



SSCT24V51D1

Small Surface Mount TVS Diode for ESD Protection

● Description

The SSCT24V51D1 is transient voltage suppressor array for high-speed data interface that designed to protect sensitive electronics from damage or latch-up due to ESD lightning, and other voltage induced transient events. All pins are rated to withstand 30kV ESD pulses using the IEC 61000-4-2 air discharge method, which can meet the requirement of level 4.

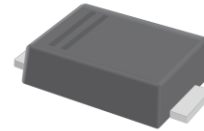
● Features

- ◇ 6400W peak pulse power ($t_P = 8/20\mu s$)
- ◇ SOD-123FL Package
- ◇ Working voltage: 24V
- ◇ Low clamping voltage
- ◇ Low profile package and low inductance
- Complies
- ◇ -IEC61000-4-2(ESD) $\pm 30kV$ (contact), $\pm 30kV$ (air)
- ◇ -IEC61000-4-5(Lightning) 200A(8/20 μs)
- ◇ RoHS Compliant

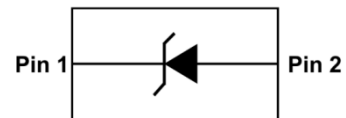
● Applications

- ◇ Computer system
- ◇ Domestic appliance
- ◇ Video input
- ◇ For surface mounted applications

● PIN configuration



SOD-123FL



Circuit Diagram



Marking (Top View)

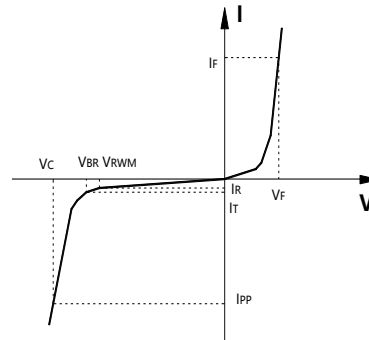
● Mechanical Characteristics

- ◇ Lead finish: 100% matte Sn (Tin)
- ◇ RoHS compliant
- ◇ Case Material: "Green" Molding Compound
- ◇ Qualified max reflow temperature: 260°C
- ◇ Device meets MSL3 requirements
- ◇ Pure tin plating: 7 ~ 17 μm
- ◇ Pin flatness: $\leq 3mil$



● **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_J	Junction Capacitance



● **Absolute maximum rating @ $T_A=25^{\circ}C$**

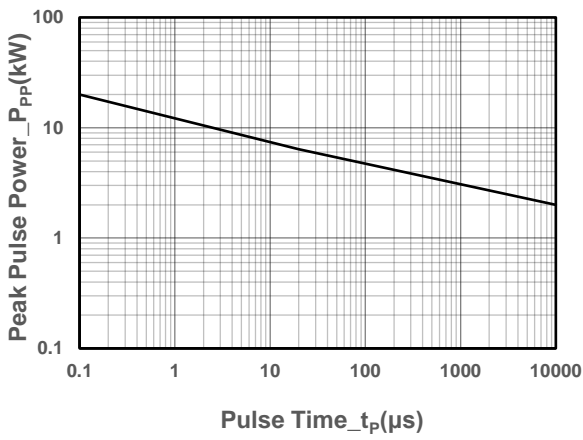
Parameter	Symbol	Value	Units
Peak Pulse Power (8/20 μ s)	P_{PP}	6400	W
Peak Pulse Current (8/20 μ s)	I_{PP}	200	A
ESD Rating per IEC61000-4-2:			
Contact	V_{ESD}	± 30	kV
Air		± 30	
Storage Temperature	T_{STG}	-55/+150	$^{\circ}C$
Operating Temperature	T_J	-55/+150	$^{\circ}C$

