



SSCTXXX2XDC Series

5000W TVS Diode for ESD Protection

● 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.

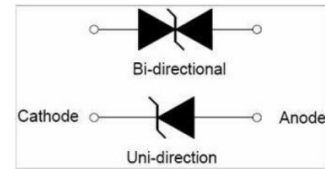
● Feature

- ✧ Glass passivated or planar junction
- ✧ Excellent clamping capability
- ✧ Repetition rate (duty cycle): 0.01%
- ✧ Low profile package and low inductance
- ✧ 5000W Peak Pulse power capability at $10 \times 1000 \mu s$ waveform.
- ✧ 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.

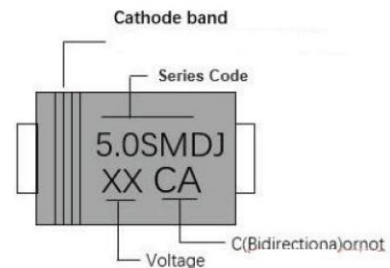
● Applications

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

● PIN configuration



Top view



Marking

● Mechanical data

- ✧ Package: SMC/DO-214AB
- ✧ Case Material: “Green” Molding Compound.
- ✧ UL Flammability Classification Rating 94V-0
- ✧ Polarity: Color band denotes cathode except bi-directional models
- ✧ Standard Packaging: 12mm tape (EIA STD RS-481)
- ✧ Weight: 0.28g
- ✧ Terminal Connections: See Diagram Below
- ✧ Marking Information: See Below



SSCTXXX2XDC

● Absolute maximum rating @TA=25°C

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (10/1000μS)	5000	W
T _{STG}	Storage Temperature	-55/+150	°C
T _J	Operating Temperature	-55/+150	°C
P _{M(AV)}	Steady state power dissipation at T _L =50°C	6.5	W

● Electrical Characteristics @TA=25°C

SMDJ 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	252
SSCT13V21DC	SSCT13V22DC	5.0SMDJ13A	5.0SMDJ13CA	13	14.4	15.9	1	500	21.5	233
SSCT14V21DC	SSCT14V22DC	5.0SMDJ14A	5.0SMDJ14CA	14	15.6	17.2	1	200	23.2	216
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	193
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	172
SSCT20V21DC	SSCT20V22DC	5.0SMDJ20A	5.0SMDJ20CA	20	22.2	24.5	1	5	32.4	155
SSCT22V21DC	SSCT22V22DC	5.0SMDJ22A	5.0SMDJ22CA	22	24.4	26.9	1	5	35.5	141
SSCT24V21DC	SSCT24V22DC	5.0SMDJ24A	5.0SMDJ24CA	24	26.7	29.5	1	5	38.9	129
SSCT26V21DC	SSCT26V22DC	5.0SMDJ26A	5.0SMDJ26CA	26	28.9	31.9	1	5	42.1	119
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	48.4	103
SSCT33V21DC	SSCT33V22DC	5.0SMDJ33A	5.0SMDJ33CA	33	36.7	40.6	1	5	53.3	93.9
SSCT36V21DC	SSCT36V22DC	5.0SMDJ36A	5.0SMDJ36CA	36	40.0	44.2	1	5	58.1	86.1
SSCT40V21DC	SSCT40V22DC	5.0SMDJ40A	5.0SMDJ40CA	40	44.4	49.1	1	5	64.5	77.6
SSCT43V21DC	SSCT43V22DC	5.0SMDJ43A	5.0SMDJ43CA	43	47.8	52.8	1	5	69.4	72.1
SSCT45V21DC	SSCT45V22DC	5.0SMDJ45A	5.0SMDJ45CA	45	50.0	55.3	1	5	72.7	68.8
SSCT48V21DC	SSCT48V22DC	5.0SMDJ48A	5.0SMDJ48CA	48	53.3	58.9	1	5	77.4	64.7
SSCT51V21DC	SSCT51V22DC	5.0SMDJ51A	5.0SMDJ51CA	51	56.7	62.7	1	5	82.4	60.7
SSCT54V21DC	SSCT54V22DC	5.0SMDJ54A	5.0SMDJ54CA	54	60.0	66.3	1	5	87.1	57.5
SSCT58V21DC	SSCT58V22DC	5.0SMDJ58A	5.0SMDJ58CA	58	64.4	71.2	1	5	93.6	53.5
SSCT60V21DC	SSCT60V22DC	5.0SMDJ60A	5.0SMDJ60CA	60	66.7	73.7	1	5	96.8	51.7
SSCT64V21DC	SSCT64V22DC	5.0SMDJ64A	5.0SMDJ64CA	64	71.1	78.6	1	5	103	48.6
SSCT70V21DC	SSCT70V22DC	5.0SMDJ70A	5.0SMDJ70CA	70	77.8	86.0	1	5	113	44.3
SSCT75V21DC	SSCT75V22DC	5.0SMDJ75A	5.0SMDJ75CA	75	83.0	92.1	1	5	121	41.4
SSCT78V21DC	SSCT78V22DC	5.0SMDJ78A	5.0SMDJ78CA	78	86.0	95.8	1	5	126	39.7



