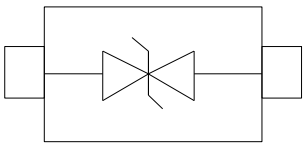
SSCTXXX1XDC Series

Small Surface Mount TVS Diode for ESD Protection

. Feature

- 3000W peak pulse power (TP = 8/20μs)
- SMC Package
- Working voltage: 5V-170V
- Low clamping voltage
- Low capacitance
- RoHS compliant transient protection for high speed data lines to IEC61000-4-2(ESD)±15kV(air), ±8kV(contact)
- 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 1uA above 10V
- Meets MSL 1 Requirements
- Solid-state silicon avalanche technology
- ROHS compliant

PIN configuration



Topview

Applications

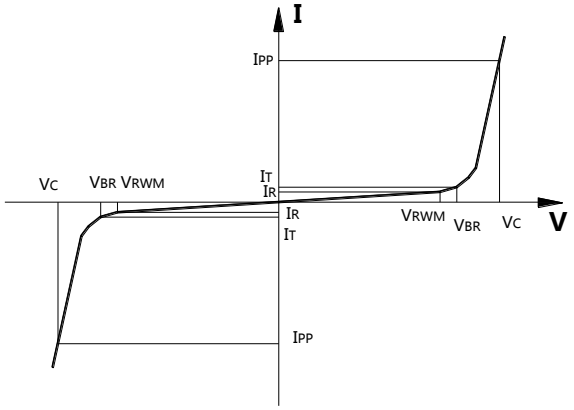
- USB 2.0 Power & Data Line Protection
- DVI & HDMI Port Protection
- Serial ATA Port Protection
- Mobile Handsets
- Digital Cameras and camcorders
- PDA & MP3 Players
- Digital TV and Set-top Boxes

Machanical data

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um

Electronic Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C	Junction Capacitance



Absolute maximum rating @TA=25℃

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power（8/20μS）	3000	W
T_{STG}	Storage Temperature	-55/+150	℃
T_J	Operating Temperature	-55/+150	℃

Electrical Characteristics @TA=25℃

Electrical Characteristics (Tamb=25℃ Unless Otherwise Specified)

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)
SSCT5V011DC	SSCT5V012DC	HDE	IDE	5.0	6.40	7.35	10	800	9.2	326.1
SSCT6V011DC	SSCT6V012DC	HDG	IDG	6.0	6.67	7.89	10	800	10.3	291.3
SSCT6V511DC	SSCT6V512DC	HDK	IDK	6.5	7.22	8.30	10	500	11.2	267.9
SSCT7V011DC	SSCT7V012DC	HDM	IDM	7.0	7.78	8.95	10	200	12.0	250.0
SSCT7V511DC	SSCT7V512DC	HDP	IDP	7.5	8.33	9.58	1	100	12.9	232.6
SSCT8V011DC	SSCT8V012DC	HDR	IDR	8.0	8.89	10.23	1	50	13.6	220.6
SSCT8V511DC	SSCT8V512DC	HDT	IDT	8.5	9.44	10.82	1	20	14.4	208.3
SSCT9V011DC	SSCT9V012DC	HDV	IDV	9.0	10.0	11.5	1	10	15.4	194.8
SSCT10V11DC	SSCT10V12DC	HDX	IDX	10	11.1	12.8	1	5	17.0	176.5
SSCT11V11DC	SSCT11V12DC	HDZ	IDZ	11	12.2	14.0	1	5	18.2	164.8
SSCT12V11DC	SSCT12V12DC	HEE	IEE	12	13.3	15.3	1	5	19.9	150.8
SSCT13V11DC	SSCT13V12DC	HEG	IEG	13	14.4	16.5	1	5	21.5	139.5
SSCT14V11DC	SSCT14V12DC	HEK	IEK	14	15.6	17.9	1	5	23.2	129.3

