



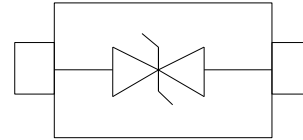
SSCTXXX1XDA Series

Small Surface Mount TVS Diode for ESD Protection

● . Feature

- ✧ 400W peak pulse power (TP = 8/20 μ s)
- ✧ SMA Package
- ✧ Working voltage: 5V-440V
- ✧ Low clamping voltage
- ✧ Low capacitance
- ✧ RoHS compliant transient protection for high speed data lines to IEC61000-4-2(ESD) \pm 15kV(air), \pm 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 1 μ A 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

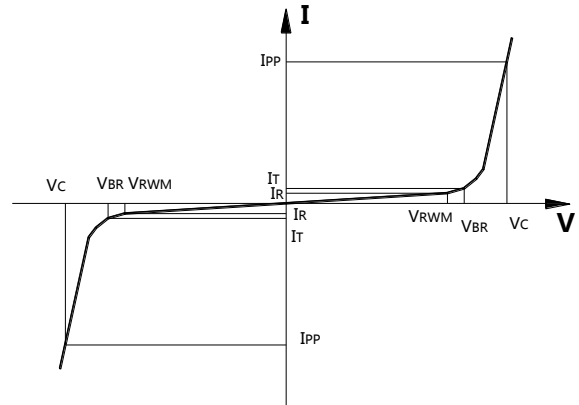
● Mechanical data

- ✧ Lead finish:100% matte Sn(Tin)
- ✧ Mounting position: Any
- ✧ Qualified max reflow temperature:260 $^{\circ}$ C
- ✧ Device meets MSL 1 requirements
- ✧ Pure tin plating: 7 ~ 17 μ m



● 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°C

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (8/20 μ S)	400	W
T_{STG}	Storage Temperature	-55/+150	°C
T_J	Operating Temperature	-55/+150	°C

● Electrical Characteristics @TA=25°C

Electrical Characteristics ($T_{amb}=25^\circ\text{C}$ Unless Otherwise Specified)										
SMAJ PART NUMBER		MARKING CODE		V_{RWM}	V_{BR} @ I_T (V)		I_T	I_R @ V_{RWM}	$V_C(\text{Max})$	$I_{PP}(\text{Max})$ ①
Uni-polar	Bi-polar	Uni	Bi	(V)	Min	Max	(mA)	(μ A)	(V)	(A)
SSCT5V011DA	SSCT5V012DA	HE	TE	5.0	6.40	7.35	10	800	9.2	43.5
SSCT6V011DA	SSCT6V012DA	HG	TG	6.0	6.67	7.89	10	800	10.3	38.8
SSCT6V511DA	SSCT6V512DA	HK	TK	6.5	7.22	8.30	10	500	11.2	35.7
SSCT7V011DA	SSCT7V012DA	HM	TM	7.0	7.78	8.95	10	200	12.0	33.3
SSCT7V511DA	SSCT7V512DA	HP	TP	7.5	8.33	9.58	1	100	12.9	31.0
SSCT8V011DA	SSCT8V012DA	HR	TR	8.0	8.89	10.23	1	50	13.6	29.4
SSCT8V511DA	SSCT8V512DA	HT	TT	8.5	9.44	10.82	1	20	14.4	27.8
SSCT9V011DA	SSCT9V012DA	HV	TV	9.0	10.0	11.5	1	10	15.4	26.0
SSCT10V11DA	SSCT10V12DA	HX	TX	10	11.1	12.8	1	5	17.0	23.5
SSCT11V11DA	SSCT11V12DA	HZ	TZ	11	12.2	14.0	1	5	18.2	22.0
SSCT12V11DA	SSCT12V12DA	IE	UE	12	13.3	15.3	1	5	19.9	20.1
SSCT13V11DA	SSCT13V12DA	IG	UG	13	14.4	16.5	1	5	21.5	18.6
SSCT14V11DA	SSCT14V12DA	IK	UK	14	15.6	17.9	1	5	23.2	17.2



