SSCE5V032D3

Low-Capacitance Bidirectional Micro Packaged TVS Diodes for ESD Protection

Description

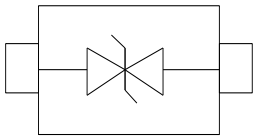
The SSCE5V032D3 is designed with Panjing Punch-Through process TVS technology to protect voltage sensitive components from ESD. Excellent clamping capability,low leakage,and fast response time provide best in class protection on designs that are exposed to ESD.Because of its small size,it is suited for use in cellular phones,MP3 players,digital cameras and many other portable applications where board space comes at a premium.Also because of its low capacitance,it is suited for use in high frequency designs such as USB 2.0 high speed,VGA,DVI,SDI and other high speed line applications.

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−60 W(8 x 20 us Waveform)
- Stand-off Voltage:5.0 V
- Replacement for MLV(0603)
- Protects I/O Port
- Low Clamping Voltage
- Low Leakage
- Low Capacitance
- Low capacitance(<6.0pF)for high-speed interfaces
- No insertion loss to 1.0GHz
- R insertion loss to 1.0GHz
- Meets MSL 1 Requirements
- ROHS compliant
- Solid-state Punch-Through TVS Process technology

PIN configuration



Applications

- High Speed Line:USB1.0/2.0,VGA,DVI,SDI,
- Serial and Parallel Ports
- Notebooks,Desktops,Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Machanical data

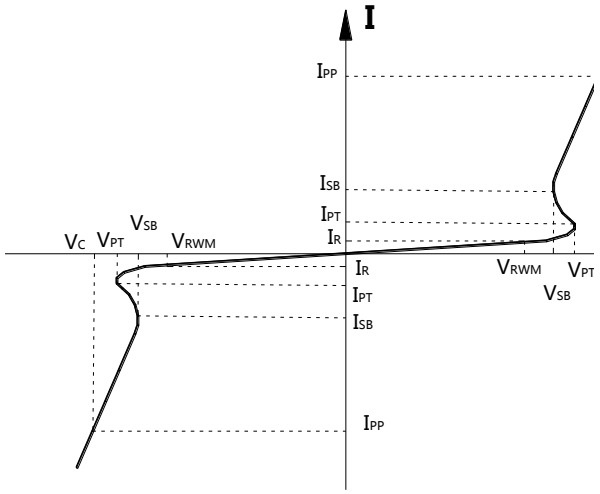
- Lead finish:100%matte Sn(Tin)
- Mounting position:Any
- Qualified max reflow temperature:260℃
- Device meets MSL 1 requirements
- Pure tin plating:7~17 um
- Pin flatness:≤3mil

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_{PT}	Punch-Through Voltage@ I_{PT}
V_{SB}	Snap-Back Voltage@ I_{SB}
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℃

Symbol	Parameter	Value	Units
P_{PPP}	Peak Pulse Power(tp=8/20μs waveform)	60	Watts
	ESD Rating per IEC61000-4-2：Contact Air	8 15	KV
T_L	Lead Soldering Temperature	260(10 sec.)	℃
T_J	Operating Temperature Range	-55~150	℃
T_{STG}	Storage Temperature Range	-55~150	℃
T_L	Lead Solder Temperature−Maximum(10 Second Duration)	260	℃

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.*

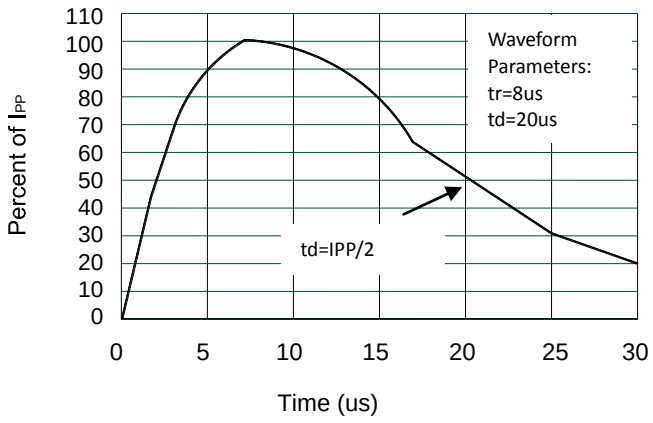
1. Non-repetitive current pulse, per Figure 1.