SSCT15V11DC	SSCT15V12DC	HEM	IEM	15	16.7	19.2	1	5	24.4	123.0
SSCT16V11DC	SSCT16V12DC	HEP	IEP	16	17.8	20.5	1	5	26.0	115.4
SSCT17V11DC	SSCT17V12DC	HER	IER	17	18.9	21.7	1	5	27.6	108.7
SSCT18V11DC	SSCT18V12DC	HET	IET	18	20.0	23.3	1	5	29.2	102.7
SSCT20V11DC	SSCT20V12DC	HEV	IEV	20	22.2	25.5	1	5	32.4	92.6
SSCT22V11DC	SSCT22V12DC	HEX	IEX	22	24.4	28.0	1	5	35.5	84.5
SSCT24V11DC	SSCT24V12DC	HEZ	IEZ	24	26.7	30.7	1	5	38.9	77.1
SSCT26V11DC	SSCT26V12DC	HFE	IFE	26	28.9	33.2	1	5	42.1	71.3
SSCT28V11DC	SSCT28V12DC	HFG	IFG	28	31.1	35.8	1	5	45.4	66.1
SSCT30V11DC	SSCT30V12DC	HFK	IFK	30	33.3	38.3	1	5	48.4	62.0
SSCT33V11DC	SSCT33V12DC	HFM	IFM	33	36.7	42.2	1	5	53.3	56.3
SSCT36V11DC	SSCT36V12DC	HFP	IFP	36	40.0	46.0	1	5	58.1	51.6
SSCT40V11DC	SSCT40V12DC	HFR	IFR	40	44.4	51.1	1	5	64.5	46.5
SSCT43V11DC	SSCT43V12DC	HFT	IFT	43	47.8	54.9	1	5	69.4	43.2
SSCT45V11DC	SSCT45V12DC	HFV	IFV	45	50.0	57.5	1	5	72.7	41.3
SSCT48V11DC	SSCT48V12DC	HFX	IFX	48	53.3	61.3	1	5	77.4	38.8
SSCT51V11DC	SSCT51V12DC	HFZ	IFZ	51	56.7	65.2	1	5	82.4	36.4
SSCT54V11DC	SSCT54V12DC	HGE	IGE	54	60.0	69.0	1	5	87.1	34.4
SSCT58V11DC	SSCT58V12DC	HGG	IGG	58	64.4	74.1	1	5	93.6	32.1
SSCT60V11DC	SSCT60V12DC	HGK	IGK	60	66.7	76.7	1	5	96.8	31.0
SSCT64V11DC	SSCT64V12DC	HGM	IGM	64	71.1	81.8	1	5	103	29.1
SSCT70V11DC	SSCT70V12DC	HGP	IGP	70	77.8	89.5	1	5	113	26.5
SSCT75V11DC	SSCT75V12DC	HGR	IGR	75	83.0	95.8	1	5	121	24.8
SSCT78V11DC	SSCT78V12DC	HGT	IGT	78	86.0	99.7	1	5	126	23.8
SSCT85V11DC	SSCT85V12DC	HGV	IGV	85	94.0	108.2	1	5	137	21.9
SSCT90V11DC	SSCT90V12DC	HGX	IGX	90	100	115.5	1	5	146	20.5
SSCT100V11DC	SSCT100V12DC	HGZ	IGZ	100	111	128.0	1	5	162	18.5
SSCT110V11DC	SSCT110V12DC	HHE	IHE	110	122	140.5	1	5	177	16.9
SSCT120V11DC	SSCT120V12DC	HHG	IHG	120	133	153.0	1	5	193	15.5
SSCT130V11DC	SSCT130V12DC	HHK	IHK	130	144	165.5	1	5	209	14.4
SSCT150V11DC	SSCT150V12DC	HHM	IHM	150	167	192.5	1	5	243	12.3
SSCT160V11DC	SSCT160V12DC	HHP	IHP	160	178	205.0	1	5	259	11.6
SSCT170V11DC	SSCT170V12DC	HHR	IHR	170	189	217.5	1	5	275	10.9

