

SSCTXXV11D2

Mount TVS Diode for ESD Protection

● Description

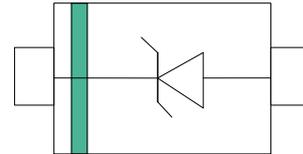
The SSCTXXV11D2 Series is designed with Panjing technology to protect voltage sensitive components from Surge. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to surge.

It has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

● Feature

- ✧ Peak Power Dissipation – 1800W (8 x 20 us Waveform)
- ✧ Stand-off Voltage:5、 7、 12、 15 V
- ✧ Protects I/O Port
- ✧ Low Clamping Voltage
- ✧ Low Leakage
- ✧ Response Time is < 1 ns
- ✧ Meets MSL 1 Requirements
- ✧ Solid-state silicon avalanche technology
- ✧ ESD Rating of above 16 kV per Human Body Model
- ✧ Lead Orientation in Tape: Cathode Lead to Sprocket Holes
- ✧ ROHS compliant
- ✧ Panjing technology

● PIN configuration



● Applications

- ✧ Power Line
- ✧ Serial and Parallel Ports
- ✧ Notebooks, Desktops, Servers
- ✧ Projection TV
- ✧ Cellular handsets and accessories
- ✧ Portable instrumentation
- ✧ Peripherals

● Mechanical data

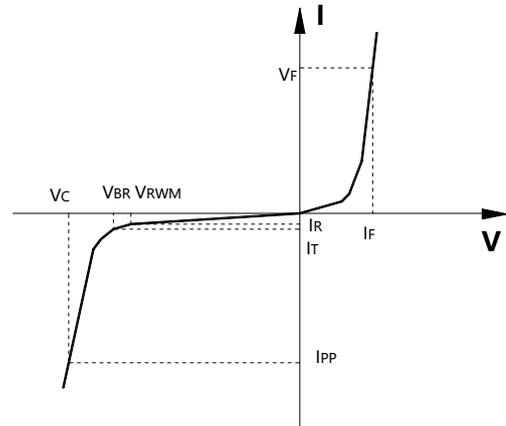
- ✧ Lead finish:100% matte Sn(Tin)
- ✧ Mounting position: Any
- ✧ Qualified max reflow temperature:260°C
- ✧ Device meets MSL 1 requirements
- ✧ Pure tin plating: 7 ~ 17 um
- ✧ Pin flatness:≤3mil

● Protection solution to meet

- ✧ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)

● Electronic Parameter

Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
V_{BR}	Breakdown Voltage @ I_T
V_C	Clamping Voltage @ I_{PP}
I_T	Test Current
I_{RM}	Leakage current at V_{RWM}
I_{PP}	Peak pulse current
C_O	Off-state Capacitance
C_J	Junction Capacitance



● Absolute maximum rating @TA=25°C

Symbol	Parameter	Value	Units
P_{PPP}	Peak Pulse Power (tp=8/20μs waveform)	1800	Watts
	ESD Rating per IEC61000-4-2:		
	Contact	30	KV
	Air	30	
T_L	Lead Soldering Temperature	260 (10 sec.)	°C
T_J	Operating Temperature Range	-55 ~ 150	°C
T_{STG}	Storage Temperature Range	-55 ~ 150	°C
T_L	Lead Solder Temperature – Maximum (10 Second Duration)	260	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

*Other voltages may be available upon request.

1. Non-repetitive current pulse, per Figure 1.

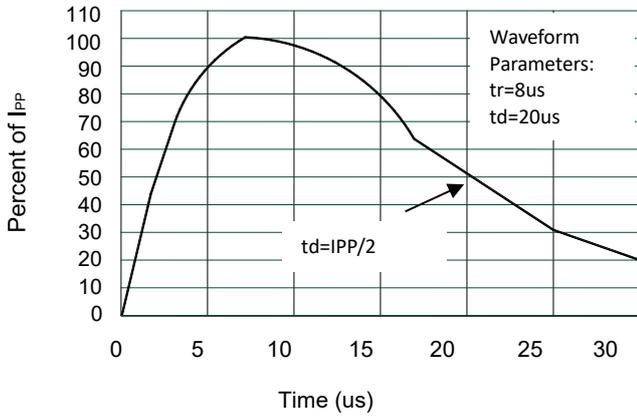
● Electrical Characteristics @TA=25°C

Device*	Mark	V_{RWM}	$V_{BR} @ I_T$ (V)		I_T	$I_R @ V_{RWM}$	$V_C @ I_{PP}$	$I_{PP}(\text{Max})$	Capacitance (Typ) (nF)	
		(V)	Min	Max	(mA)	(uA)	(V)	(A)	Typ	Max
SSCT5V011D2	5H	5	6	7.8	1	1	15V@100A	130	1.1	1.5
SSCT7V011D2	7H	7	7.8	9.7	1	1	17V@100A	130	0.8	1.1
SSCT12V11D2	12H	12	13	17	1	1	30V@70A	80	0.4	0.6
SSCT15V11D2	15H	15	16.7	19.6	1	1	30V@50A	65	0.4	0.55

