



## SSCT24V12D1 Series

Small Surface Mount TVS Diode for ESD Protection

### ● Description

The SSCTXXX12D1 is low capacitance 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 15kV ESD pulses using the IEC 61000-4-2 air discharge method, which can meet the requirement of level 4.

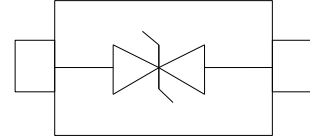
### ● Feature

- ✧ 6000W peak pulse power ( $t_P = 8/20\mu s$ )
- ✧ SOD-123 Package
- ✧ Working voltage: 24V
- ✧ 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)

### ● 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

### ● PIN configuration

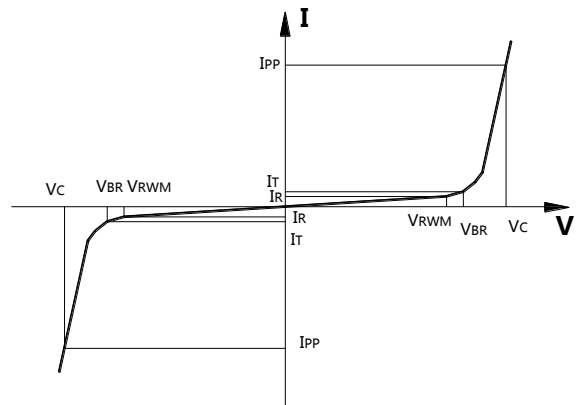


### ● Applications

- ✧ 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 ~ 17  $\mu m$





# SSCT24V12D1

- **Absolute maximum rating @TA=25°C**

Symbol	Parameter	Value	Units
P <sub>PP</sub>	Peak Pulse Power (8/20μS)	6000	W
T <sub>STG</sub>	Storage Temperature	-55/+150	°C
T <sub>J</sub>	Operating Temperature	-55/+150	°C

- **Electrical Characteristics @TA=25°C**

Electrical characteristics ( T <sub>amb</sub> =25°C Unless Otherwise Specified)									
Device*	V <sub>RWM</sub>	V <sub>BR</sub> @ I <sub>T</sub> (V)		I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>	V <sub>C</sub> (Max)	I <sub>PP</sub> (Max)	Capacitance (Typ)	P <sub>ppp</sub> (tp=8/20μs waveform)
	(V)	Min	Max	(mA)	(μA)	(V)	(A)	(nF)	Watts
SSCT24V12D1	24	26.5	30	1	5	31	250	0.3	6000

- **Typical Performance Characteristics**

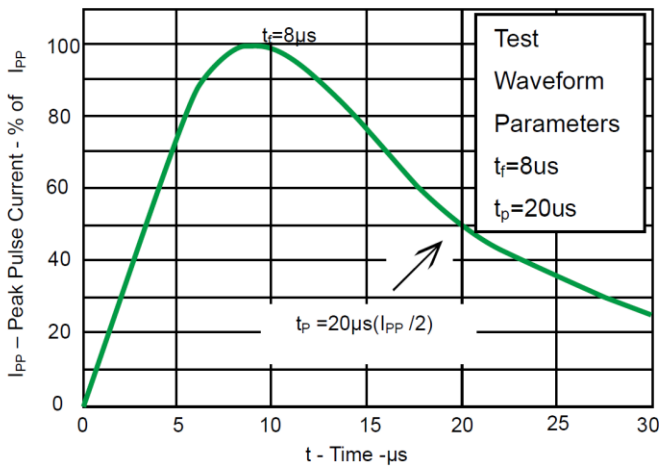


Fig 1. Pulse Waveform

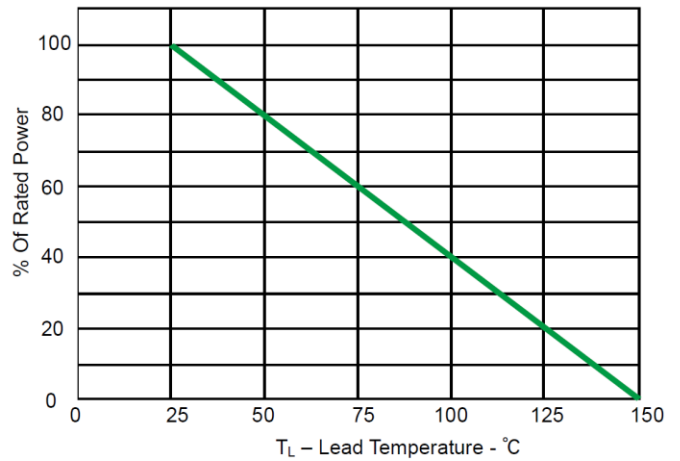
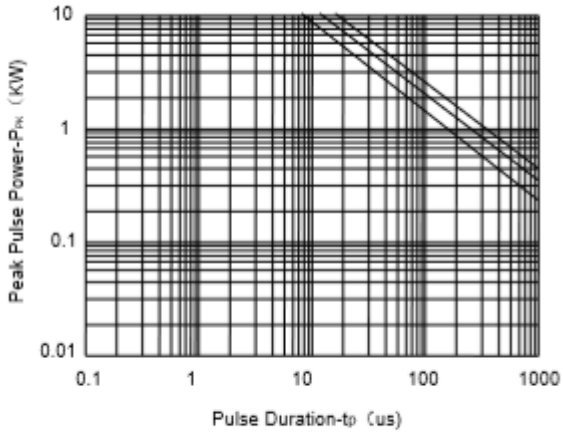


