



## SSCT28V12D1

1-Line Bi-directional TVS Diode

### ● Description

TVS diodes can be used in a wide range of applications which like consumer electronic products, automotive industries, munitions, telecommunications, aerospace industries, and intelligent control systems.

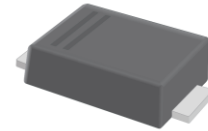
### ● Features

- ◇ 9600W peak pulse power ( $T_p = 8/20\mu s$ )
- ◇ Working voltage: 28V
- ◇ Glass passivated or planar junction
- ◇ Excellent clamping capability
- ◇ Repetition rate (duty cycle): 0.01%
- ◇ Low profile package and low inductance
- ◇ Fast response time: typically less than 1.0ps from 0V to VBR min.
- ◇ High temperature soldering: 260°C/10s at terminals.
- ◇ For surface mounted applications in order to optimize.

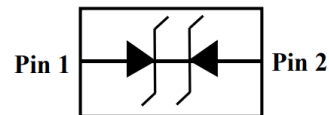
### ● Applications

- ◇ computer system
- ◇ domestic appliance
- ◇ video input
- ◇ Digital TV and Set-top Boxes

### ● PIN configuration



**SMF/SOD-123FL**



**Circuit Diagram**



**Marking (Top View)**

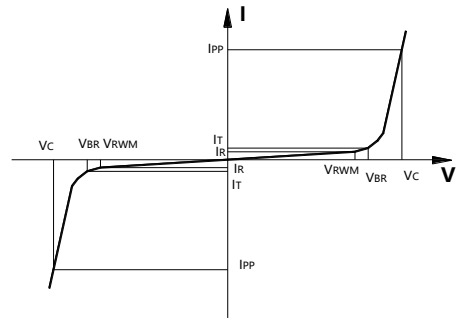
### ● Mechanical Characteristics

- ◇ Package: SMF/SOD-123FL
- ◇ Case Material: "Green" Molding Compound.
- ◇ UL Flammability Classification Rating 94V-0
- ◇ Moisture Sensitivity: Meet MSL 1
- ◇ Polarity: Color band denotes cathode except bi-directional models
- ◇ Weight: 0.017g(approximate)



## ● 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 @ $T_A=25^{\circ}C$

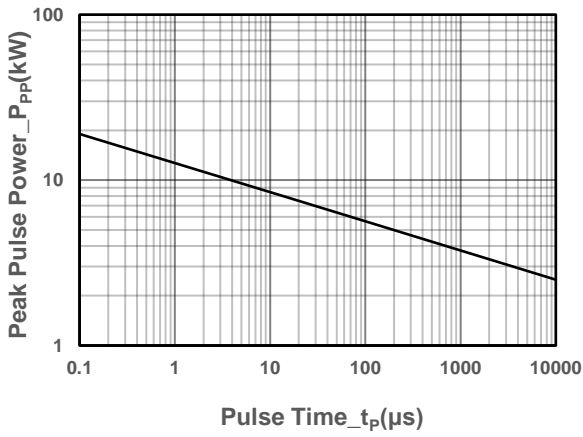
Parameter	Symbol	Value	Units
Peak Pulse Power (8/20 $\mu$ s)	$P_{PP}$	9600	W
Peak Pulse Current (8/20 $\mu$ s)	$I_{PP}$	200	A
ESD Rating per IEC61000-4-2:	$V_{ESD}$	$\pm 30$	kV
Contact Air		$\pm 30$	
Storage Temperature	$T_{STG}$	-55/+150	$^{\circ}C$
Operating Temperature	$T_J$	-55/+150	$^{\circ}C$