● **Electrical Characteristics @ $T_A=25^{\circ}C$**

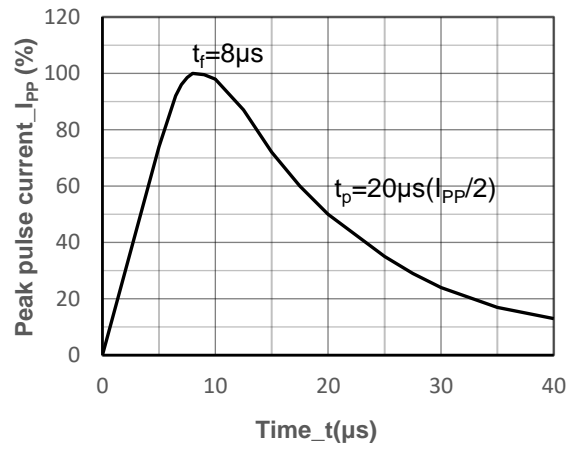
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				24	V
Breakdown Voltage	V_{BR}	$I_T = 1mA$	25		28.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 24V$			1	μA
Clamping Voltage	V_C	$I_{PP} = 200A, t_P = 8/20\mu s$			32	V



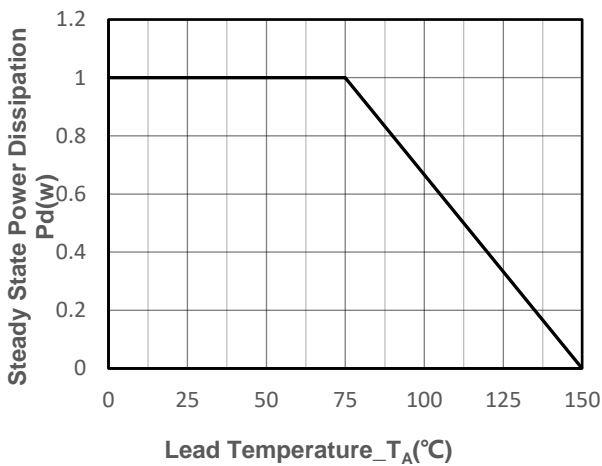
- Typical Performance Characteristics($T_A=25^\circ\text{C}$ unless otherwise Specified)



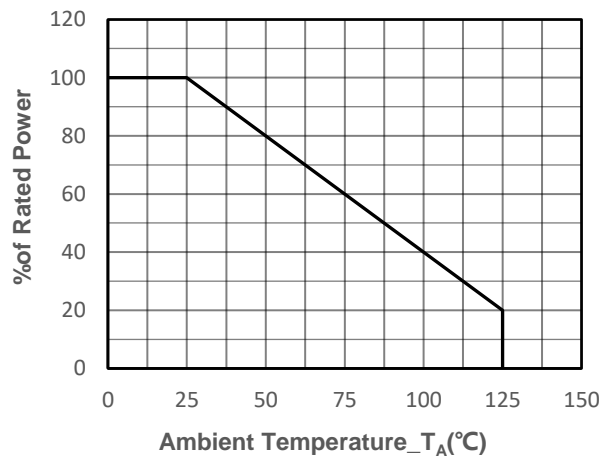
Peak Pulse Power vs. Pulse Time



8/20 μs Pulse Waveform



Steady State Power Dissipation vs. Lead Temperature



Power derating vs. Ambient temperature



● Package Information

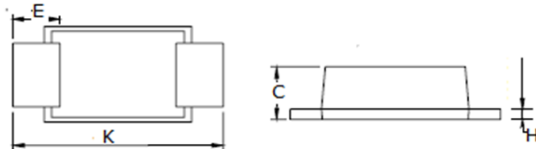
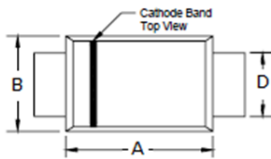
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT24V51D1	SOD-123FL	3000	7 Inch

Mechanical Data

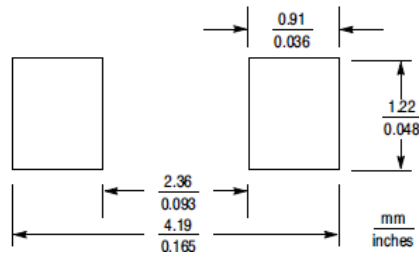
Case: SOD-123FL

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	2.50	2.90
B	1.50	1.90
C	0.95	1.20
D	0.70	1.20
E	0.35	0.85
H	0	0.1
K	3.40	3.90

Recommended Pad outline (Unit: mm)





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