Electrical Characteristics@TA=25℃

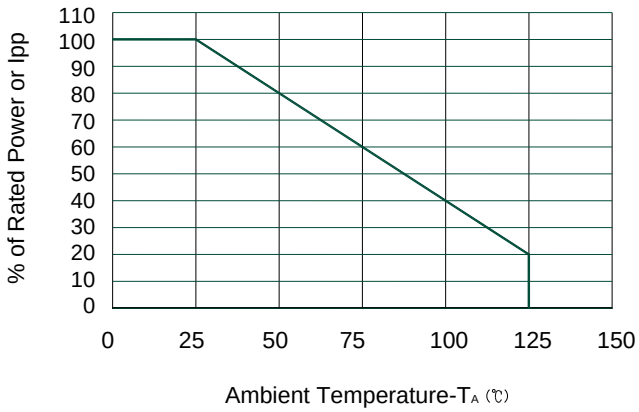
Device	V_{RWM}	I_R@V_{RWM}		V_{SB}@50 mA	V_C	Capacitance
	(uA)			(Volts)	@1 A	@V_R=2 V,1 MHz(pF)
	(V)	Typ	Max	Min	(V)	Typ
SSCE5V032D3	5.0	0.05	1	5.2	9.0	3

Junction capacitance is measured in VR=0V,F=1MHz

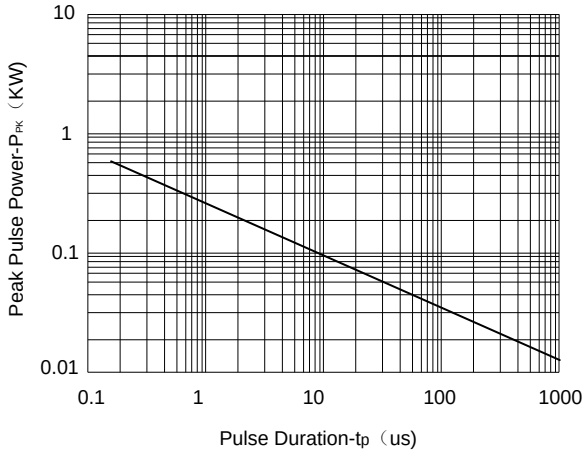
- **Typical Performance Characteristics**



