






TVS diode ESD suppressors: sizes and selection




Package size	Family	Reverse working voltage	ESD withstand range	Peak pulse current (8/20 µs)	Capacitance range
DFN0603	STN061050B300	5.0 V	30 kV	Up to 7 A	4 pF
	STN061050B351	5.0 V	30 kV	Up to 19 A	35 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 5 A	0.8 pF to 0.9 pF
	STN101XXBXXX	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	STN161XXXUXXX	5.0 V to 15 V	30 kV	Up to 110 A	330 pF to 850 pF
DFN2x2	STN202XXXUXXX	7.5 V to 24 V	30 kV	Up to 240 A	750 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	STS234XXXUXXX	3.3 V to 5.0 V	20 kV to 30 kV	Up to 24 A	0.3 pF to 3 pF
SOD-523	STS521XXXUXXX	3.3 V to 36 V	15 kV to 30 kV	Up to 10 A	16 pF to 110 pF
	STS521XXBXXX	3.3 V to 5.0 V	8 kV to 30 kV	Up to 20 A	0.9 pF to 95 pF
SOD-323	STS32XXXUXXX	5.0 V to 15 V	30 kV	Up to 110 A	330 pF to 850 pF
	STS321XXBXX0	3.3 V to 24 V	30 kV	Up to 20 A	1 pF
	STS321XXBXX1	3.3 V to 36 V	30 kV	Up to 30 A	14 pF to 40 pF
	STS321XXXUXXX	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
	STS232XXXUXXX	3.3 V to 36 V	15 kV	Up to 18 A	26 pF to 150 pF
SOT-143	STS232XXBXXX	3.3 V to 36 V	15 kV to 30 kV	Up to 20 A	15 pF to 100 pF
	STS142XXXUXXX	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
0201	TVSA	5 V	15 kV	-	4 pF
	TVSL	3 to 12 V	15 to 25 kV	Up to 8 A	5 to 18 pF
0402	TVSA	5 V	15 kV	-	6 pF

High-power TVS diodes: sizes and selection

Standard TVS diode - surface mount

Photo	Series	Package type	Reverse working voltage	Peak pulse power (10/1000 µs)	Peak pulse current (10/1000 µs)
	SMF	SOD-123FL	5 to 220 V	200 W	Up to 21.7 A
	SMAJ	SMA	5 to 440 V	400 W	Up to 43.5 A
	P4SMA		5 to 440 V	400 W	Up to 43.5 A
	SMBJ	SMB	5 to 512 V	600 W	Up to 65.2 A
	P6SMB		5 to 512 V	600 W	Up to 65.2 A
	10BJ		5 to 200 V	1000 W	Up to 108.7 A
	15BJ	SMBF	5 to 440 V	1500 W	Up to 163 A
	SMCJ	SMC	5 to 440 V	1500 W	Up to 163 A
	SMDJ		5 to 220 V	3000 W	Up to 326 A
	5.0SMDJ		11 to 170 V	5000 W	Up to 275 A

High-power TVS diode

Photo	Series	Package type	Reverse working voltage	Peak pulse power (10/1000 µs)	Peak pulse current (8/20 µs)
	15KPE	Axial (P600/R6)	58 to 200 V	15000 W	-
	SMTJ	SMT-4	58 to 86 V	-	3500 A
	AK1E	Radial (0.95" pin to pin)	76 to 430 V	-	1000 A
	AK6E		15 to 430 V	-	6000 A
	AK10E		15 to 430 V	-	10000 A

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