SSCTXXX2XDC Series

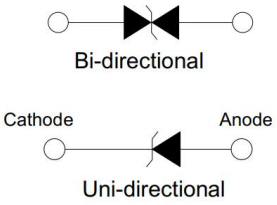
Surface Mount Unidirectional and Bidirectional Transient Voltage Suppressors

● 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



Circuit Diagram

Marking (Top View)

XX = Voltage

CA = Bi-directional product

A = Uni-directional product

● Features

- ✧ 5000W peak pulse power (t_P = 10/1000μs)
- ✧ SMC/DO-214AB Package
- ✧ Working voltage: 5V-190V
- ✧ 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℃/10s at terminals
- ✧ Plastic package has Underwriters Laboratory Flammability 94V-0
- ✧ For surface mounted applications in order to optimize board space
- ✧ Complies with following standards:
  -IEC61000-4-2(ESD)±30kV(contact) ±30kV(air)

● 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℃

Parameter	Symbol	Value	Units
Peak Pulse Power（10/1000μs）	P_{PP}	5000	W
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+150	℃
Steady state power dissipation at TL=75℃	$P_{M(AV)}$	6.5	W

● Electrical Characteristics @T_A=25℃

Part Number		Marking Code		V_{RWM}	V_{BR} @ I_T (V)		I_T	I_R @ V_{RWM}	V_C (Max)	I_{PP} (Max)①
Uni-polar	Bi-polar	Uni	Bi	(V)	Min	Max	(mA)	(uA)	(V)	(A)
SSCT12V21DC	SSCT12V22DC	5.0SMDJ12A	5.0SMDJ12CA	12	13.3	14.7	1	800	19.9	251.3
SSCT13V21DC	SSCT13V22DC	5.0SMDJ13A	5.0SMDJ13CA	13	14.4	15.9	1	500	21.5	232.6
SSCT14V21DC	SSCT14V22DC	5.0SMDJ14A	5.0SMDJ14CA	14	15.6	17.2	1	200	23.2	215.6
SSCT15V21DC	SSCT15V22DC	5.0SMDJ15A	5.0SMDJ15CA	15	16.7	18.5	1	100	24.4	205
SSCT16V21DC	SSCT16V22DC	5.0SMDJ16A	5.0SMDJ16CA	16	17.8	19.7	1	50	26.0	192.4
SSCT17V21DC	SSCT17V22DC	5.0SMDJ17A	5.0SMDJ17CA	17	18.9	20.9	1	20	27.6	181
SSCT18V21DC	SSCT18V22DC	5.0SMDJ18A	5.0SMDJ18CA	18	20.0	22.1	1	10	29.2	171.3
SSCT20V21DC	SSCT20V22DC	5.0SMDJ20A	5.0SMDJ20CA	20	22.2	24.5	1	5	32.4	154.4
SSCT22V21DC	SSCT22V22DC	5.0SMDJ22A	5.0SMDJ22CA	22	24.4	26.9	1	5	35.5	140.9
SSCT24V21DC	SSCT24V22DC	5.0SMDJ24A	5.0SMDJ24CA	24	26.7	29.5	1	5	38.9	128.6
SSCT26V21DC	SSCT26V22DC	5.0SMDJ26A	5.0SMDJ26CA	26	28.9	31.9	1	5	42.1	118.8
SSCT28V21DC	SSCT28V22DC	5.0SMDJ28A	5.0SMDJ28CA	28	31.1	34.4	1	5	45.4	110
SSCT30V21DC	SSCT30V22DC	5.0SMDJ30A	5.0SMDJ30CA	30	33.3	36.8	1	5	48.55	103
SSCT33V21DC	SSCT33V22DC	5.0SMDJ33A	5.0SMDJ33CA	33	36.7	40.6	1	5	53.3	93.81
SSCT36V21DC	SSCT36V22DC	5.0SMDJ36A	5.0SMDJ36CA	36	40.0	44.2	1	5	58.1	86.06
SSCT40V21DC	SSCT40V22DC	5.0SMDJ40A	5.0SMDJ40CA	40	44.4	49.1	1	5	64.5	77.52
SSCT43V21DC	SSCT43V22DC	5.0SMDJ43A	5.0SMDJ43CA	43	47.8	52.8	1	5	69.4	72.05
SSCT45V21DC	SSCT45V22DC	5.0SMDJ45A	5.0SMDJ45CA	45	50.0	55.3	1	5	72.7	68.78
SSCT48V21DC	SSCT48V22DC	5.0SMDJ48A	5.0SMDJ48CA	48	53.3	58.9	1	5	77.4	64.6
SSCT51V21DC	SSCT51V22DC	5.0SMDJ51A	5.0SMDJ51CA	51	56.7	62.7	1	5	82.4	60.68
SSCT54V21DC	SSCT54V22DC	5.0SMDJ54A	5.0SMDJ54CA	54	60.0	66.3	1	5	87.1	57.41
SSCT58V21DC	SSCT58V22DC	5.0SMDJ58A	5.0SMDJ58CA	58	64.4	71.2	1	5	93.6	53.42
SSCT60V21DC	SSCT60V22DC	5.0SMDJ60A	5.0SMDJ60CA	60	66.7	73.7	1	5	96.8	51.66
SSCT64V21DC	SSCT64V22DC	5.0SMDJ64A	5.0SMDJ64CA	64	71.1	78.6	1	5	103	48.55
SSCT70V21DC	SSCT70V22DC	5.0SMDJ70A	5.0SMDJ70CA	70	77.8	86.0	1	5	113	44.25
SSCT75V21DC	SSCT75V22DC	5.0SMDJ75A	5.0SMDJ75CA	75	83.0	92.1	1	5	121	41.33
SSCT78V21DC	SSCT78V22DC	5.0SMDJ78A	5.0SMDJ78CA	78	86.0	95.8	1	5	126	39.69
SSCT85V21DC	SSCT85V22DC	5.0SMDJ85A	5.0SMDJ85CA	85	94.0	104.0	1	5	137	36.5
SSCT90V21DC	SSCT90V22DC	5.0SMDJ90A	5.0SMDJ90CA	90	100	110.0	1	5	146	34.25
SSCT10021DC	SSCT10022DC	5.0SMDJ100A	5.0SMDJ100CA	100	111	123.0	1	5	162	30.87

