

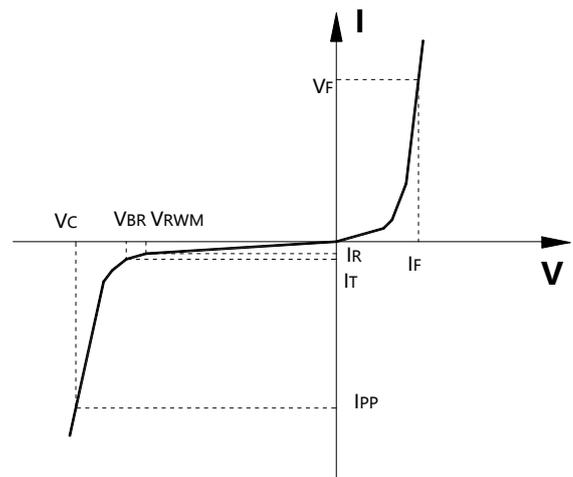
## SSCTXXVXXDC Series

Surface Mount Unidirectional and Bidirectional Transient Voltage Suppressors

### ● Features

- ✧ Voltage Range 12V-170V
- ✧ 5000W peak pulse power Dissipation
- ✧ For surface mounted applications
- ✧ Reliable low cost construction utilizing molded plastic technique
- ✧ Response Time is Typically < 1 ns
- ✧ Uni-direction, less than 5.0ns for Bi-direction, form 0 Volts to BV min
- ✧ ESD Rating of above 16 kV per Human Body Model
- ✧ ESD Rating of above 30 kV (Contact Discharge) per IEC61000-4-2
- ✧ EFT (Electrical Fast Transients) Rating of 40 A per IEC61000-4-4
- ✧ Plastic material has UL flammability classification 94V-0
- ✧ Typical IR less than 5uA above 20V
- ✧ Meets MSL 1 Requirements
- ✧ Solid-state silicon avalanche technology
- ✧ ROHS compliant

Symbol	Parameter
$V_{RWM}$	Working Peak Reverse Voltage
$V_{BR}$	Breakdown Voltage @ $I_T$
$V_C$	Clamping Voltage @ $I_{PP}$
$I_T$	Test Current
$I_R$	Leakage Current @ $V_{RWM}$
$I_{PP}$	Peak Pulse Current



### Maximum Ratings and Electrical Characteristics

Characteristics	Symbols	Value	Units
Peak Power Dissipation At $T_J=25^\circ\text{C}$ . $T_p=1\text{ms}$ (Note 1.2)	$P_{PK}$	5000	W
Peak Forward Surge Current 8.3ms single half sine-wave super	$I_{FSM}$	300	A
Lead Soldering Temperature	$T_L$	260 (10 sec.)	$^\circ\text{C}$
Operating Temperature Range	$T_J$	-55/+155	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55/+175	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device



# SSCTXXVXXDC

reliability.

1. Non-repetitive current pulse, per fig. 3 and derated above TA= 25 C per fig. 2.
2. Thermal Resistance junction to Lead
3. 8.3ms single half-sine wave duty cycle= 4 pulses maximum per minute (unidirectional units only).
4. Ratings at 25 °C ambient temperature unless otherwise specified.
5. Single phase, half wave, 60Hz, resistive or inductive load.
6. For Capacitive Load, Derate Current By 20%

