



SSCT24V12D1

SSCT24V12D1 Series

Small Surface Mount TVS Diode for ESD Protection

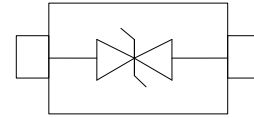
● Description

The SSCT24V12D1 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 30kV ESD pulses using the IEC 61000-4-2 air discharge method, which can meet the requirement of level 4.

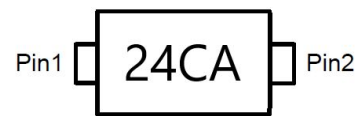
● Feature

- ◇ 6000W peak pulse power ($t_P = 8/20\mu s$)
- ◇ SOD-123 Package
- ◇ Working voltage: 24V
- ◇ Low clamping voltage
- ◇ Low capacitance
- ◇ Complies with following standards:
 - IEC61000-4-2(ESD) $\pm 30kV$ (contact), $\pm 30kV$ (air)
 - IEC61000-4-4(EFT) 90A(5/50ns)
 - IEC61000-4-5(Lightning) 250A(8/20 μs)
- ◇ RoHS Compliant

● PIN configuration



Top view



Marking

● 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

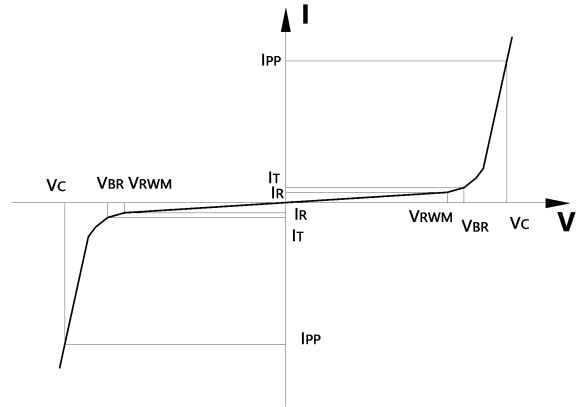
● Mechanical data

- ◇ 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 μm



● 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
V_{ESD}	ESD Rating per IEC61000-4-2:Contact Air	± 30 ± 30	KV
P_{PPP}	Peak Pulse Power (8/20 μ s)	6000	W
I_{PP}	Peak Pulse Current (8/20 μ s)	250	A
T_{STG}	Storage Temperature	-55/+150	°C
T_J	Operating Temperature	-55/+125	°C

● Electrical Characteristics @TA=25°C

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}	Any I/O to Ground			24	V
Breakdown Voltage	V_{BR}	$I_t = 1\text{mA}$ Any I/O to Ground	26.5		30	V
Reverse Leakage Current	I_R	$V_{RWM} = 24\text{V}$,			1	μA
Clamping Voltage	V_C	$I_{PP} = 250\text{A}$, $t_P = 8/20\mu\text{s}$		30	34	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, any I/O pin to Ground		300		pF



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● Typical Performance Characteristics

