



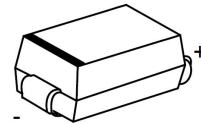
SSCTXXX2XDB Series

Surface Mount Unidirectional and Bidirectional Transient Voltage Suppressors

● Description

TVS diodes can be used in a wide range of applications which like consumer electronic products, automotive industries, munitions, telecommunications, aerospace industries, and intelligent control systems.

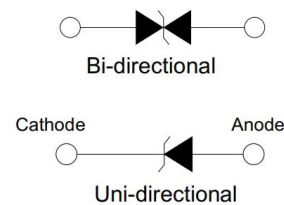
● PIN configuration



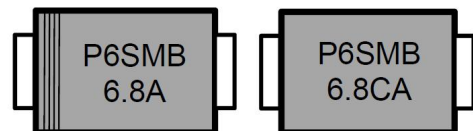
SMB/DO-214AA

● Features

- ✧ 600W peak pulse power ($t_P = 10/1000\mu s$)
- ✧ SMB/DO-214AA Package
- ✧ Working voltage: 6.8-550V
- ✧ Glass passivated or planar junction
- ✧ Excellent clamping capability
- ✧ Repetition rate (duty cycle): 0.01%
- ✧ Low profile package and low inductance
- ✧ Fast response time: typically less than 1.0ps from 0V to VBR min
- ✧ High temperature soldering: 260°C/10s at terminals
- ✧ For surface mounted applications in order to optimize board space



Circuit Diagram



P6SMB6.8A: SSCT6V821DB Marking code

P6SMB6.8CA: SSCT6V822DB Marking code

Marking

● Applications

- ✧ I/O Interface.
- ✧ Power lines
- ✧ Automotive and Telecommunication
- ✧ Industrial Electronics

● Mechanical Characteristics

- ✧ Case Material: “Green” Molding Compound
- ✧ UL Flammability Classification Rating 94V-0
- ✧ Device meets MSL 3 requirements



● Absolute maximum rating @T_A=25°C

Parameter	Symbol	Value	Units
Peak pulse power dissipation on 10/1000μs waveform	P _{PP}	600	W
Steady state power dissipation at T _L =75°C	P _{M(AV)}	5.0	W
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 125	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

● Electrical Characteristics @T_A=25°C

Part Number		Marking Code		V _{RWM}	I _R @ V _{RWM}	V _{BR} @ I _T (V)		I _T	V _C (Max)	I _{PP} (Max)
Uni-polar	Bi-polar	Uni	Bi	(V)	(uA)	Min	Max	(mA)	(V)	(A)
SSCT6V821DB	SSCT6V822DB	P6SMB6.8A	P6SMB6.8CA	5.8	1000	6.45	7.14	10	10.5	57.15
SSCT7V521DB	SSCT7V522DB	P6SMB7.5A	P6SMB7.5CA	6.4	500	7.13	7.88	10	11.3	53.10
SSCT8V221DB	SSCT8V222DB	P6SMB8.2A	P6SMB8.2CA	7.02	200	7.79	8.61	10	12.1	49.59
SSCT9V121DB	SSCT9V122DB	P6SMB9.1A	P6SMB9.1CA	7.78	50	8.65	9.50	1	13.4	44.76
SSCT10V21DB	SSCT10V22DB	P6SMB10A	P6SMB10CA	8.55	10	9.50	10.5	1	14.5	41.36
SSCT11V21DB	SSCT11V22DB	P6SMB11A	P6SMB11CA	9.4	5	10.5	11.6	1	15.6	38.47
SSCT12V21DB	SSCT12V22DB	P6SMB12A	P6SMB12CA	10.2	5	11.4	12.6	1	16.7	35.93
SSCT13V21DB	SSCT13V22DB	P6SMB13A	P6SMB13CA	11.1	1	12.4	13.7	1	18.2	32.97
SSCT15V21DB	SSCT15V22DB	P6SMB15A	P6SMB15CA	12.8	1	14.3	15.8	1	21.2	28.31
SSCT16V21DB	SSCT16V22DB	P6SMB16A	P6SMB16CA	13.6	1	15.2	16.8	1	22.5	26.67
SSCT18V21DB	SSCT18V22DB	P6SMB18A	P6SMB18CA	15.3	1	17.1	18.9	1	25.2	23.81
SSCT20V21DB	SSCT20V22DB	P6SMB20A	P6SMB20CA	17.1	1	19	21	1	27.7	21.67
SSCT22V21DB	SSCT22V22DB	P6SMB22A	P6SMB22CA	18.8	1	20.9	23.1	1	30.6	19.61
SSCT24V21DB	SSCT24V22DB	P6SMB24A	P6SMB24CA	20.5	1	22.8	25.2	1	33.2	18.08
SSCT27V21DB	SSCT27V22DB	P6SMB27A	P6SMB27CA	23.1	1	25.7	28.4	1	37.5	16.00
SSCT30V21DB	SSCT30V22DB	P6SMB30A	P6SMB30CA	25.6	1	28.5	31.5	1	41.4	14.50
SSCT33V21DB	SSCT33V22DB	P6SMB33A	P6SMB33CA	28.2	1	31.4	34.7	1	45.7	13.13
SSCT36V21DB	SSCT36V22DB	P6SMB36A	P6SMB36CA	30.8	1	34.2	37.8	1	49.9	12.03
SSCT39V21DB	SSCT39V22DB	P6SMB39A	P6SMB39CA	33.3	1	37.1	41	1	53.9	11.14
SSCT43V21DB	SSCT43V22DB	P6SMB43A	P6SMB43CA	36.8	1	40.9	45.2	1	59.3	10.12
SSCT47V21DB	SSCT47V22DB	P6SMB47A	P6SMB47CA	40.2	1	44.7	49.4	1	64.8	9.26
SSCT51V21DB	SSCT51V22DB	P6SMB51A	P6SMB51CA	43.6	1	48.5	53.6	1	70.1	8.56
SSCT56V21DB	SSCT56V22DB	P6SMB56A	P6SMB56CA	47.8	1	53.2	58.8	1	77	7.80
SSCT62V21DB	SSCT62V22DB	P6SMB62A	P6SMB62CA	53	1	58.9	65.1	1	85	7.06
SSCT68V21DB	SSCT68V22DB	P6SMB68A	P6SMB68CA	58.1	1	64.6	71.4	1	92	6.53
SSCT75V21DB	SSCT75V22DB	P6SMB75A	P6SMB75CA	64.1	1	71.3	78.8	1	103	5.83
SSCT82V21DB	SSCT82V22DB	P6SMB82A	P6SMB82CA	70.1	1	77.9	86.1	1	113	5.31