## Electrical Characteristics ( Tamb=25 °C Unless Otherwise Specified)

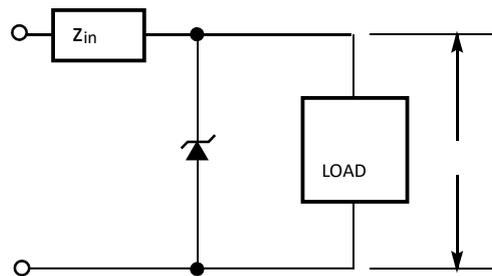
PART NUMBER		MARKING CODE		V <sub>RWM</sub>	V <sub>BR</sub> @ I <sub>T</sub> (V)		I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>	V <sub>C</sub> (Max)	I <sub>PP</sub> (Max) <sup>①</sup>
Uni-polar	Bi-polar	Uni	Bi	(V)	Min	Max	(mA)	(uA)	(V)	(A)
SSCT12V21DC	SSCT12V22DC	5HEE	5IEE	12	13.3	15.3	10	800	19.9	252
SSCT13V21DC	SSCT13V22DC	5HEG	5IEG	13	14.4	16.5	10	500	21.5	233
SSCT14V21DC	SSCT14V22DC	5HEK	5IEK	14	15.6	17.9	10	200	23.2	216
SSCT15V21DC	SSCT15V22DC	5HEM	5IEM	15	16.7	19.2	1	100	24.4	205
SSCT16V21DC	SSCT16V22DC	5HEP	5IEP	16	17.8	20.5	1	50	26.0	193
SSCT17V21DC	SSCT17V22DC	5HER	5IER	17	18.9	21.7	1	20	27.6	181
SSCT18V21DC	SSCT18V22DC	5HET	5IET	18	20.0	23.3	1	10	29.2	172
SSCT20V21DC	SSCT20V22DC	5HEV	5IEV	20	22.2	25.5	1	5	32.4	155
SSCT22V21DC	SSCT22V22DC	5HEX	5IEX	22	24.4	28.0	1	5	35.5	141
SSCT24V21DC	SSCT24V22DC	5HEZ	5IEZ	24	26.7	30.7	1	5	38.9	129
SSCT26V21DC	SSCT26V22DC	5HFE	5IFE	26	28.9	33.2	1	5	42.1	119
SSCT28V21DC	SSCT28V22DC	5HFG	5IFG	28	31.1	35.8	1	5	45.4	110
SSCT30V21DC	SSCT30V22DC	5HFK	5IFK	30	33.3	38.3	1	5	48.4	103
SSCT33V21DC	SSCT33V22DC	5HFM	5IFM	33	36.7	42.2	1	5	53.3	93.9
SSCT36V21DC	SSCT36V22DC	5HFP	5IFP	36	40.0	46.0	1	5	58.1	86.1
SSCT40V21DC	SSCT40V22DC	5HFR	5IFR	40	44.4	51.1	1	5	64.5	77.6
SSCT43V21DC	SSCT43V22DC	5HFT	5IFT	43	47.8	54.9	1	5	69.4	72.1
SSCT45V21DC	SSCT45V22DC	5HFV	5IFV	45	50.0	57.5	1	5	72.7	68.8
SSCT48V21DC	SSCT48V22DC	5HFX	5IFX	48	53.3	61.3	1	5	77.4	64.7
SSCT51V21DC	SSCT51V22DC	5HFZ	5IFZ	51	56.7	65.2	1	5	82.4	60.7
SSCT54V21DC	SSCT54V22DC	5HGE	5IGE	54	60.0	69.0	1	5	87.1	57.5
SSCT58V21DC	SSCT58V22DC	5HGG	5IGG	58	64.4	74.1	1	5	93.6	53.5
SSCT60V21DC	SSCT60V22DC	5HGK	5IGK	60	66.7	76.7	1	5	96.8	51.7
SSCT64V21DC	SSCT64V22DC	5HGM	5IGM	64	71.1	81.8	1	5	103	48.6
SSCT70V21DC	SSCT70V22DC	5HGP	5IGP	70	77.8	89.5	1	5	113	44.3
SSCT75V21DC	SSCT75V22DC	5HGR	5IGR	75	83.0	95.8	1	5	121	41.4