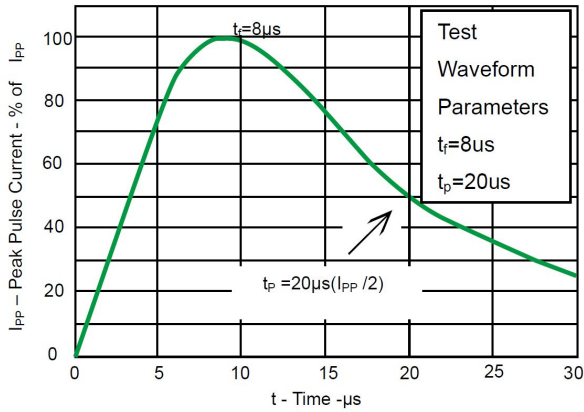


Fig 1. Pulse Waveform

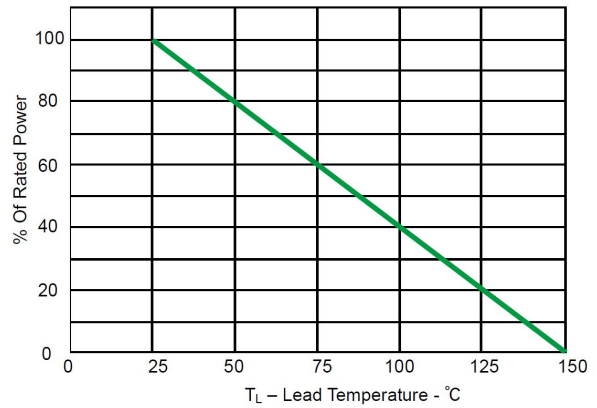
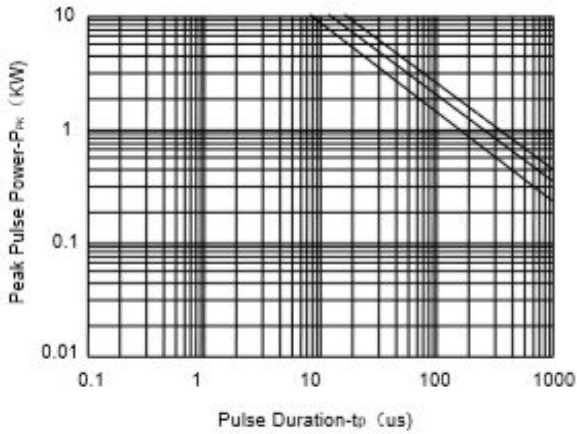


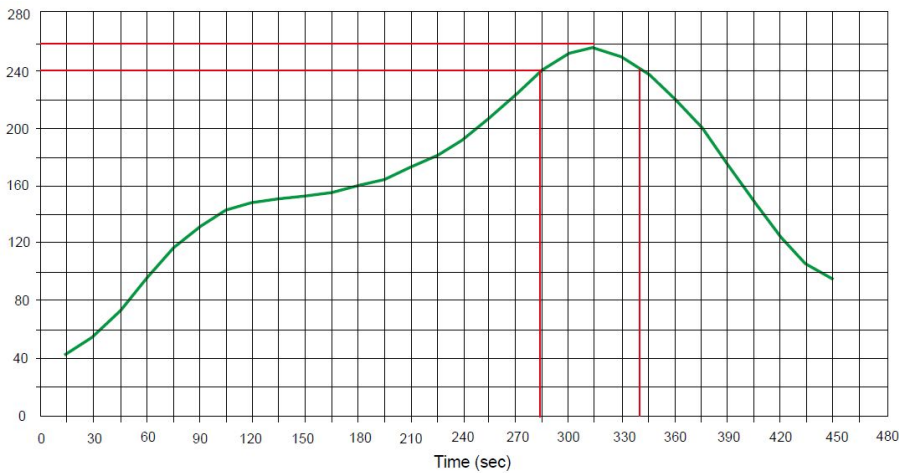
Fig 2. Power Derating Curve



Non-Repetitive Peak Pulse Power vs. Pulse Time

● Solder Reflow Recommendation

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





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- **Package Information**

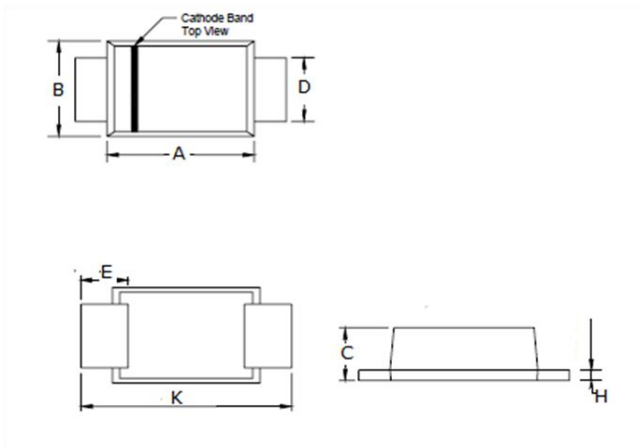
Ordering Information

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

Mechanical Data

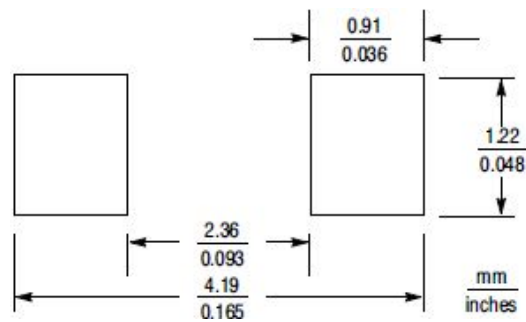
Case:SOD-123FL

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	2.50	2.90
B	1.50	1.90
C	0.095	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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