SSCTXXX2XDC

SMDJ 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)	(μ A)	(V)	(A)
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	34.3
SSCT100V21DC	SSCT100V22DC	5.0SMDJ100A	5.0SMDJ100CA	100	111	123.0	1	5	162	30.9
SSCT110V21DC	SSCT110V22DC	5.0SMDJ110A	5.0SMDJ110CA	110	122	135.0	1	5	177	28.3
SSCT120V21DC	SSCT120V22DC	5.0SMDJ120A	5.0SMDJ120CA	120	133	147.0	1	5	193	26
SSCT130V21DC	SSCT130V22DC	5.0SMDJ130A	5.0SMDJ130CA	130	144	159.0	1	5	209	24
SSCT150V21DC	SSCT150V22DC	5.0SMDJ150A	5.0SMDJ150CA	150	167	185.0	1	5	243	20.6
SSCT160V21DC	SSCT160V22DC	5.0SMDJ160A	5.0SMDJ160CA	160	178	197.0	1	5	259	19.3
SSCT170V21DC	SSCT170V22DC	5.0SMDJ170A	5.0SMDJ170CA	170	189	209.0	1	5	275	18.2
SSCT180V21DC	SSCT180V22DC	5.0SMDJ180A	5.0SMDJ180CA	180	201	222.0	1	5	292	17.5
SSCT190V21DC	SSCT190V22DC	5.0SMDJ190A	5.0SMDJ190CA	190	211	233.0	1	5	308	16.5

① Surge waveform: 10/1000 μ s

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

VBR: Breakdown Voltage

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

IR: Reverse Leakage Current



- Ratings And V-I Characteristics Curves ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

FIG.1:V- I curve characteristics (Uni-directional)

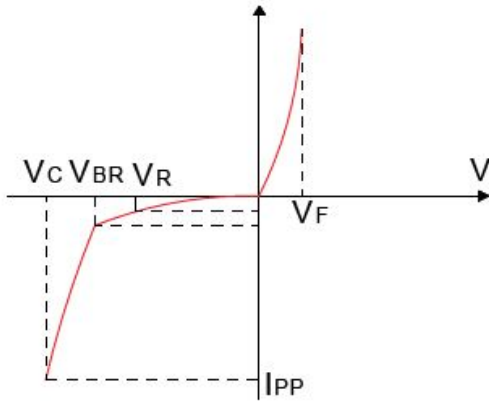
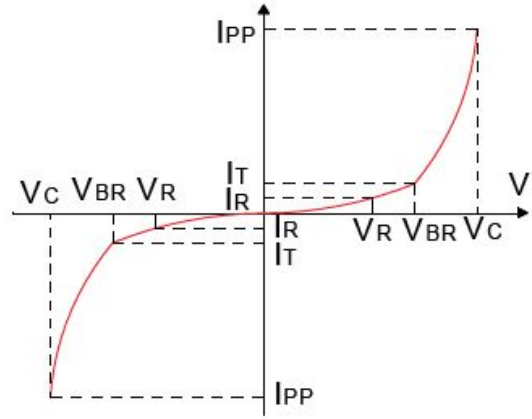


FIG.2:V- I curve characteristics (Bi-directional)



- Typical Performance Characteristics

FIG.3: Pulse waveform

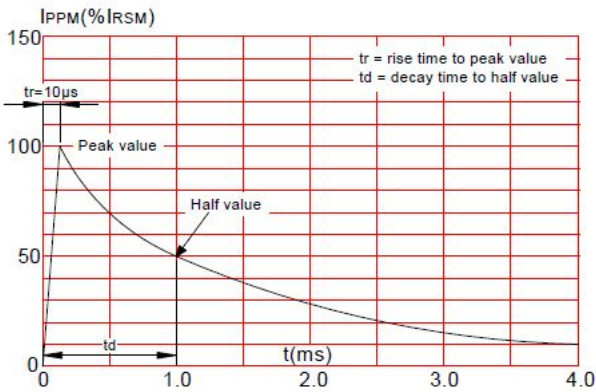
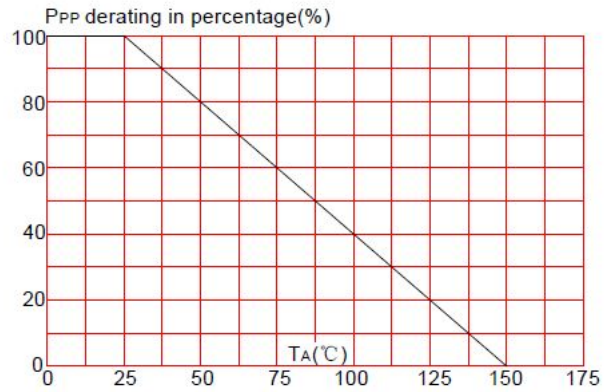


FIG.4: Pulse derating curve





- **Package Information**

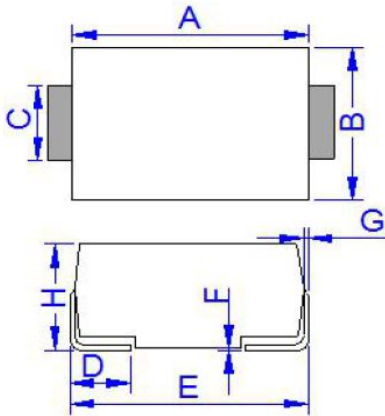
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCTXXX2XDC	SMC	3000	7 Inch

Mechanical Data

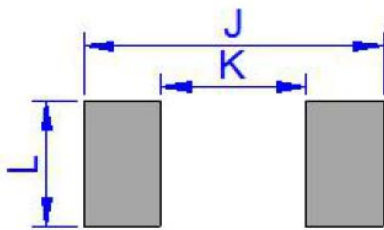
Case: SMC

Case Material: Molded Plastic. UL Flammability



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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