SSCTXXX2XDB

SSCT91V21DB	SSCT91V22DB	P6SMB91A	P6SMB91CA	77.8	1	86.5	95.5	1	125	4.80
SSCT10021DB	SSCT10022DB	P6SMB100A	P6SMB100CA	84	1	95	105	1	137	4.38
SSCT11021DB	SSCT11022DB	P6SMB110A	P6SMB110CA	94	1	105	116	1	152	3.95
SSCT12021DB	SSCT12022DB	P6SMB120A	P6SMB120CA	102	1	114	126	1	165	3.64
SSCT13021DB	SSCT13022DB	P6SMB130A	P6SMB130CA	111	1	124	137	1	179	3.36
SSCT15021DB	SSCT15022DB	P6SMB150A	P6SMB150CA	128	1	143	158	1	207	2.90
SSCT16021DB	SSCT16022DB	P6SMB160A	P6SMB160CA	136	1	152	168	1	219	2.74
SSCT17021DB	SSCT17022DB	P6SMB170A	P6SMB170CA	145	1	162	179	1	234	2.57
SSCT18021DB	SSCT18022DB	P6SMB180A	P6SMB180CA	154	1	171	189	1	246	2.44
SSCT20021DB	SSCT20022DB	P6SMB200A	P6SMB200CA	171	1	190	210	1	274	2.19
SSCT22021DB	SSCT22022DB	P6SMB220A	P6SMB220CA	185	1	209	231	1	328	1.83
SSCT25021DB	SSCT25022DB	P6SMB250A	P6SMB250CA	214	1	237	263	1	344	1.75
SSCT30021DB	SSCT30022DB	P6SMB300A	P6SMB300CA	256	1	285	315	1	414	1.45
SSCT35021DB	SSCT35022DB	P6SMB350A	P6SMB350CA	300	1	332	368	1	482	1.25
SSCT40021DB	SSCT40022DB	P6SMB400A	P6SMB400CA	342	1	380	420	1	548	1.10
SSCT44021DB	SSCT44022DB	P6SMB440A	P6SMB440CA	376	1	418	462	1	602	1.00
SSCT48021DB	SSCT48022DB	P6SMB480A	P6SMB480CA	408	1	456	504	1	658	0.92
SSCT51021DB	SSCT51022DB	P6SMB510A	P6SMB510CA	434	1	485	535	1	698	0.86
SSCT52021DB	SSCT52022DB	P6SMB520A	P6SMB520CA	444	1	494	546	1	711	0.85
SSCT53021DB	SSCT53022DB	P6SMB530A	P6SMB530CA	450	1	504	557	1	725	0.83
SSCT54021DB	SSCT54022DB	P6SMB540A	P6SMB540CA	459	1	513	567	1	740	0.82
SSCT55021DB	SSCT55022DB	P6SMB550A	P6SMB550CA	467	1	523	578	1	760	0.79

① Surge waveform: 10/1000 μ s

V_R : Stand-off Voltage -- Maximum voltage that can be applied

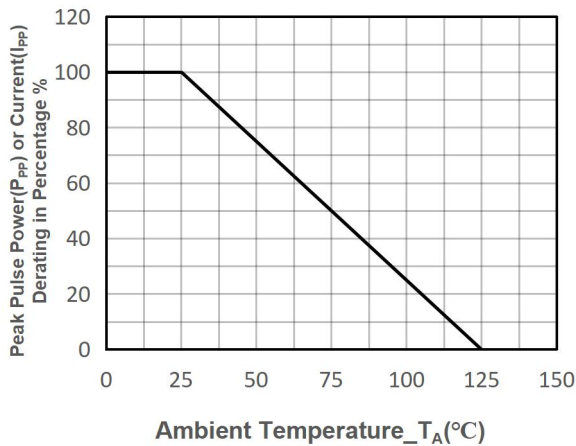
V_{BR} : Breakdown Voltage

V_C : Clamping Voltage -- Peak voltage measured across the suppressor at a specified I_{PP}

