SSCT24V51D1

Small Surface Mount TVS Diode for ESD Protection

● Description

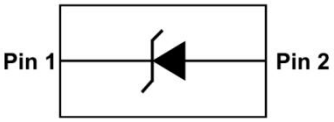
The SSCT24V51D1 is transient voltage suppressor array for high-speed data interface that designed to protect sensitive electronics from damage or latch-up due to ESD lightning, and other voltage induced transient events. All pins are rated to withstand 30kV ESD pulses using the IEC 61000-4-2 air discharge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

● Features

- ✧ 7600W peak pulse power (t_P = 8/20μs)
- ✧ SOD-123FL Package
- ✧ Working voltage: 24V
- ✧ Low clamping voltage
- ✧ Low profile package and low inductance
  Complies
- ✧ -IEC61000-4-2(ESD) ±30kV(contact), ±30kV(air)
- ✧ -IEC61000-4-5(Lightning) 200A(8/20μs)

● PIN configuration

SOD-123FL



Circuit Diagram

Marking (Top View)

● Applications

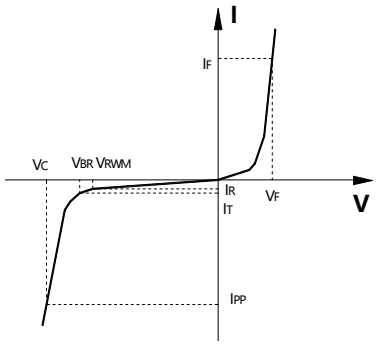
- ✧ Computer system
- ✧ Domestic appliance
- ✧ Video input
- ✧ For surface mounted applications

● Mechanical Characteristics

- ✧ Lead finish:100% matte Sn (Tin)
- ✧ RoHS compliant
- ✧ Case Material: “Green” Molding
  Compound
- ✧ Qualified max reflow temperature:260℃
- ✧ Device meets MSL3 requirements
- ✧ Pure tin plating: 7 ~ 17 um
- ✧ Pin flatness: ≤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



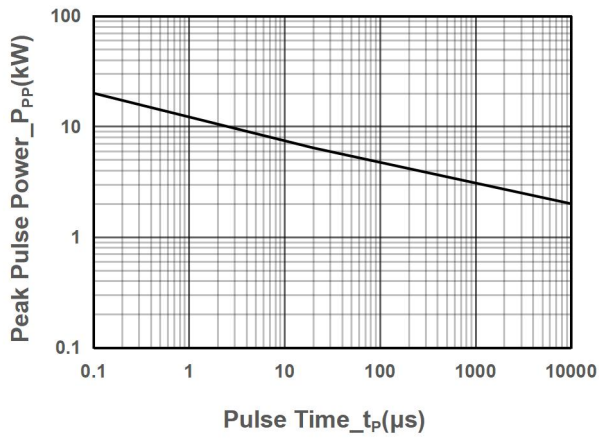
Absolute maximum rating @T_A=25℃

Parameter	Symbol	Value	Units
Peak Pulse Power（8/20μs）	P_{PP}	7600	W
Peak Pulse Current（8/20μs）	I_{PP}	200	A
ESD Rating per IEC61000-4-2: Contact Air	V_{ESD}	±30 ±30	kV
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+150	℃

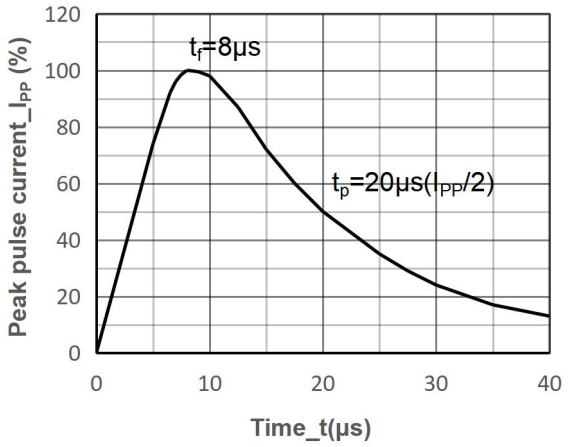
Electrical Characteristics @T_A=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				24	V
Breakdown Voltage	V_{BR}	I_T = 1mA	25		29	V
Reverse Leakage Current	I_R	V_{RWM} = 24V			1	uA
Clamping Voltage	V_C	I_{PP} = 200A, t_P = 8/20μs		34	38	V