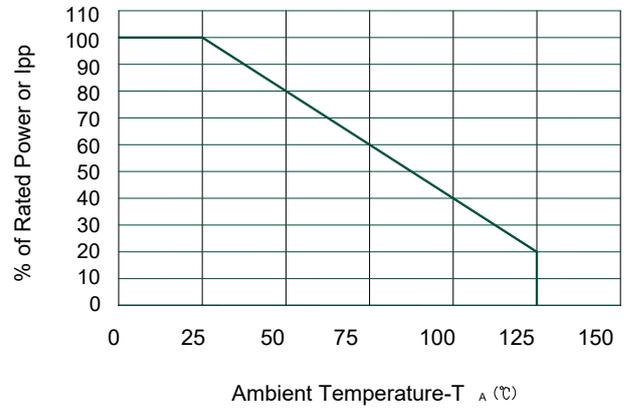


SSCTXV11D2

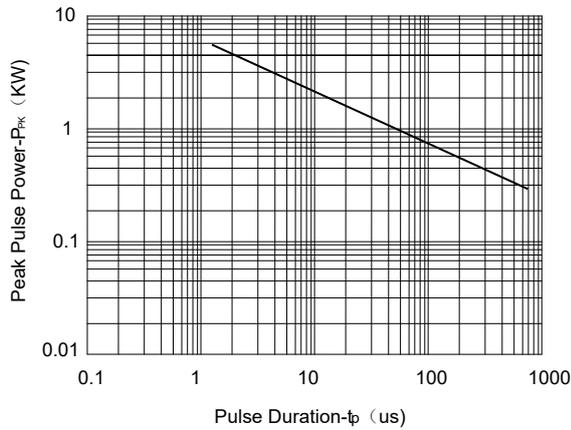
- Typical Performance Characteristics



Pulse Waveform



Power Derating Curve



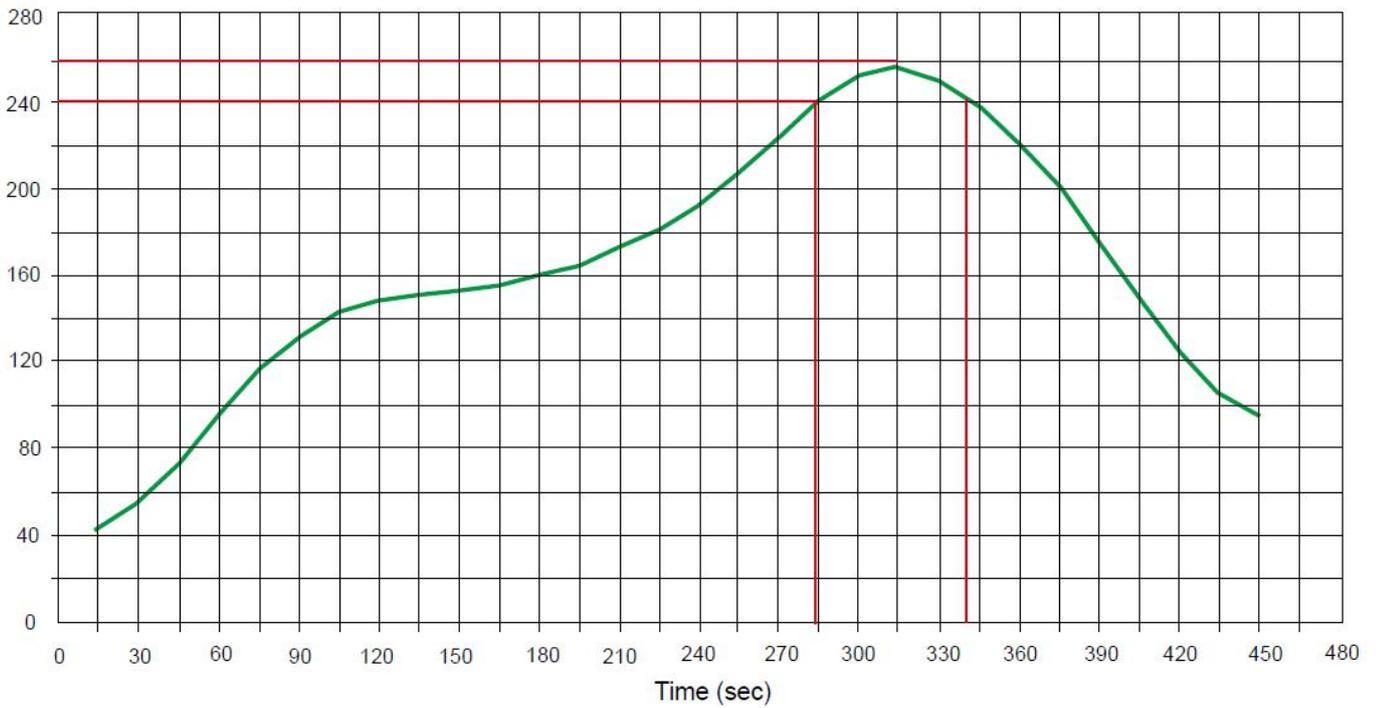
Non-Repetitive Peak Pulse Power vs. Pulse Time



SSCTXXV11D2

- Solder Reflow Recommendation

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



- **Package Information**

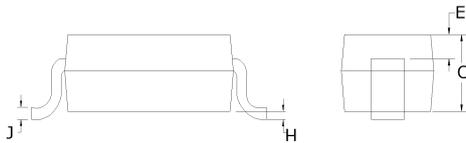
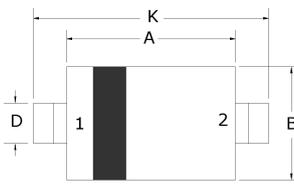
Ordering Information

Device	Qty per Reel	Reel Size
SSCTXXV11D2	3000	7 Inch

Mechanical Data

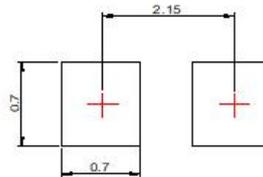
Case:SOD-323

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	1.6	1.8
B	1.2	1.4
C	0.8	0.9
D	0.25	0.35
E	0.15REF	
H	0	0.10
J	0.08	0.15
K	2.50	2.70

Recommended Pad outline





SSCTXXV11D2

DISCLAIMER

AFSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. AFSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G., OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.