

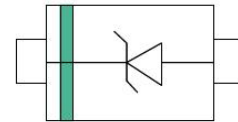
SSCTXXX11D1 Series

Small Surface Mount TVS Diode for ESD Protection

● Feature

- ✧ 400W peak pulse power ($T_P = 8/20\mu s$)
- ✧ SOD-123FL Package
- ✧ Working voltage: 3.3V-64V
- ✧ 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)
- ✧ Response Time is Typically $< 1\text{ ns}$
- ✧ 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
- ✧ Low Profile – Maximum Height of 1.0 mm
- ✧ Small Footprint – Footprint Area of 8.45 mm^2
- ✧ Supplied in 8 mm Tape and Reel – 3,000 Units per Reel
- ✧ Cathode Indicated by Polarity Band
- ✧ Lead Orientation in Tape: Cathode Lead to Sprocket Holes
- ✧ Meets MSL 1 Requirements
- ✧ Solid-state silicon avalanche technology
- ✧ ROHS compliant

● PIN configuration



Topview

● Applications

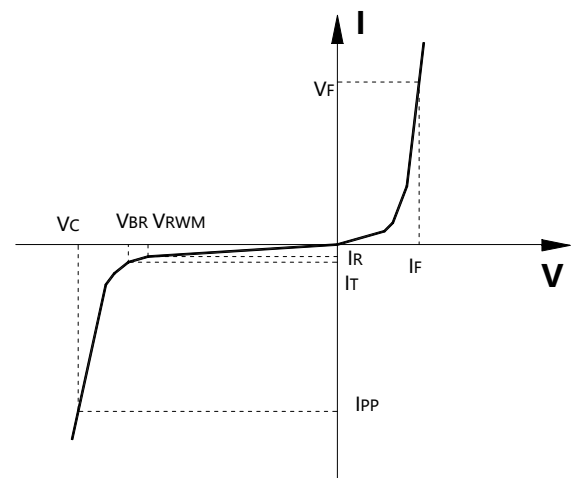
- ✧ USB 2.0 Power & Data Line Protection
- ✧ DVI & HDMI Port Protection
- ✧ Serial ATA Port Protection
- ✧ Mobile Handsets
- ✧ Digital Cameras and camcorders
- ✧ PDA & MP3 Players
- ✧ Digital TV and Set-top Boxes

● Mechanical data

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

● 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





SSCTXXX11D1

● Absolute maximum rating @TA=25°C

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (8/20μS)	400	W
T _{STG}	Storage Temperature	-55/+150	°C
T _J	Operating Temperature	-55/+150	°C

● Electrical Characteristics @TA=25°C

Device	Marking	V _{RWM} (V)	V _{BR} @ I _T (V) (Note 6)			I _T	I _R @ V _{RWM}	V _C (Max)	I _{PP} (Max) (Note7)	ESD Immunity acc. IEC 61000-4-2
		(Note 5)	Min	Nom	Max	(mA)	(A)	(V)	(A)	(kV)
SSCT3V311D1	A1	3.3	5.20	5.60	6.00	10	600	8.0	43.8	± 30
SSCT5V011D1	A2	5.0	6.40	6.80	7.25	10	400	9.2	43.5	± 30
SSCT6V011D1	A3	6.0	6.67	7.02	7.37	10	400	10.3	38.8	± 30
SSCT6V511D1	A4	6.5	7.22	7.60	7.98	10	250	11.2	35.7	± 30
SSCT7V011D1	A5	7.0	7.78	8.20	8.60	10	100	12.0	33.3	± 30
SSCT7V511D1	A6	7.5	8.33	8.77	9.21	1	50	12.9	31.0	± 30
SSCT8V011D1	A7	8.0	8.89	9.36	9.83	1	25	13.6	29.4	± 30
SSCT8V511D1	A8	8.5	9.44	9.92	10.4	1	10	14.4	27.8	± 30
SSCT9V011D1	A9	9.0	10.0	10.55	11.1	1	5.0	15.4	26.0	± 30
SSCT10V11D1	AA	10	11.1	11.70	12.3	1	2.5	17.0	23.5	± 30
SSCT11V11D1	AB	11	12.2	12.85	13.5	1	2.5	18.2	22.0	± 30
SSCT12V11D1	AC	12	13.3	14.00	14.7	1	2.5	19.9	20.1	± 30
SSCT13V11D1	AD	13	14.4	15.15	15.9	1	1	21.5	18.6	± 30
SSCT14V11D1	AE	14	15.6	16.40	17.2	1	1	23.2	17.2	± 30
SSCT15V11D1	AF	15	16.7	17.60	18.5	1	1	24.4	16.4	± 30
SSCT16V11D1	AG	16	17.8	18.75	19.7	1	1	26.0	15.4	± 30
SSCT17V11D1	AH	17	18.9	19.90	20.9	1	1	27.6	14.5	± 30
SSCT18V11D1	AK	18	20.0	21.00	22.1	1	1	29.2	13.7	± 30
SSCT20V11D1	AL	20	22.2	23.35	24.5	1	1	32.4	12.3	± 30
SSCT22V11D1	AM	22	24.4	25.60	26.9	1	1	35.5	11.3	± 30
SSCT24V11D1	AM	24	26.7	28.10	29.5	1	1	38.9	10.3	± 30
SSCT26V11D1	AP	26	28.9	30.40	31.9	1	1	42.1	9.5	± 30
SSCT28V11D1	AR	28	31.1	32.80	34.4	1	1	45.4	8.8	± 30
SSCT30V11D1	AS	30	33.3	35.10	36.8	1	1	48.4	8.3	± 30
SSCT33V11D1	AT	33	36.7	38.70	40.6	1	1	53.3	7.5	± 30
SSCT36V11D1	AU	36	40.0	42.10	44.2	1	1	58.1	6.9	± 30
SSCT40V11D1	AV	40	44.4	46.80	49.1	1	0.1	64.5	6.2	± 30
SSCT43V11D1	AW	43	47.8	50.30	52.8	1	0.1	69.4	5.8	± 30