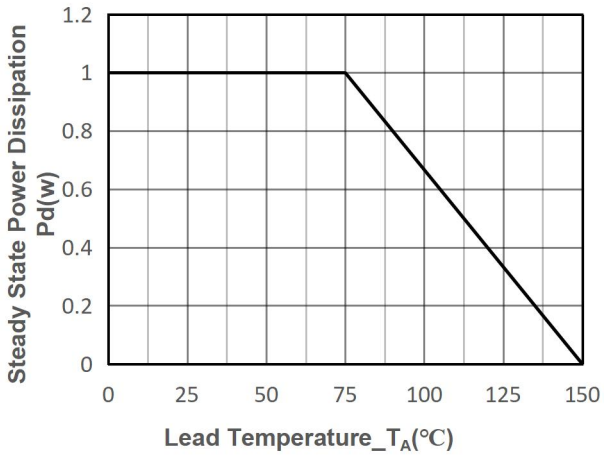
- **Typical Performance Characteristics(T_A=25℃ unless otherwise Specified)**



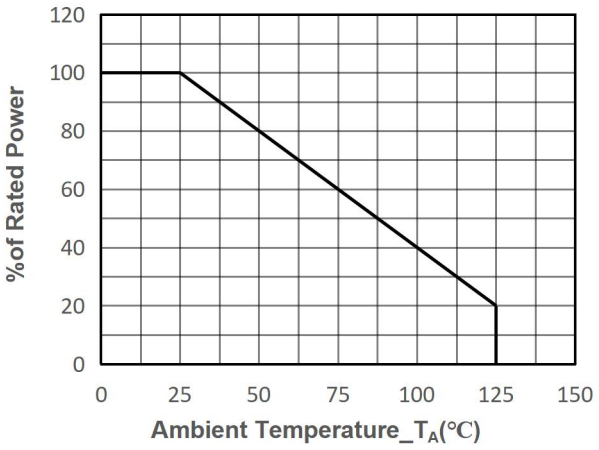
Peak Pulse Power vs. Pulse Time



8/20μs Pulse Waveform



Steady State Power Dissipation vs. Lead Temperature



Power derating vs. Ambient temperature

Package Information

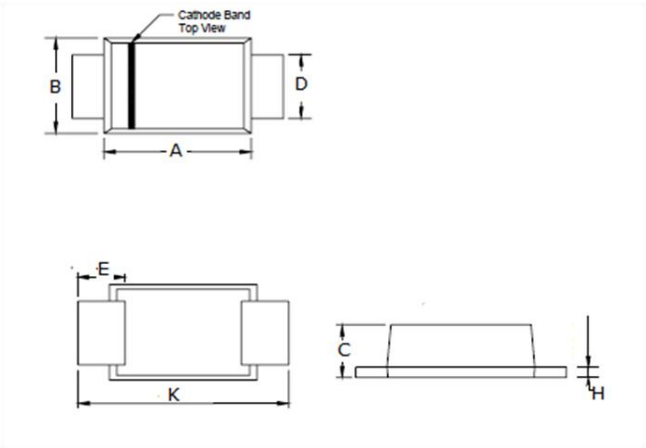
Ordering Information

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

Mechanical Data

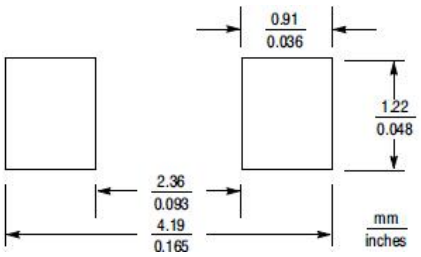
Case: SOD-123FL

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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