



SSCE5V021SB

The SSCE5V021SB provides a typical line to line capacitance of 0.85pF and low insertion loss up to 3GHz providing greater signal integrity making it ideally suited for USB 2.0 applications, such as Digital TVs, DVD players, Computing, set-top boxes and MDDI applications in mobile computing devices.

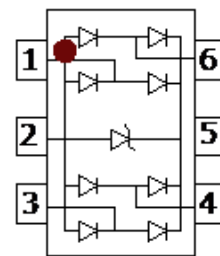
This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and EFT (electrical fast transients).

Features

- Protects four I/O lines
- Low capacitance
- Working voltages : 5V
- Low leakage current
- Low capacitance for high-speed interfaces
- No insertion loss to 3.0GHz
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- Solid-state silicon avalanche technology
- ROHS compliant

Main applications

- Digital Visual Interface (DVI)
- 10/100/1000 Ethernet
- USB 1.1/2.0/3.0/3.1/OTG
- IEEE 1394 Firewire Ports
- Projection TV Monitors and Flat Panel Displays
- Notebook Computers
- Set Top Box
- Projection TV



SOT-23-6L

Protection solution to meet

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5(Surge)25A(8/20us)

Ordering Information

Device	Qty per Reel	Reel Size
SSCE5V021SB	3000	7 Inch



SSCE5V021SB

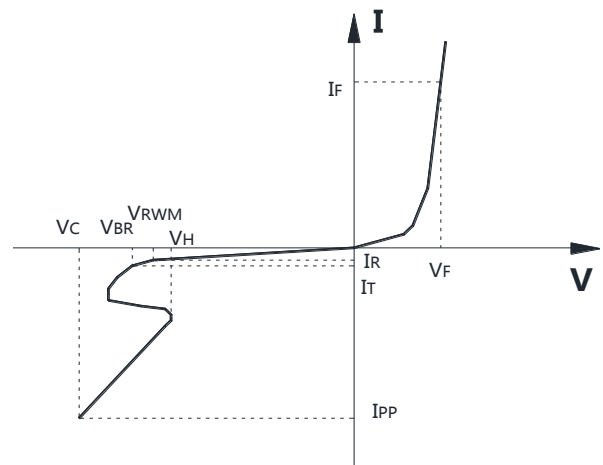
Maximum ratings (Temp=25°C Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20µs waveform)	P _{PPP}	300	Watts
Peak Pulse Current (tp=8/20µs waveform)	I _{PP}	25	A
ESD Rating per IEC61000-4-2:	Contact	30	KV
	Air	30	
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

Electrical characteristics (Temp=25°C Unless Otherwise Specified)

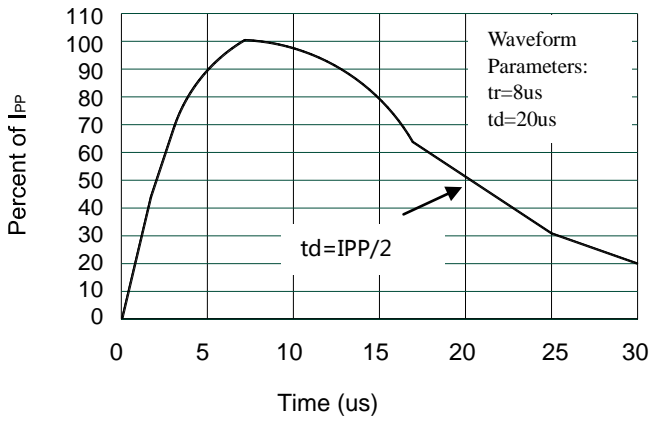
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V _{RWM}	Reverse Working Voltage	Any I/O to Ground			5	V
V _{BR}	Reverse Breakdown Voltage	I _T = 0.1mA, Any I/O to Ground	6.0			V
I _R	Reverse Leakage Current	V _{RWM} = 5V, Any I/O to Ground			0.1	µA
V _H	Holding Voltage			1.5		V
V _F	Diode Forward Voltage	I _F = 15mA		0.85	1.25	V
V _C	Clamping Voltage	I _{PP} = 1A, tp =8/20µs, any I/O pin to Ground			10	V
		I _{PP} = 25A, tp =8/20µs, any I/O pin to Ground		9.8	14.0	V
C _J	Junction Capacitance	V _R = 3.3V, f = 1MHz, between I/O pins		0.85	1.0	pF
		V _R = 0V, f = 1MHz, any I/O pin to Ground		2.36	3.5	pF

Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
V _H	Holding Voltage
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance

