



SSCTXXX4XDB Series

1000W Unidirectional and Bidirectional Transient Voltage Suppressors

● Description

Transient voltage suppression diodes, also known as TVS diodes, are protective electronic parts that protect electrical equipment from voltage spikes introduced by wires.

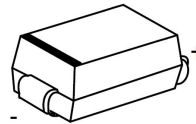
● Features

- ✧ 1000W peak pulse power ($t_p = 10/1000\mu s$)
- ✧ SMB/DO-214AA Package
- ✧ Working voltage: 5.0-440V
- ✧ For surface mounted applications
- ✧ Excellent clamping capability
- ✧ Typical IR less than 1uA above 10V
- ✧ Fast response time: typically less than 1.0ps from 0V to VBR min.

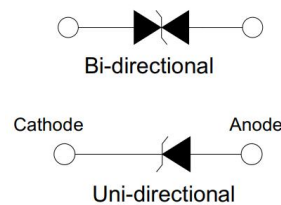
● Mechanical Characteristics

- ✧ Case Material: Molded Plastic.
- ✧ UL Flammability Classification Rating 94V-0
- ✧ Device meets MSL 3 requirements
- ✧ Terminal: Solder plated, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: Color band denotes cathode except bi-directional models

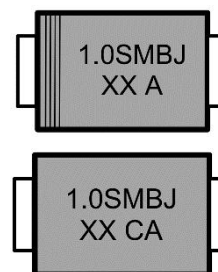
● PIN configuration



SMB/DO-214AA



Circuit Diagram



XX = Voltage
CA = Bi-directional product
A = Uni-directional product

Marking (Top View)

● Applications

- ✧ Computer System
- ✧ Domestic Appliance
- ✧ Video Input



● **Absolute maximum rating @T_A = 25°C**

Parameter	Symbol	Value	Units
Peak Power Dissipation on 10/1000μs waveform	P _{PP}	1000	W
Steady state power dissipation at T _L = 75°C	P _{M (AV)}	5.0	W
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