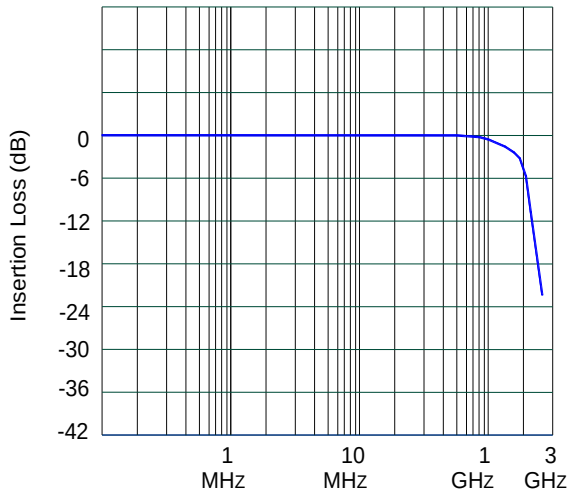
Pulse Waveform



Power Derating Curve

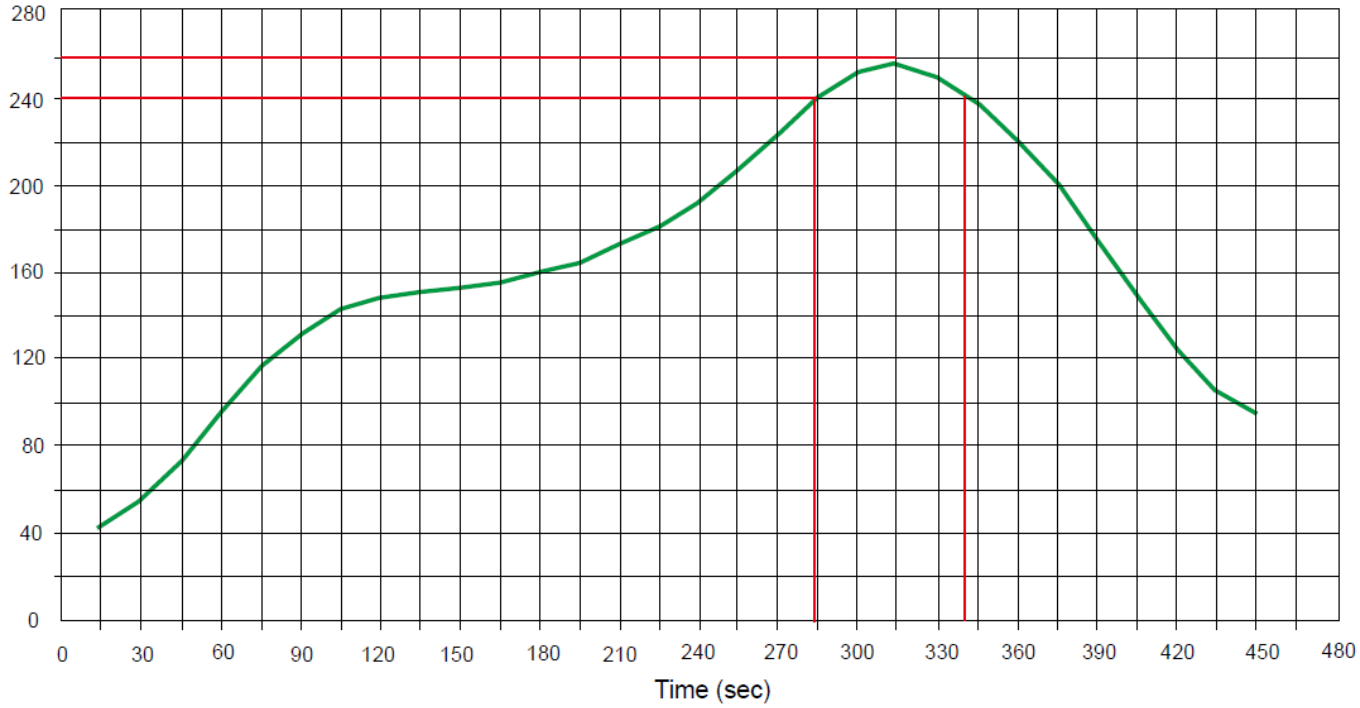


Non-Repetitive Peak Pulse Power vs. Pulse Time



- **Solder Reflow Recommendation**

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



- **Package Information**

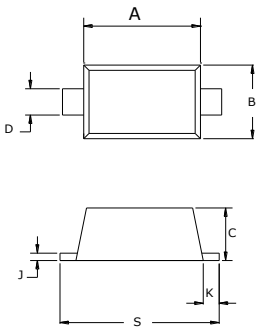
Ordering Information

Device	Package	Qty per Reel	Reel Size	Marking
SSCE5V032D3	SOD-523	3000	7 Inch	LB

Mechanical Data

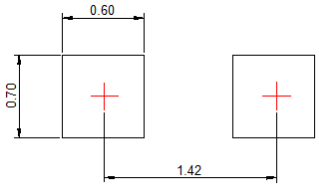
Case:SOD-523

Case Material:Molded Plastic.UL Flammability



DIM	Millimeters	
	Min	Max
A	1.10	1.30
B	0.75	0.85
C	0.51	0.70
D	0.25	0.35
J	0.08	0.15
K	0.15	0.25
S	1.50	1.70

Recommended Pad outline



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