SSCTXXX1XDA

SSCT15V11DA	SSCT15V12DA	IM	UM	15	16.7	19.2	1	5	24.4	16.4
SSCT16V11DA	SSCT16V12DA	IP	UP	16	17.8	20.5	1	5	26.0	15.4
SSCT17V11DA	SSCT17V12DA	IR	UR	17	18.9	21.7	1	5	27.6	14.5
SSCT18V11DA	SSCT18V12DA	IT	UT	18	20.0	23.3	1	5	29.2	13.7
SSCT20V11DA	SSCT20V12DA	IV	UV	20	22.2	25.5	1	5	32.4	12.3
SSCT22V11DA	SSCT22V12DA	IX	UX	22	24.4	28.0	1	5	35.5	11.3
SSCT24V11DA	SSCT24V12DA	IZ	UZ	24	26.7	30.7	1	5	38.9	10.3
SSCT26V11DA	SSCT26V12DA	JE	VE	26	28.9	33.2	1	5	42.1	9.5
SSCT28V11DA	SSCT28V12DA	JG	VG	28	31.1	35.8	1	5	45.4	8.8
SSCT30V11DA	SSCT30V12DA	JK	VK	30	33.3	38.3	1	5	48.4	8.3
SSCT33V11DA	SSCT33V12DA	JM	VM	33	36.7	42.2	1	5	53.3	7.5
SSCT36V11DA	SSCT36V12DA	JP	VP	36	40.0	46.0	1	5	58.1	6.9
SSCT40V11DA	SSCT40V12DA	JR	VR	40	44.4	51.1	1	5	64.5	6.2
SSCT43V11DA	SSCT43V12DA	JT	VT	43	47.8	54.9	1	5	69.4	5.8
SSCT45V11DA	SSCT45V12DA	RK	WK	60	66.7	76.7	1	5	96.8	4.1
SSCT48V11DA	SSCT48V12DA	RM	WM	64	71.1	81.8	1	5	103	3.9
SSCT51V11DA	SSCT51V12DA	RP	WP	70	77.8	89.5	1	5	113	3.5
SSCT54V11DA	SSCT54V12DA	RR	WR	75	83.0	95.8	1	5	121	3.3
SSCT58V11DA	SSCT58V12DA	RT	WT	78	86.0	99.7	1	5	126	3.2
SSCT60V11DA	SSCT60V12DA	RV	WV	85	94.0	108.2	1	5	137	2.9
SSCT64V11DA	SSCT64V12DA	RX	WX	90	100	115.5	1	5	146	2.7
SSCT70V11DA	SSCT70V12DA	RZ	WZ	100	111	128.0	1	5	162	2.5
SSCT75V11DA	SSCT75V12DA	SE	XE	110	122	140.5	1	5	177	2.3
SSCT78V11DA	SSCT78V12DA	SG	XG	120	133	153.0	1	5	193	2.1
SSCT85V11DA	SSCT85V12DA	SK	XK	130	144	165.5	1	5	209	1.9
SSCT90V11DA	SSCT90V12DA	SM	XM	150	167	192.5	1	5	243	1.6
SSCT100V11DA	SSCT100V12DA	SP	XP	160	178	205.0	1	5	259	1.5
SSCT110V11DA	SSCT110V12DA	SR	XR	170	189	217.5	1	5	275	1.5
SSCT120V11DA	SSCT120V12DA	ST	XT	180	200	230.4	1	5	290	1.4
SSCT130V11DA	SSCT130V12DA	SV	XV	190	211	243.2	1	5	306	1.3
SSCT150V11DA	SSCT150V12DA	SX	XX	200	222	256.0	1	5	322	1.2
SSCT160V11DA	SSCT160V12DA	SZ	XZ	210	233	268.8	1	5	339	1.2
SSCT170V11DA	SSCT170V12DA	ZE	YE	220	244	281.6	1	5	355	1.1
SSCT180V11DA	SSCT180V12DA	ZG	YG	250	278	309.0	1	5	403	1.0
SSCT190V11DA	SSCT190V12DA	ZK	YK	300	333	371.0	1	5	484	0.8
SSCT200V11DA	SSCT200V12DA	ZM	YM	350	389	432.0	1	5	565	0.7
SSCT210V11DA	SSCT210V12DA	ZP	YP	400	444	494.0	1	5	645	0.6
SSCT220V11DA	SSCT220V12DA	ZR	YR	440	489	543.0	1	5	710	0.6