● **Electrical Characteristics @T_A=25°C**

Part Number		Marking Code		V _{RWM}	V _{BR} @ I _T (V)		I _T	I _R @ V _{RWM}	V _C (Max)	I _{PP} (Max)
Uni-polar	Bi-polar	Uni	Bi	(V)	Min	Max	(mA)	(μA)	(V)	(A)
SSCT5V041DB	SSCT5V042DB	1.0SMBJ5.0A	1.0SMBJ5.0CA	5.0	6.40	7.14	10	800	10.5	95.2
SSCT6V041DB	SSCT6V042DB	1.0SMBJ6.0A	1.0SMBJ6.0CA	6.0	6.67	7.88	10	800	11.3	88.5
SSCT6V541DB	SSCT6V542DB	1.0SMBJ6.5A	1.0SMBJ6.5CA	6.5	6.67	8.61	10	500	12.1	82.6
SSCT7V041DB	SSCT7V042DB	1.0SMBJ7.0A	1.0SMBJ7.0CA	7.0	7.78	8.61	10	200	12.1	82.6
SSCT7V541DB	SSCT7V542DB	1.0SMBJ7.5A	1.0SMBJ7.5CA	7.5	8.33	9.55	1	100	13.4	74.6
SSCT8V041DB	SSCT8V042DB	1.0SMBJ8.0A	1.0SMBJ8.0CA	8.0	8.89	10.5	1	50	14.5	69
SSCT8V541DB	SSCT8V542DB	1.0SMBJ8.5A	1.0SMBJ8.5CA	8.5	9.44	10.5	1	20	14.5	69
SSCT9V041DB	SSCT9V042DB	1.0SMBJ9.0A	1.0SMBJ9.0CA	9.0	10.00	11.6	1	10	15.6	64.1
SSCT10V41DB	SSCT10V42DB	1.0SMBJ10A	1.0SMBJ10CA	10	11.10	12.6	1	1	17.0	58.83
SSCT11V41DB	SSCT11V42DB	1.0SMBJ11A	1.0SMBJ11CA	11	12.20	13.7	1	1	18.2	54.9
SSCT12V41DB	SSCT12V42DB	1.0SMBJ12A	1.0SMBJ12CA	12	13.30	15.8	1	1	21.2	47.2
SSCT13V41DB	SSCT13V42DB	1.0SMBJ13A	1.0SMBJ13CA	13	14.40	16.8	1	1	22.5	44.4
SSCT14V41DB	SSCT14V42DB	1.0SMBJ14A	1.0SMBJ14CA	14	15.60	18.9	1	1	25.5	39.2
SSCT15V41DB	SSCT15V42DB	1.0SMBJ15A	1.0SMBJ15CA	15	16.70	18.9	1	1	25.5	39.2
SSCT16V41DB	SSCT16V42DB	1.0SMBJ16A	1.0SMBJ16CA	16	17.80	21	1	1	27.7	36.1
SSCT17V41DB	SSCT17V42DB	1.0SMBJ17A	1.0SMBJ17CA	17	18.90	21	1	1	27.7	36.1
SSCT18V41DB	SSCT18V42DB	1.0SMBJ18A	1.0SMBJ18CA	18	20.00	23.1	1	1	30.6	32.7
SSCT20V41DB	SSCT20V42DB	1.0SMBJ20A	1.0SMBJ20CA	20	22.20	25.2	1	1	33.2	30.1
SSCT22V41DB	SSCT22V42DB	1.0SMBJ22A	1.0SMBJ22CA	22	24.40	28.4	1	1	37.5	26.7
SSCT24V41DB	SSCT24V42DB	1.0SMBJ24A	1.0SMBJ24CA	24	26.70	31.5	1	1	41.4	24.2
SSCT26V41DB	SSCT26V42DB	1.0SMBJ26A	1.0SMBJ26CA	26	28.90	31.5	1	1	41.4	24.2
SSCT28V41DB	SSCT28V42DB	1.0SMBJ28A	1.0SMBJ28CA	28	31.10	34.7	1	1	45.7	21.9
SSCT30V41DB	SSCT30V42DB	1.0SMBJ30A	1.0SMBJ30CA	30	33.30	37.8	1	1	49.9	20
SSCT33V41DB	SSCT33V42DB	1.0SMBJ33A	1.0SMBJ33CA	33	36.70	41	1	1	53.9	18.6
SSCT36V41DB	SSCT36V42DB	1.0SMBJ36A	1.0SMBJ36CA	36	40.00	45.2	1	1	59.3	16.9
SSCT40V41DB	SSCT40V42DB	1.0SMBJ40A	1.0SMBJ40CA	40	44.40	49.4	1	1	64.8	15.4
SSCT43V41DB	SSCT43V42DB	1.0SMBJ43A	1.0SMBJ43CA	43	47.80	53.6	1	1	70.1	14.3
SSCT45V41DB	SSCT45V42DB	1.0SMBJ45A	1.0SMBJ45CA	45	50.00	53.6	1	1	70.1	14.3