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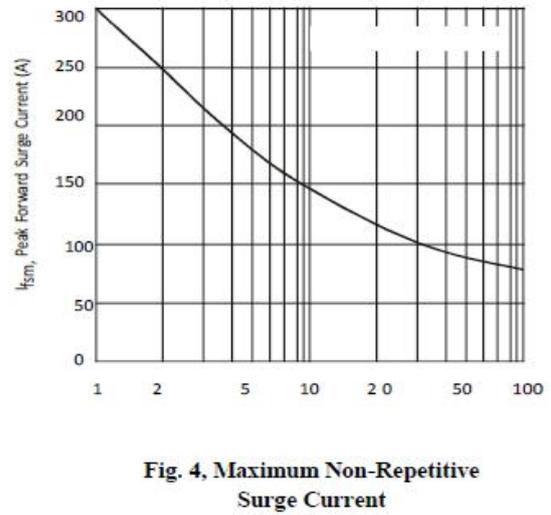
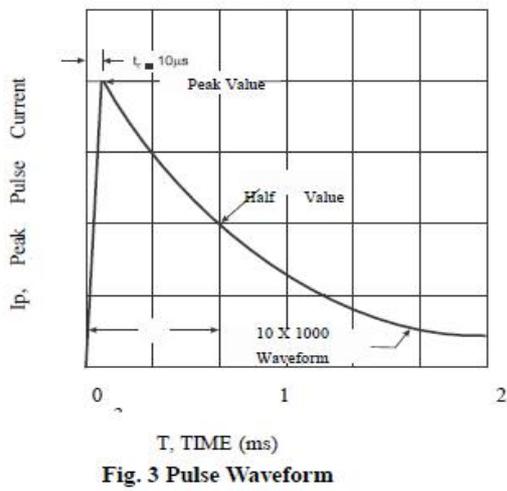
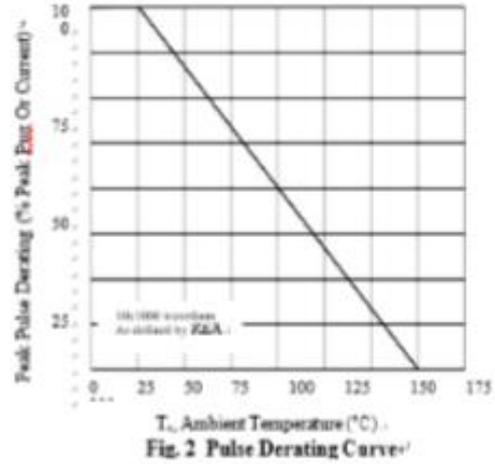
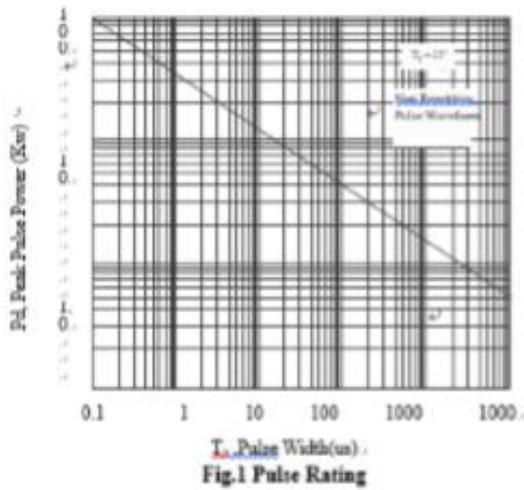
SSCT78V21DC	SSCT78V22DC	5HGT	5IGT	78	86	99.7	1	5	126	39.7
SSCT85V21DC	SSCT85V22DC	5HGV	5IGV	85	94	108.2	1	5	137	36.5
SSCT90V21DC	SSCT90V22DC	5HGX	5IGX	90	100	115.5	1	5	146	34.3
SSCT100V21DC	SSCT100V22DC	5HGZ	5IGZ	100	111	128.0	1	5	162	30.9
SSCT110V21DC	SSCT110V22DC	5HHE	5IHE	110	122	140.5	1	5	177	28.3
SSCT120V21DC	SSCT120V22DC	5HHG	5IHG	120	133	153.0	1	5	193	26.0
SSCT130V21DC	SSCT130V22DC	5HHK	5IHK	130	144	165.5	1	5	209	24.0
SSCT150V21DC	SSCT150V22DC	5HHM	5IHM	150	167	192.5	1	5	243	20.6
SSCT160V21DC	SSCT160V22DC	5HHP	5IHP	160	178	205.0	1	5	259	19.3
SSCT170V21DC	SSCT170V22DC	5HHR	5IHR	170	189	217.5	1	5	275	18.2

