



SSCTXXX1XDC 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.

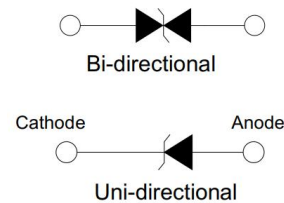
● PIN configuration



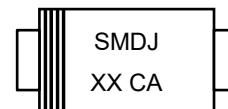
SMC/DO-214AB

● Features

- ✧ 3000W peak pulse power ($t_P = 10/1000\mu s$)
- ✧ SMC/DO-214AB Package
- ✧ Working voltage: 5V-440V
- ✧ 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
- ✧ Plastic package has Underwriters Laboratory Flammability 94V-0
- ✧ For surface mounted applications in order to optimize board space



Circuit Diagram



Marking (Top View)

XX = Voltage

CA = Bi-directional product

A = Uni-directional product

● Applications

- ✧ I/O Interface.
- ✧ AC/DC Power supply
- ✧ Low frequency signal transmission line
- ✧ (RS232, RS485, etc.)

● Mechanical Characteristics

- ✧ Case Material: “Green” Molding Compound
- ✧ UL Flammability Classification Rating 94V-0
- ✧ Polarity: Color band denotes cathode except bi-directional models
- ✧ Device meets MSL 3 requirements



● Absolute maximum rating @T_A=25°C

Parameter	Symbol	Value	Units
Peak Pulse Power (10/1000μs)	P _{PP}	3000	W
Storage Temperature	T _{STG}	-55/+150	°C
Operating Temperature	T _J	-55/+150	°C
Steady state power dissipation at TL=75°C	P _{M(AV)}	8.0	W
Maximum Instantaneous Forward Voltage at 30A for Unidirectional	V _F	5.0	V

● 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)	(uA)	(V)	(A)
SSCT5V011DC	SSCT5V012DC	SMDJ5.0A	SMDJ5.0CA	5.0	6.40	7.35	10	800	9.2	326.1
SSCT6V011DC	SSCT6V012DC	SMDJ6.0A	SMDJ6.0CA	6.0	6.67	7.89	10	800	10.3	291.3
SSCT6V511DC	SSCT6V512DC	SMDJ6.5A	SMDJ6.5CA	6.5	7.22	8.30	10	500	11.2	267.9
SSCT7V011DC	SSCT7V012DC	SMDJ7.0A	SMDJ7.0CA	7.0	7.78	8.95	10	200	12.0	250.0
SSCT7V511DC	SSCT7V512DC	SMDJ7.5A	SMDJ7.5CA	7.5	8.33	9.58	1	100	12.9	232.6
SSCT8V011DC	SSCT8V012DC	SMDJ8.0A	SMDJ8.0CA	8.0	8.89	10.23	1	50	13.6	220.6
SSCT8V511DC	SSCT8V512DC	SMDJ8.5A	SMDJ8.5CA	8.5	9.44	10.82	1	20	14.4	208.3
SSCT9V011DC	SSCT9V012DC	SMDJ9.0A	SMDJ9.0CA	9.0	10.0	11.5	1	5	15.4	194.8
SSCT10V11DC	SSCT10V12DC	SMDJ10A	SMDJ10CA	10	11.1	12.8	1	1	17.0	176.5
SSCT11V11DC	SSCT11V12DC	SMDJ11A	SMDJ11CA	11	12.2	14.0	1	1	18.2	164.8
SSCT12V11DC	SSCT12V12DC	SMDJ12A	SMDJ12CA	12	13.3	15.3	1	1	19.9	150.8
SSCT13V11DC	SSCT13V12DC	SMDJ13A	SMDJ13CA	13	14.4	16.5	1	1	21.5	139.5
SSCT14V11DC	SSCT14V12DC	SMDJ14A	SMDJ14CA	14	15.6	17.9	1	1	23.2	129.3
SSCT15V11DC	SSCT15V12DC	SMDJ15A	SMDJ15CA	15	16.7	19.2	1	1	24.4	123.0
SSCT16V11DC	SSCT16V12DC	SMDJ16A	SMDJ16CA	16	17.8	20.5	1	1	26.0	115.4
SSCT17V11DC	SSCT17V12DC	SMDJ17A	SMDJ17CA	17	18.9	21.7	1	1	27.6	108.7
SSCT18V11DC	SSCT18V12DC	SMDJ18A	SMDJ18CA	18	20.0	23.3	1	1	29.2	102.7
SSCT20V11DC	SSCT20V12DC	SMDJ20A	SMDJ20CA	20	22.2	25.5	1	1	32.4	92.6
SSCT22V11DC	SSCT22V12DC	SMDJ22A	SMDJ22CA	22	24.4	28.0	1	1	35.5	84.5
SSCT24V11DC	SSCT24V12DC	SMDJ24A	SMDJ24CA	24	26.7	30.7	1	1	38.9	77.1
SSCT26V11DC	SSCT26V12DC	SMDJ26A	SMDJ26CA	26	28.9	33.2	1	1	42.1	71.26
SSCT28V11DC	SSCT28V12DC	SMDJ28A	SMDJ28CA	28	31.1	35.8	1	1	45.4	66.08
SSCT30V11DC	SSCT30V12DC	SMDJ30A	SMDJ30CA	30	33.3	38.3	1	1	48.4	61.99
SSCT33V11DC	SSCT33V12DC	SMDJ33A	SMDJ33CA	33	36.7	42.2	1	1	53.3	56.29
SSCT36V11DC	SSCT36V12DC	SMDJ36A	SMDJ36CA	36	40.0	46.0	1	1	58.1	51.6
SSCT40V11DC	SSCT40V12DC	SMDJ40A	SMDJ40CA	40	44.4	51.1	1	1	64.5	46.5
SSCT43V11DC	SSCT43V12DC	SMDJ43A	SMDJ43CA	43	47.8	54.9	1	1	69.4	43.2
SSCT45V11DC	SSCT45V12DC	SMDJ45A	SMDJ45CA	45	50.0	57.5	1	1	72.7	41.27
SSCT48V11DC	SSCT48V12DC	SMDJ48A	SMDJ48CA	48	53.3	61.3	1	1	77.4	38.76
SSCT51V11DC	SSCT51V12DC	SMDJ51A	SMDJ51CA	51	56.7	65.2	1	1	82.4	36.4