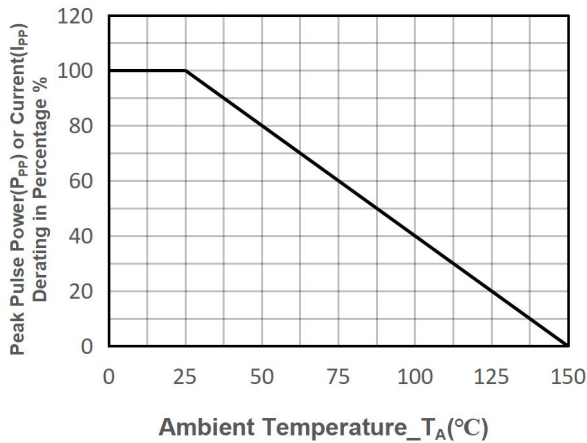


SSCTXXX4XDB

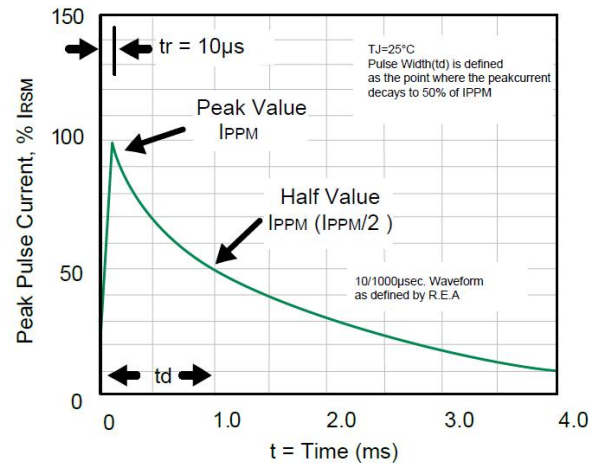
SSCT48V41DB	SSCT48V42DB	1.0SMBJ48A	1.0SMBJ48CA	48	53.2	58.90	1	1	77.4	12.92
SSCT51V41DB	SSCT51V42DB	1.0SMBJ51A	1.0SMBJ51CA	51	56.70	65.1	1	1	85	11.8
SSCT54V41DB	SSCT54V42DB	1.0SMBJ54A	1.0SMBJ54CA	54	60.00	65.1	1	1	85	11.8
SSCT58V41DB	SSCT58V42DB	1.0SMBJ58A	1.0SMBJ58CA	58	64.40	71.4	1	1	93.6	10.69
SSCT60V41DB	SSCT60V42DB	1.0SMBJ60A	1.0SMBJ60CA	60	66.70	73.70	1	1	96.8	10.34
SSCT64V41DB	SSCT64V42DB	1.0SMBJ64A	1.0SMBJ64CA	64	71.10	78.8	1	1	103	9.7
SSCT70V41DB	SSCT70V42DB	1.0SMBJ70A	1.0SMBJ70CA	70	77.80	86.1	1	1	113	8.8
SSCT75V41DB	SSCT75V42DB	1.0SMBJ75A	1.0SMBJ75CA	75	83.30	95.5	1	1	125	8
SSCT78V41DB	SSCT78V42DB	1.0SMBJ78A	1.0SMBJ78CA	78	86.70	95.5	1	1	125	8
SSCT85V41DB	SSCT85V42DB	1.0SMBJ85A	1.0SMBJ85CA	85	94.40	105	1	1	137	7.3
SSCT90V41DB	SSCT90V42DB	1.0SMBJ90A	1.0SMBJ90CA	90	100.0	116	1	1	152	6.6
SSCT100S1DB	SSCT10042DB	1.0SMBJ100A	1.0SMBJ100CA	100	111.0	126.0	1	1	165	6.1
SSCT11041DB	SSCT11042DB	1.0SMBJ110A	1.0SMBJ110CA	110	122.0	137.0	1	1	179	5.6
SSCT12041DB	SSCT12042DB	1.0SMBJ120A	1.0SMBJ120CA	120	133.0	158.0	1	1	207	4.8
SSCT13041DB	SSCT13042DB	1.0SMBJ130A	1.0SMBJ130CA	130	144.0	158.0	1	1	207	4.8
SSCT15041DB	SSCT15042DB	1.0SMBJ150A	1.0SMBJ150CA	150	167.0	189.0	1	1	246	4.1
SSCT16041DB	SSCT16042DB	1.0SMBJ160A	1.0SMBJ160CA	160	178.0	197.0	1	1	259	3.87
SSCT17041DB	SSCT17042DB	1.0SMBJ170A	1.0SMBJ170CA	170	189.0	209.0	1	1	275	3.64
SSCT18041DB	SSCT18042DB	1.0SMBJ180A	1.0SMBJ180CA	180	201.0	222.0	1	1	292	3.43
SSCT19041DB	SSCT19042DB	1.0SMBJ190A	1.0SMBJ190CA	190	209.0	233.0	1	1	308	3.25
SSCT20041DB	SSCT20042DB	1.0SMBJ200A	1.0SMBJ200CA	200	224.0	247.0	1	1	324	3.09
SSCT21041DB	SSCT21042DB	1.0SMBJ210A	1.0SMBJ210CA	210	237.0	263.0	1	1	340	2.95
SSCT22041DB	SSCT22042DB	1.0SMBJ220A	1.0SMBJ220CA	220	246.0	272.0	1	1	356	2.81
SSCT25041DB	SSCT25042DB	1.0SMBJ250A	1.0SMBJ250CA	250	279.0	309.0	1	1	405	2.47
SSCT30041DB	SSCT30042DB	1.0SMBJ300A	1.0SMBJ300CA	300	335.0	371.0	1	1	486	2.06
SSCT35041DB	SSCT35042DB	1.0SMBJ350A	1.0SMBJ350CA	350	391.0	432.0	1	1	567	1.77
SSCT40041DB	SSCT40042DB	1.0SMBJ400A	1.0SMBJ400CA	400	447.0	494.0	1	1	648	1.55
SSCT44041DB	SSCT44042DB	1.0SMBJ440A	1.0SMBJ440CA	440	492.0	543.0	1	1	713	1.41