● Typical Performance Characteristics

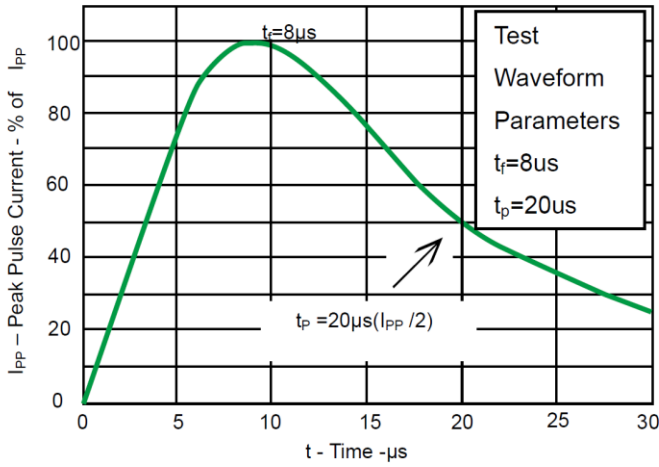


Fig 1. Pulse Waveform

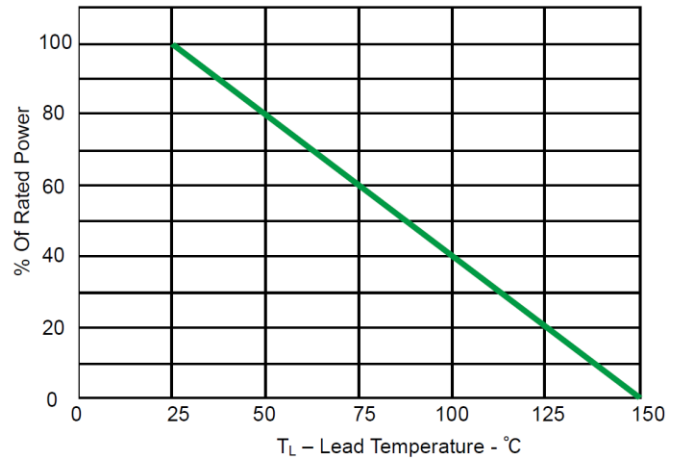
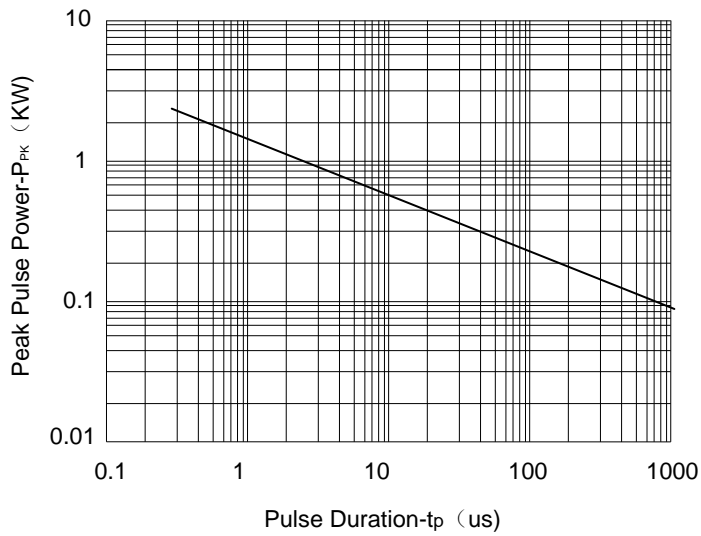