SSCTXXX1XDC

Part Number		Marking Code		V_{RWM}	$V_{BR} @ I_T$ (V)		I_T	$I_R @ V_{RWM}$	$V_C(Max)$	$I_{PP}(Max)^{\textcircled{1}}$
Uni-polar	Bi-polar	Uni	Bi	(V)	Min	Max	(mA)	(uA)	(V)	(A)
SSCT54V11DC	SSCT54V12DC	SMDJ54A	SMDJ54CA	54	60.0	69.0	1	1	87.1	34.4
SSCT58V11DC	SSCT58V12DC	SMDJ58A	SMDJ58CA	58	64.4	74.1	1	1	93.6	32.06
SSCT60V11DC	SSCT60V12DC	SMDJ60A	SMDJ60CA	60	66.7	76.7	1	1	96.8	31.0
SSCT64V11DC	SSCT64V12DC	SMDJ64A	SMDJ64CA	64	71.1	81.8	1	1	103	29.1
SSCT70V11DC	SSCT70V12DC	SMDJ70A	SMDJ70CA	70	77.8	89.5	1	1	113	26.5
SSCT75V11DC	SSCT75V12DC	SMDJ75A	SMDJ75CA	75	83.0	95.8	1	1	121	24.8
SSCT78V11DC	SSCT78V12DC	SMDJ78A	SMDJ78CA	78	86.0	99.7	1	1	126	23.8
SSCT85V11DC	SSCT85V12DC	SMDJ85A	SMDJ85CA	85	94.0	108.2	1	1	137	21.9
SSCT90V11DC	SSCT90V12DC	SMDJ90A	SMDJ90CA	90	100	115.5	1	1	146	20.5
SSCT100V11DC	SSCT100V12DC	SMDJ100A	SMDJ100CA	100	111	128.0	1	1	162	18.5
SSCT110V11DC	SSCT110V12DC	SMDJ110A	SMDJ110CA	110	122	140.5	1	1	177	16.9
SSCT120V11DC	SSCT120V12DC	SMDJ120A	SMDJ120CA	120	133	153.0	1	1	193	15.5
SSCT130V11DC	SSCT130V12DC	SMDJ130A	SMDJ130CA	130	144	165.5	1	1	209	14.36
SSCT150V11DC	SSCT150V12DC	SMDJ150A	SMDJ150CA	150	167	192.5	1	1	243	12.3
SSCT160V11DC	SSCT160V12DC	SMDJ160A	SMDJ160CA	160	178	205.0	1	1	259	11.59
SSCT170V11DC	SSCT170V12DC	SMDJ170A	SMDJ170CA	170	189	217.5	1	1	275	10.9
SSCT180V11DC	SSCT180V12DC	SMDJ180A	SMDJ180CA	180	200	222	1	1	292	10.28
SSCT190V11DC	SSCT190V12DC	SMDJ190A	SMDJ190CA	190	209	233	1	1	308	9.7
SSCT200V11DC	SSCT200V12DC	SMDJ200A	SMDJ200CA	200	224	247	1	1	324	9.26
SSCT210V11DC	SSCT210V12DC	SMDJ210A	SMDJ210CA	210	237	263	1	1	340	8.8
SSCT220V11DC	SSCT220V12DC	SMDJ220A	SMDJ220CA	220	244	272	1	1	356	8.4
SSCT250V11DC	SSCT250V12DC	SMDJ250A	SMDJ250CA	250	279	309	1	1	405	7.41
SSCT300V11DC	SSCT300V12DC	SMDJ300A	SMDJ300CA	300	335	371	1	1	486	6.18
SSCT350V11DC	SSCT350V12DC	SMDJ350A	SMDJ350CA	350	391	432	1	1	567	5.3
SSCT400V11DC	SSCT400V12DC	SMDJ400A	SMDJ400CA	400	447	494	1	1	648	4.63
SSCT440V11DC	SSCT440V12DC	SMDJ440A	SMDJ440CA	440	492	543	1	1	713	4.21