Part Number		Marking Code		V_{RWM}	V_{BR} @ I_T (V)		I_T	I_R @ V_{RWM}	V_C (Max)	I_{PP} (Max)①
Uni-polar	Bi-polar	Uni	Bi	(V)	Min	Max	(mA)	(uA)	(V)	(A)
SSCT11021DC	SSCT11022DC	5.0SMDJ110A	5.0SMDJ110CA	110	122	135.0	1	5	177	28.25
SSCT12021DC	SSCT12022DC	5.0SMDJ120A	5.0SMDJ120CA	120	133	147.0	1	5	193	25.91
SSCT13021DC	SSCT13022DC	5.0SMDJ130A	5.0SMDJ130CA	130	144	159.0	1	5	209	23.93
SSCT15021DC	SSCT15022DC	5.0SMDJ150A	5.0SMDJ150CA	150	167	185.0	1	5	243	20.58
SSCT16021DC	SSCT16022DC	5.0SMDJ160A	5.0SMDJ160CA	160	178	197.0	1	5	259	19.3
SSCT17021DC	SSCT17022DC	5.0SMDJ170A	5.0SMDJ170CA	170	189	209.0	1	5	275	18.19
SSCT18021DC	SSCT18022DC	5.0SMDJ180A	5.0SMDJ180CA	180	201	222.0	1	5	292	17.13
SSCT19021DC	SSCT19022DC	5.0SMDJ190A	5.0SMDJ190CA	190	209	233.0	1	5	308	16.24

① Surge waveform: 10/1000μs

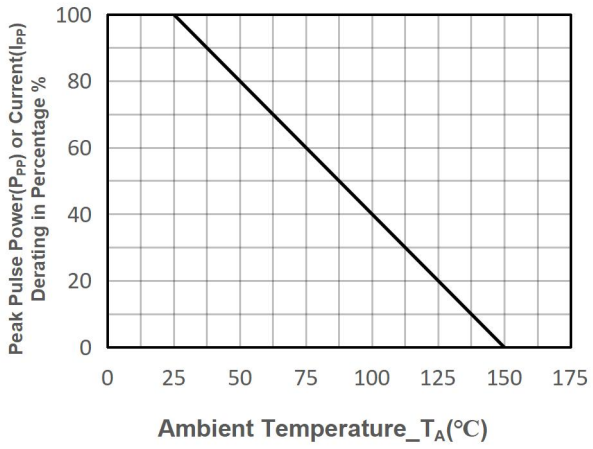
V_R ： Stand-off Voltage -- Maximum voltage that can be applied

V_{BR}： Breakdown Voltage

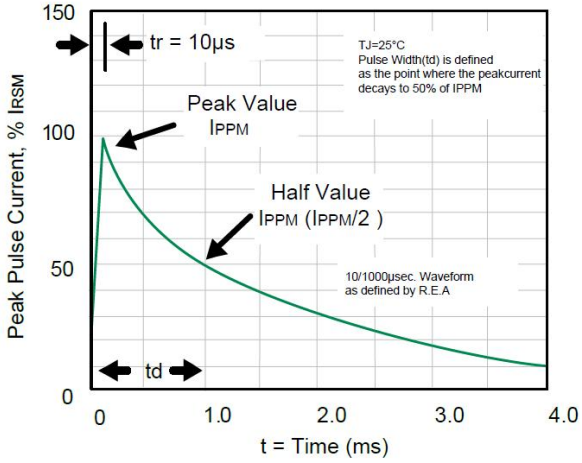
V_C：Clamping Voltage -- Peak voltage measured across the suppressor at a specified Ipp

I_R： Reverse Leakage Current

● Typical Performance Characteristics(T_A=25℃ unless otherwise Specified)



Pulse Derating Curve



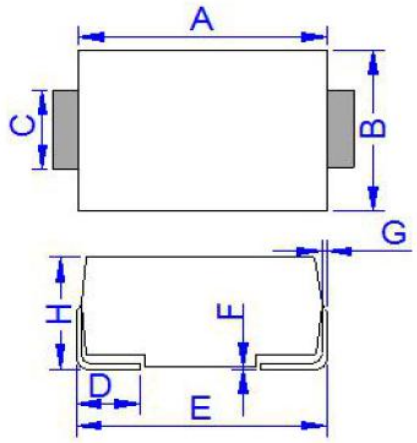
Pulse Waveform

● Package Information

Ordering Information

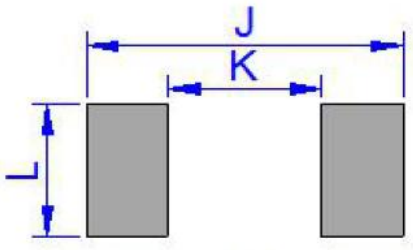
Device	Package	Qty per Reel	Reel Size
SSCTXXX2XDC	SMC/DO-214AB	3000	13 Inch

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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