- **Typical Performance Characteristics**

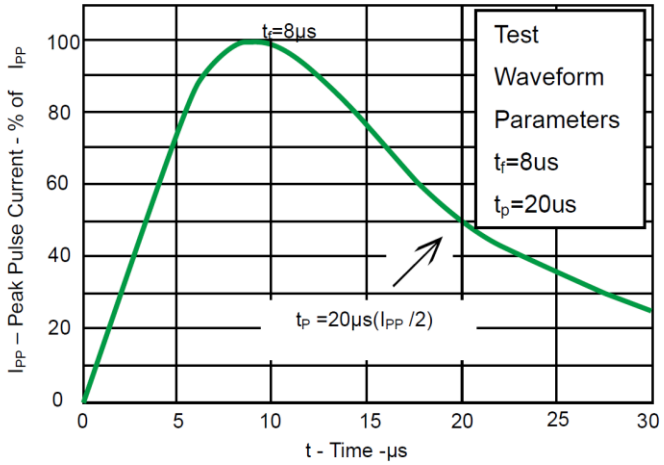


Fig 1.Pulse Waveform

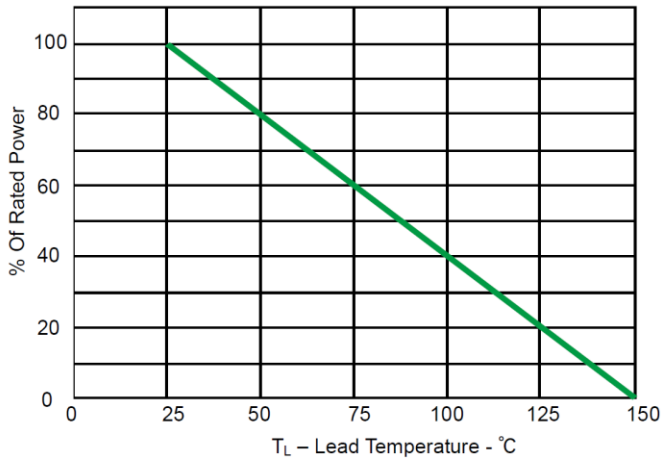
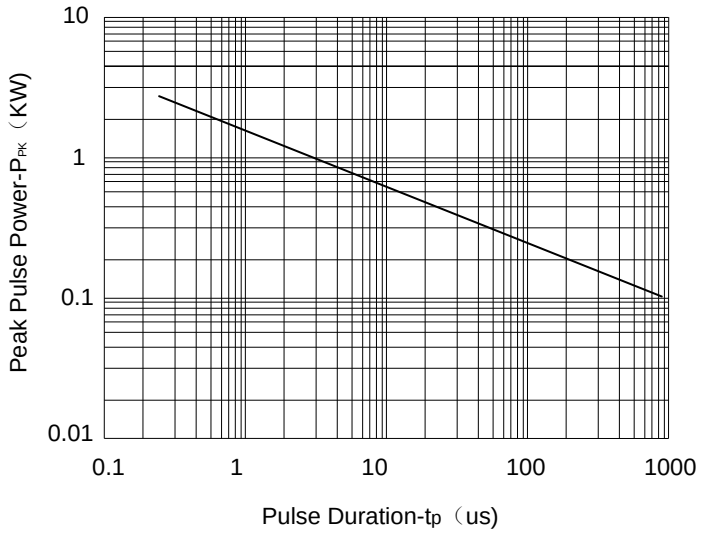