Fig 2. Power Derating Curve



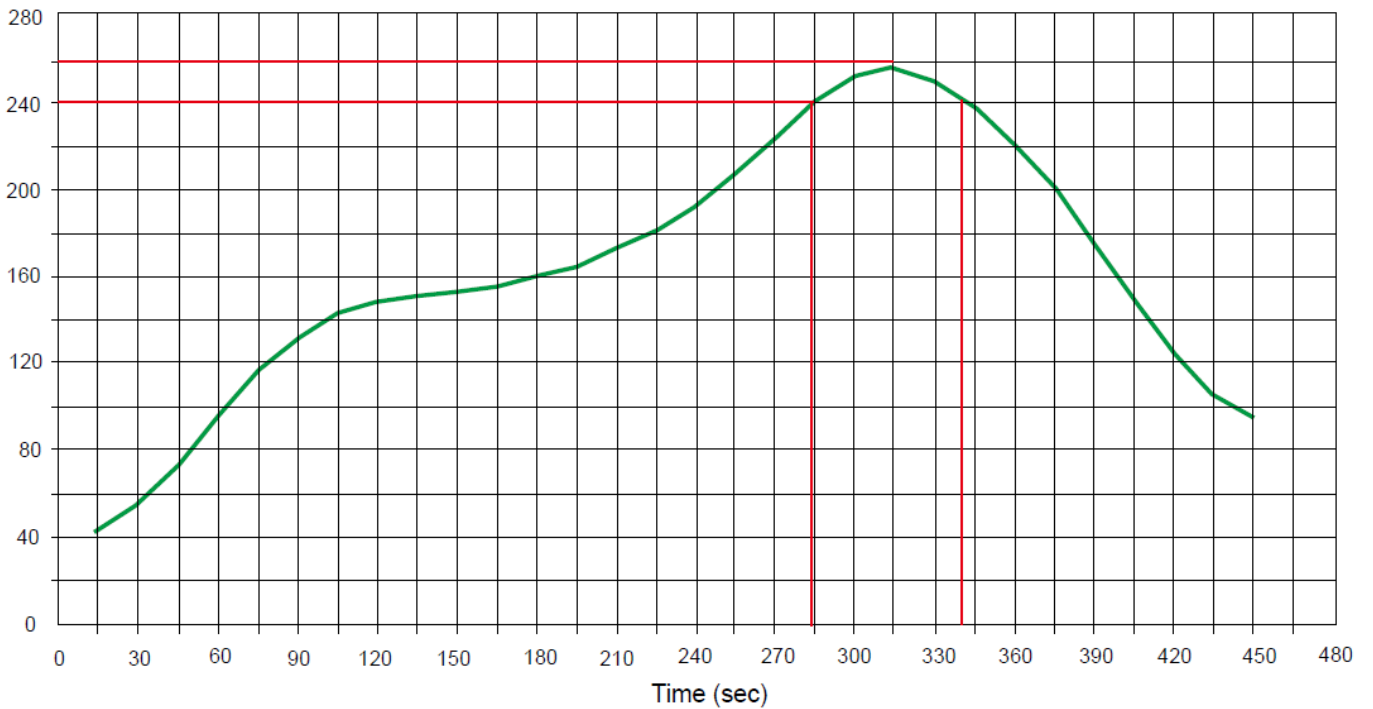
# SSCT24V12D1



Non-Repetitive Peak Pulse Power vs. Pulse Time

- **Solder Reflow Recommendation**

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





# SSCT24V12D1

- Package Information

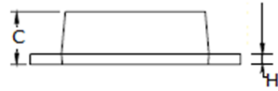
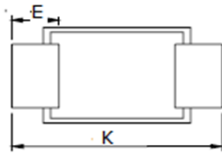
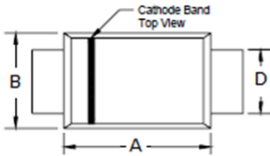
### Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT24V12D1	SOD-123	3000	7 Inch

### Mechanical Data

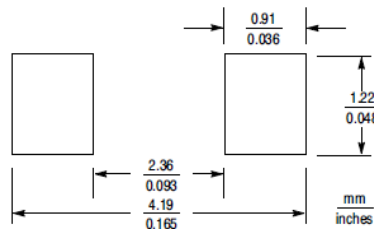
Case:SOD-123F

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	2.50	2.90
B	1.50	1.90
C	0.095	1.20
D	0.70	1.20
E	0.35	0.85
H	0	0.1
K	3.40	3.90

### Recommended Pad outline





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