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

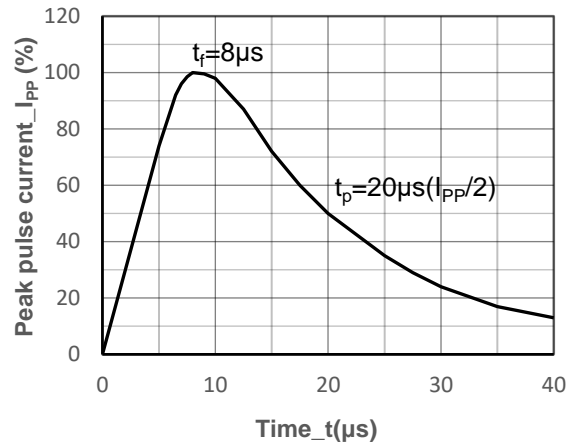
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	$V_{RWM}$				28	V
Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	31.1		34.4	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 28V$			1	$\mu A$
Clamping Voltage	$V_C$	$I_{PP} = 200A, t_P = 8/20\mu s$			48	V



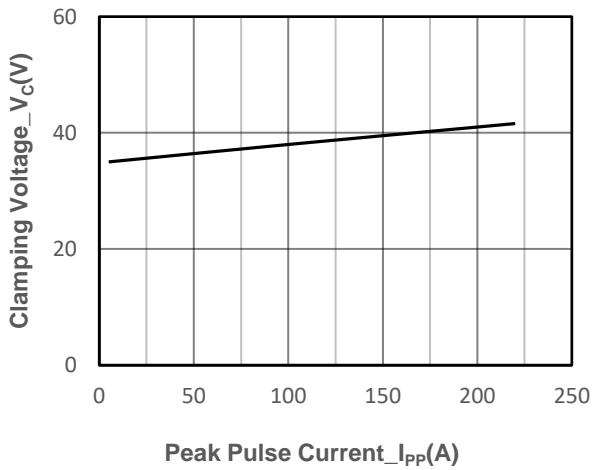
● Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



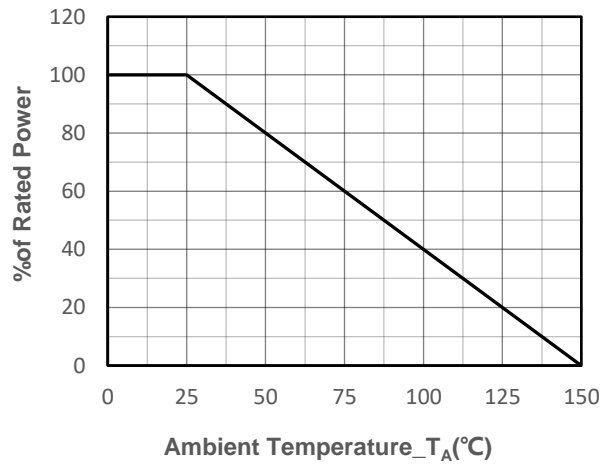
Peak Pulse Power vs. Pulse Time



8/20  $\mu\text{s}$  Pulse Waveform



Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



## ● Package Information

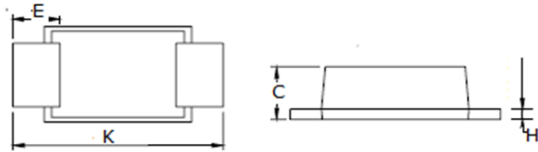
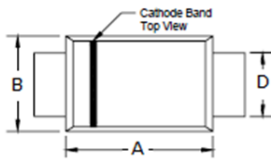
### Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT28V12D1	SMF/SOD-123FL	3000	7 Inch

### Mechanical Data

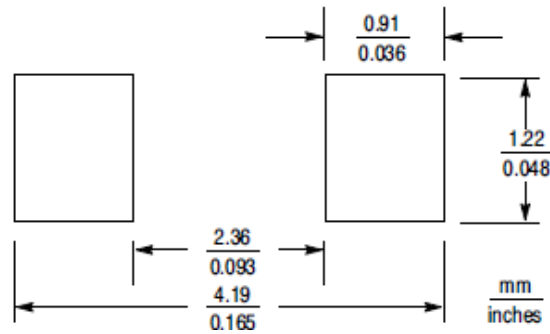
Case: SMF/SOD-123FL

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 (Unit: mm)





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