Fig 2. Power Derating Curve



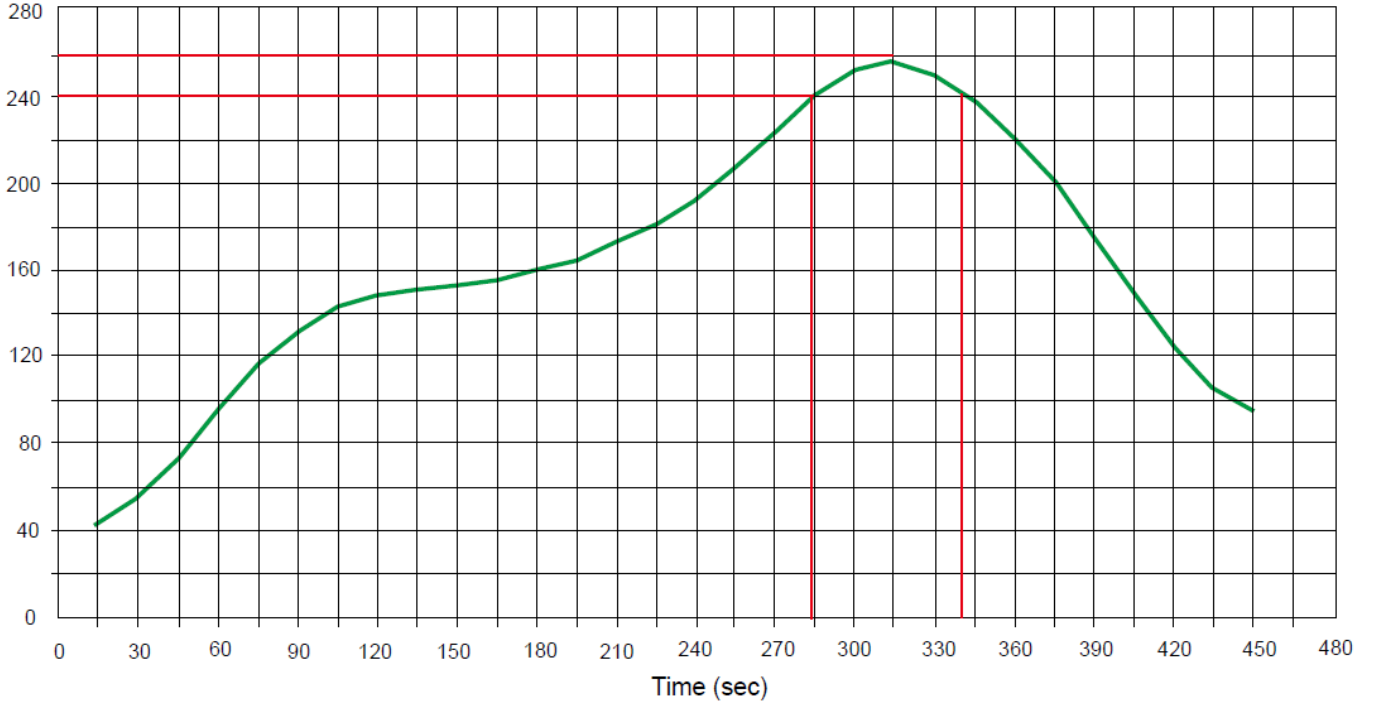
Non-Repetitive Peak Pulse Power vs. Pulse Time



SSCTXXX1XDA

- **Solder Reflow Recommendation**

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





SSCTXXX1XDA

- **Package Information**

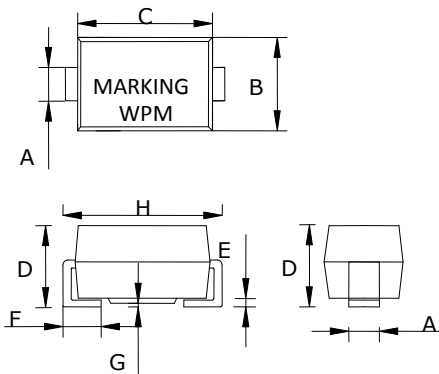
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCTXXX1XDA	SMA	500	7Inch

Mechanical Data

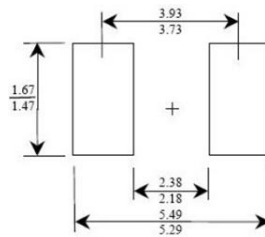
Case: SMA

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters		
	Min	Nom	Max
A	1.35	1.50	1.80
B	2.50	2.67	2.90
C	3.90	4.40	5.10
D	1.90	2.25	2.45
E	0.05	0.200	0.203
F	0.76	1.14	1.52
G	-	-	0.203
H	4.80	5.0	5.30

Recommended Pad outline





SSCTXXX1XDA

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