	20 kV	Up to 4 A	0.2 pF to 0.4 pF
	STS232120U901	12 V	30 kV	Up to 20 A	45 pF to 90 pF
	STS232712B451	7.0 V to 12 V	15 kV	Up to 12 A	45 pF to 75 pF
	STS232XXUXXX	3.3 V to 36 V	15 kV	Up to 18 A	26 pF to 150 pF
	STS232XXXBXXX	3.3 V to 36 V	15 kV to 30 kV	Up to 20 A	15 pF to 100 pF
SOT-143	STS142XXUXXX	5.0 V to 70 V	20 kV to 30 kV	Up to 24 A	0.4 pF to 0.8 pF
SOP-8	STSP84XXXXXX	2.8 V to 15 V	15 kV to 30 kV	Up to 12 A	0.65 pF to 60 pF

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