- **Typical Protection Circuit**



## Typical Electrical Characteristics Applications

### Rating and Characteristics Curves



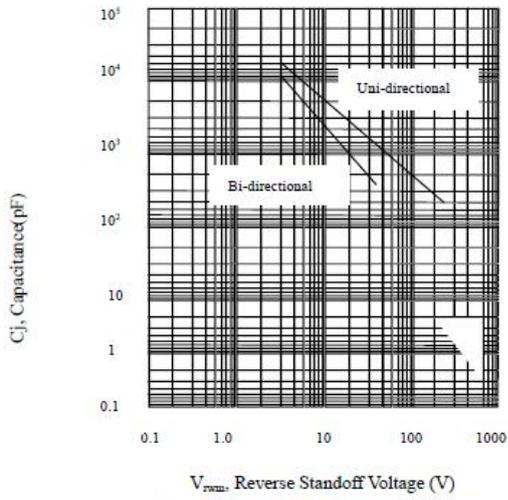
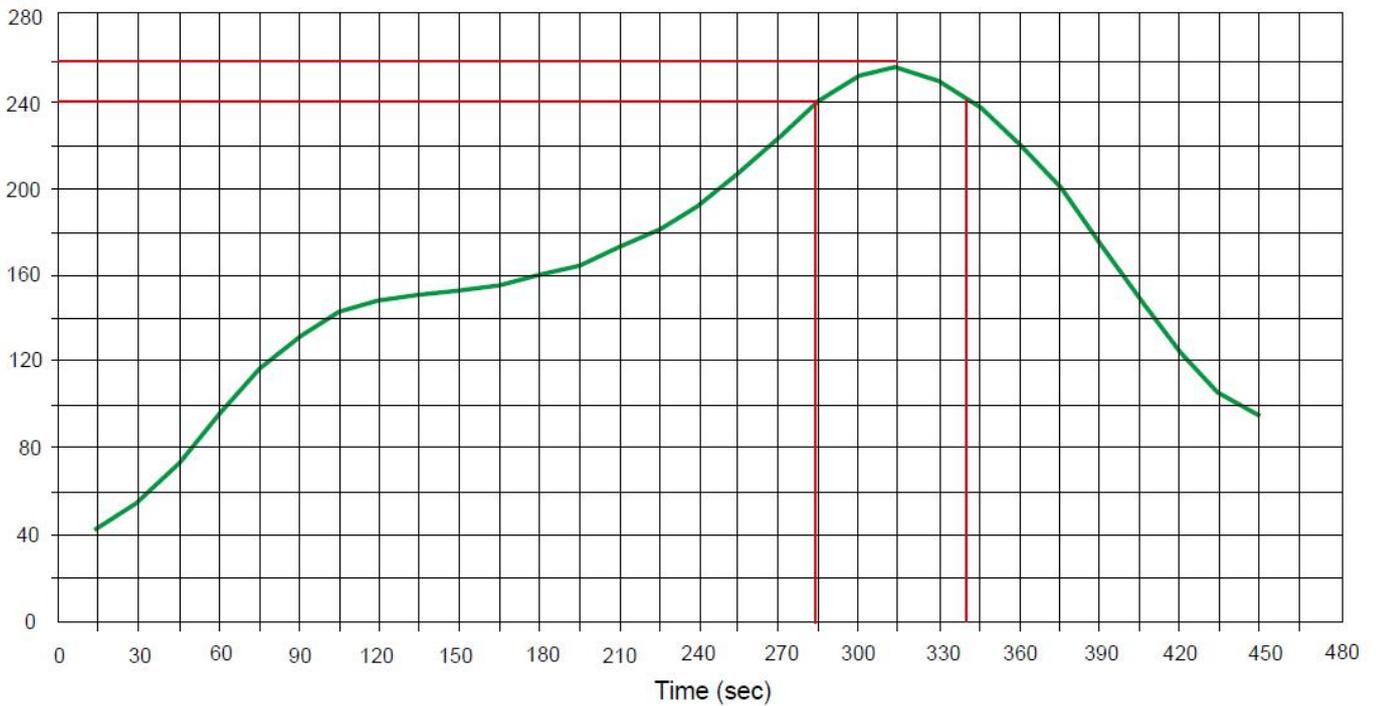


Fig. 5 Typical junction Capacitance

- **Solder Reflow Recommendation**

Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec





# SSCTXXVXXDC

- **Package Information**

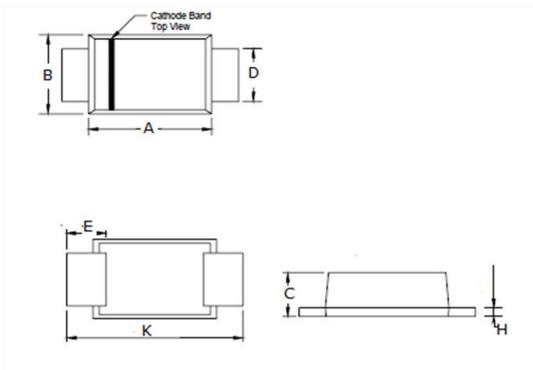
### Ordering Information

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

### Mechanical Data

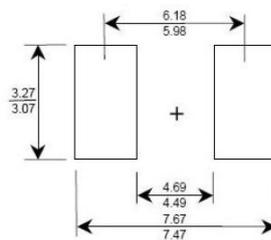
Case: SMC

Case Material: Molded Plastic. UL Flammability



DMI	Millimeters	
	Min	Max
A	2.75	3.25
B	5.50	6.20
C	6.50	7.11
D	2.10	2.70
E	0.051	0.203
F	0.90	1.52
G	-	0.203
H	7.40	8.40

### Recommended Pad outline



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