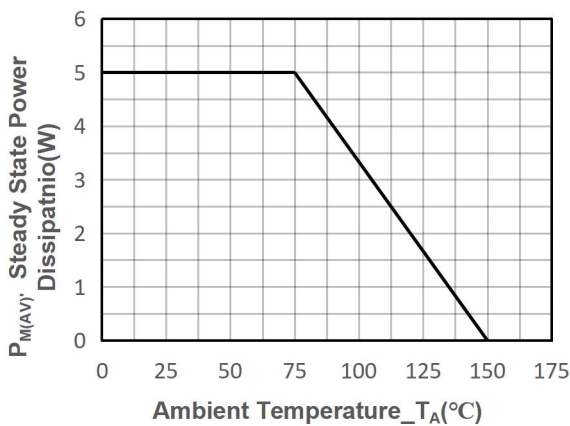
● **Typical Performance Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise Specified)**



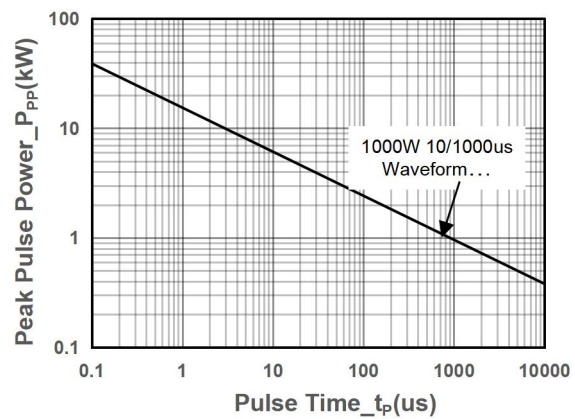
Pulse Derating Curve



Pulse Waveform



Steady State Power Dissipation Derating Curve



Peak Pulse Power vs. Pulse Time



● Package Information

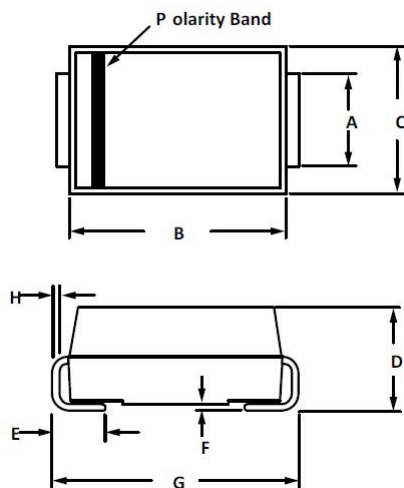
Ordering Information

Device	Package	Qty per Reel	Reel diameters(mm)
SSCTXXX4XDB	SMB/DO-214AA	3000	13inch

Mechanical Data

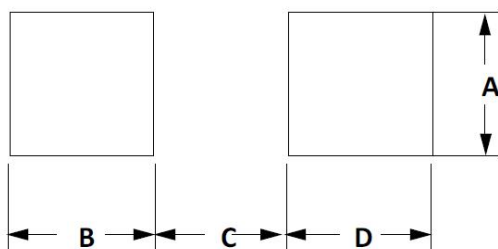
Case: SMB/DO-214AA

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	1.90	2.1
B	4.22	4.70
C	3.40	3.94
D	1.95	2.60
E	0.90	1.42
F	0.00	0.23
G	5.21	5.59
H	0.15	0.25

Recommended Pad outline (Unit: mm)



DIM	Millimeters	
	Min	Max
A	2.30	-
B	1.50	-
C	-	2.80
D	1.50	-



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