① Surge waveform: 10/1000μs

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

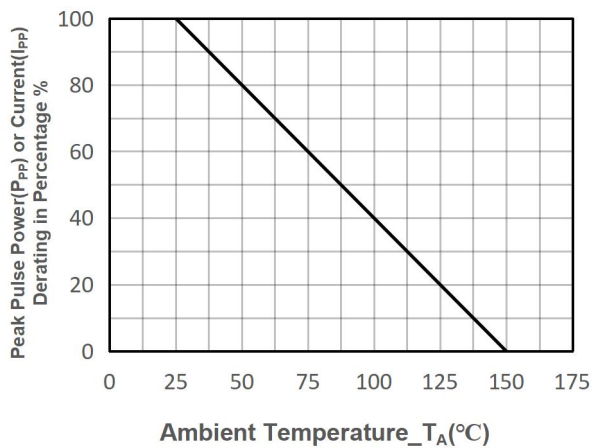
V_{BR} : Breakdown Voltage

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

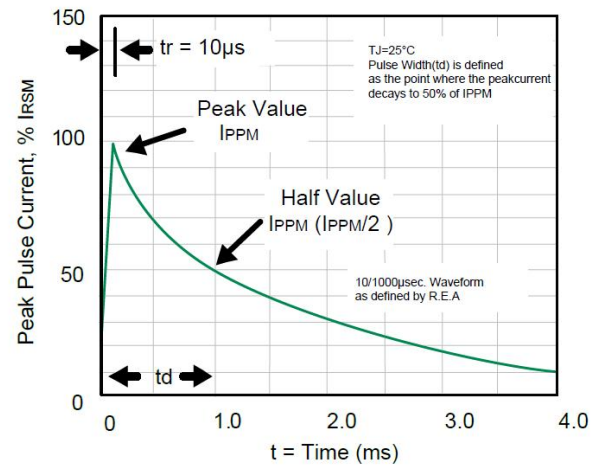
I_R : Reverse Leakage Current



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



Pulse Derating Curve



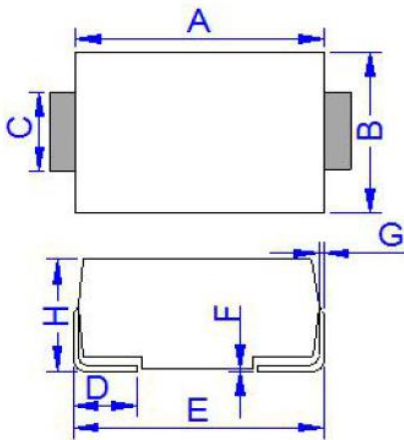
Pulse Waveform

● Package Information

Ordering Information

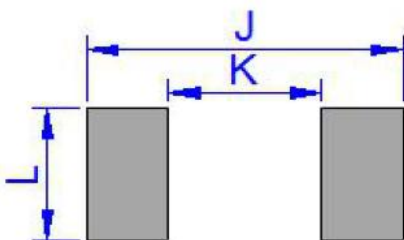
Device	Package	Qty per Reel	Reel Size
SSCTXXX1XDC	SMC/DO-214AB	3000	13 Inch

Mechanical Data



DMI	Millimeters	
	Min	Max
A	6.60	7.11
B	5.59	6.20
C	2.75	3.20
D	0.76	1.52
E	7.71	8.13
F	0.051	0.023
G	0.15	0.31
H	2.06	2.62

Recommended Pad outline



DMI	Millimeters	
	Min	Max
J	8.12	
K		4.69
L	3.07	



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