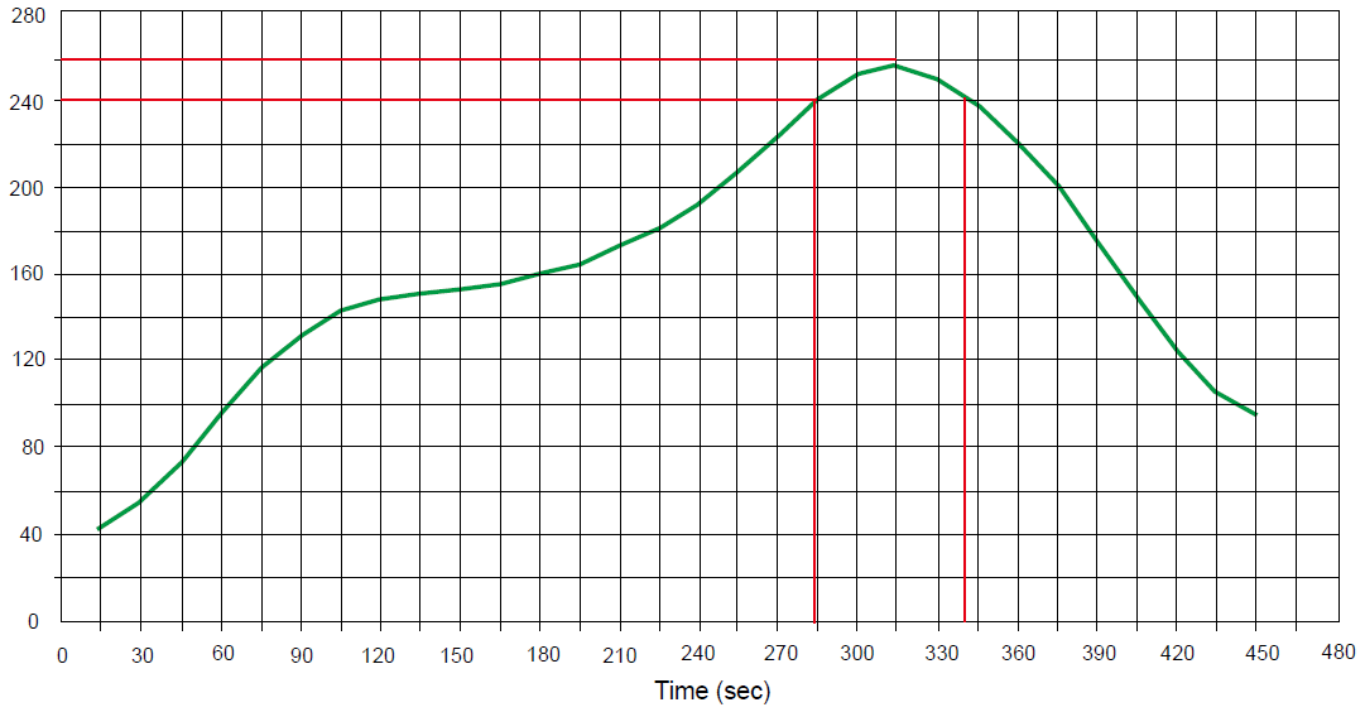
Fig 2.Power Derating Curve



Non-Repetitive Peak Pulse Power vs. Pulse Time

- **Solder Reflow Recommendation**

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



- **Package Information**

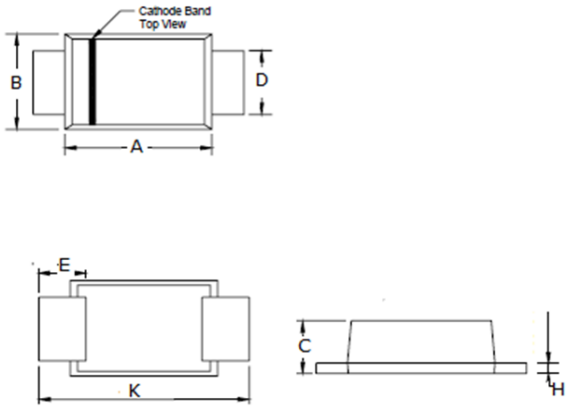
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCTXXX1XDC	SMC	3000	7 Inch

Mechanical Data

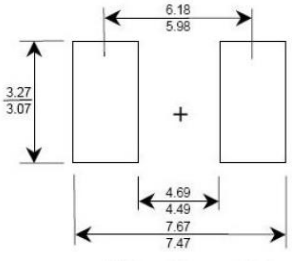
Case: SMC

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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