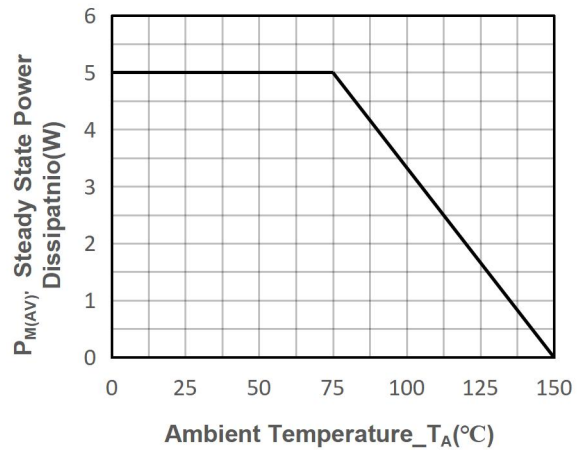
I_R : Reverse Leakage Current



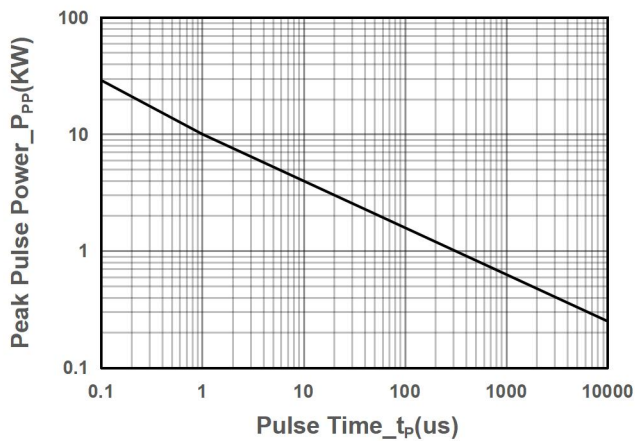
● Typical Performance Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



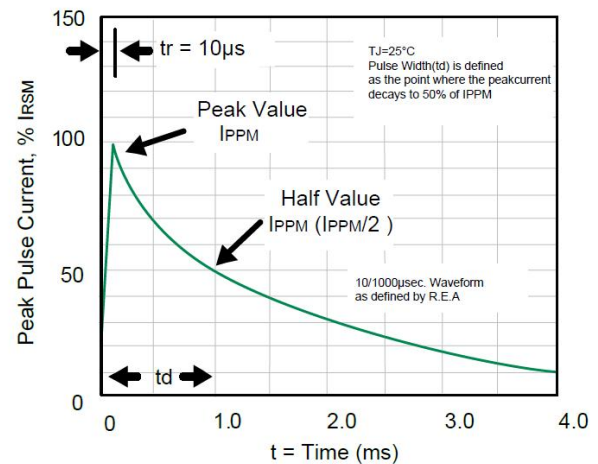
Pulse Derating Curve



Steady State Power Dissipation Derating



Peak Pulse Power vs. Pulse Time



Pulse Waveform



● Package Information

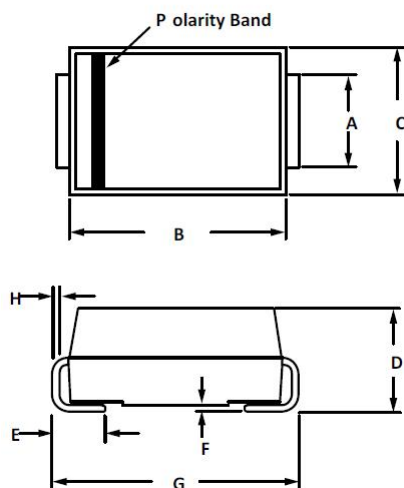
Ordering Information

Device	Package	Qty per Reel	Reel diameters(inch)
SSCTXXX2XDB	SMB/DO-214AA	3000	13

Mechanical Data

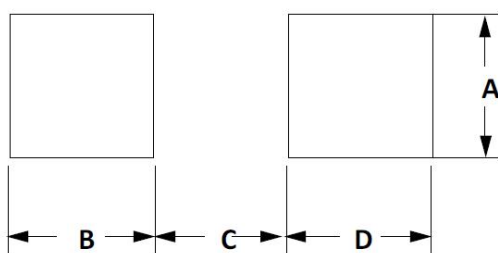
Case: SMB/DO-214AA

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	2.00	2.50
E	0.90	1.42
F	0.00	0.23
G	5.21	5.59
H	0.15	0.31

Suggested Land Pattern



DIM	Millimeters	
	Min	Max
A	2.15	-
B	1.45	-
C	-	2.55
D	1.45	-



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