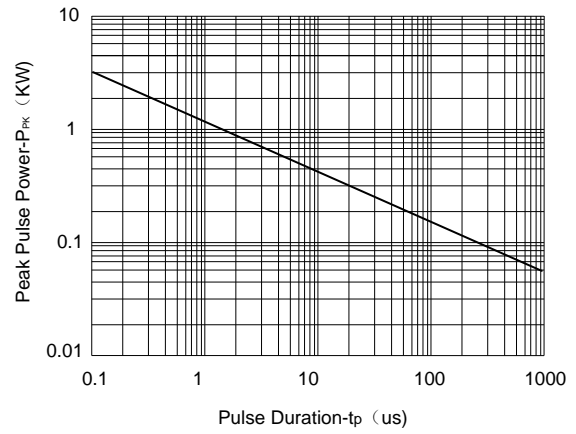




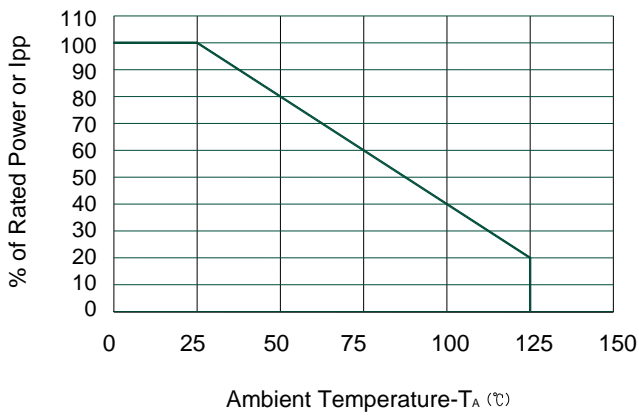
Typical electrical characterist applications



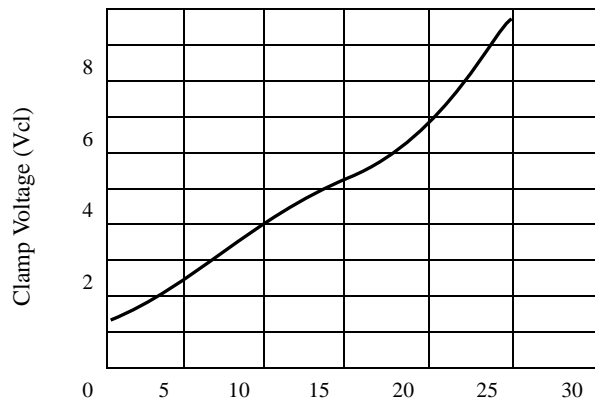
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



Clamping Voltage Vs Peak Pulse Current(I_{pp})

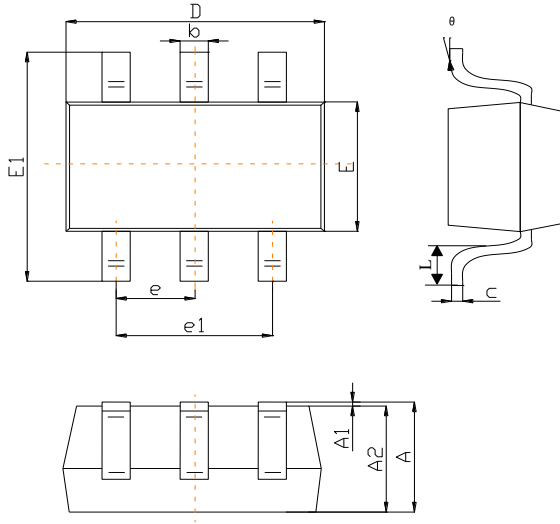


Package Information

SOT23-6L

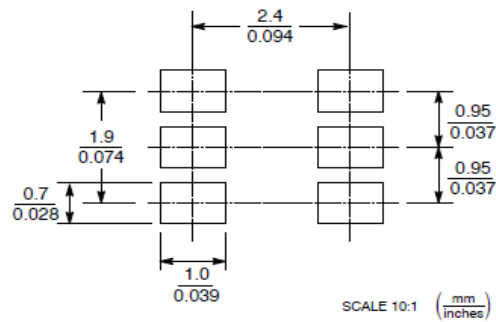
Mechanical Data

- Case: SOT23-6L
- Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.300	0.500
c	0.100	0.200
D	2.820	3.020
E	1.500	1.700
E1	2.650	2.950
e	0.950(BSC)	
e1	1.800	2.000
L	0.300	0.600
θ	0	8°

Recommended Pad outline





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.