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SSCT45V11D1	AX	45	50.0	52.65	55.3	1	0.1	72.7	5.5	± 30
SSCT48V11D1	AY	48	53.3	56.10	58.9	1	1	77.4	5.2	± 30
SSCT51V11D1	AZ	51	56.7	59.70	62.7	1	1	82.4	4.9	± 30
SSCT54V11D1	B1	54	60.0	63.15	66.3	1	0.1	87.1	4.6	± 30
SSCT58V11D1	B2	58	64.4	67.80	71.2	1	1	93.6	4.2	± 30
SSCT60V11D1	B3	60	66.7	70.20	73.7	1	0.1	96.8	4.1	± 30
SSCT64V11D1	B4	64	71.1	74.85	78.6	1	0.1	103	3.9	± 30

● Typical Performance Characteristics

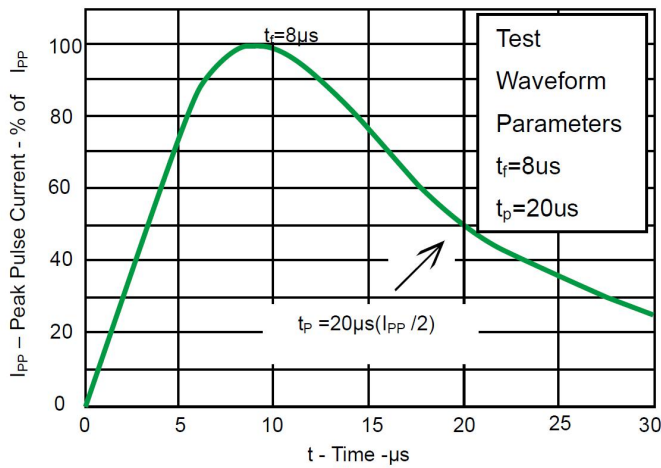


Fig 1. Pulse Waveform

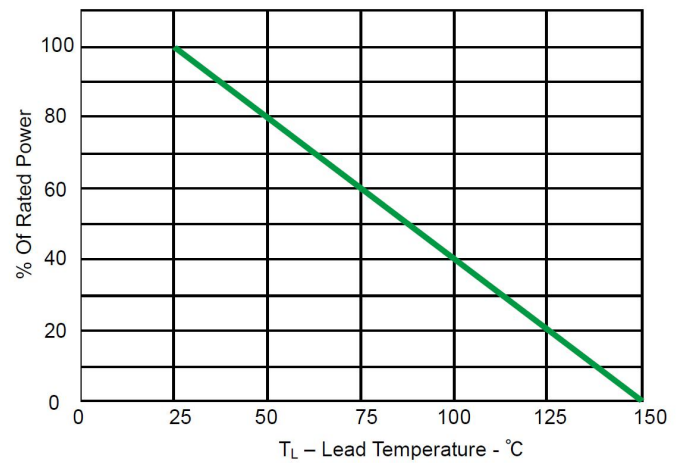
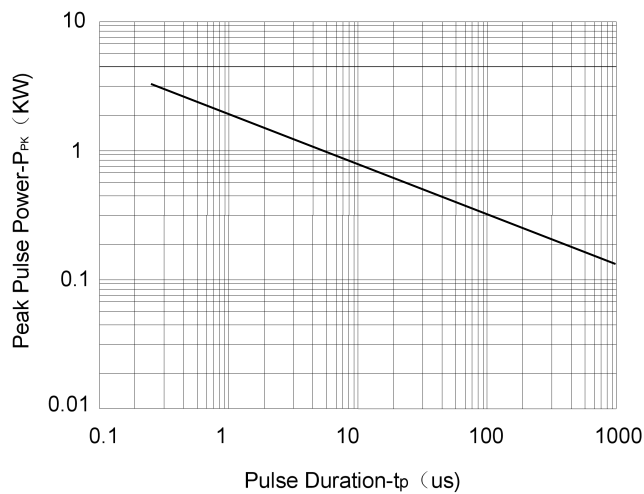


Fig 2. Power Derating Curve



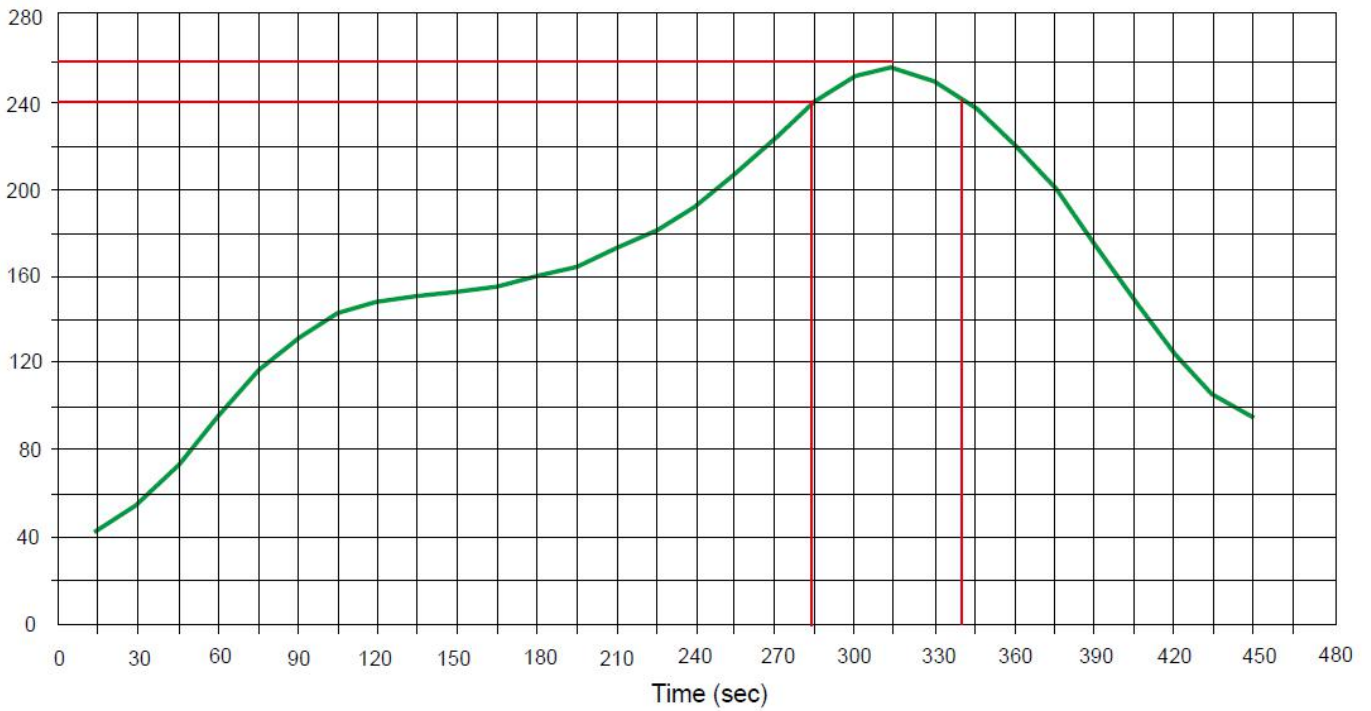
Non-Repetitive Peak Pulse Power vs. Pulse Time



SSCTXXX11D1

- Solder Reflow Recommendation

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





SSCTXXX11D1

● Package Information

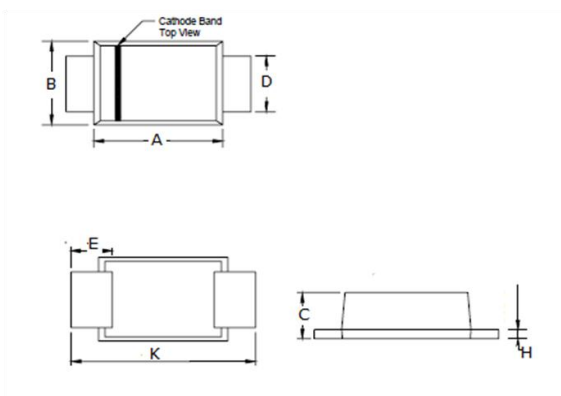
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCTXXX11D1	SOD-123FL	3000	7 Inch

Mechanical Data

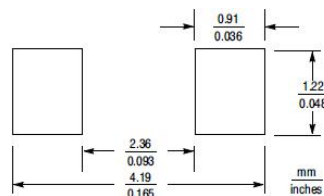
Case: SOD-123FL

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	2.70	2.90
B	1.50	1.90
C	1.15	1.45
D	0.80	1.20
E	0.35	0.85
H	0.10	0.30
K	3.50	3.90

Recommended Pad outline



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