

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

The SSESD05C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. 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 is at a premium.

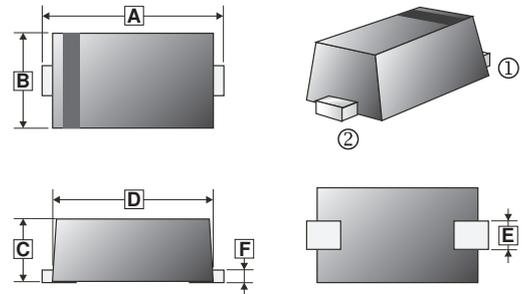
APPLICATIONS

- Cellular Phones / Audio
- Portable Devices
- Digital Cameras
- Power Supplies

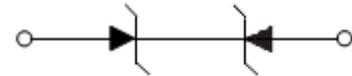
FEATURES

- Small Body Outline Dimensions
- Low Body Height
- Peak Power Up to 60 Watts @8x20µs pulse
- Low Leakage Current
- Response Time is Typically <1ns
- ESD Rating of Class 3 per Human Body Model
- IEC61000-4-2 Level 4 ESD Protection
- IEC61000-4-4 Level 4 EFT Protection

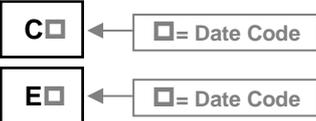
SOD-923



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.95	1.05	D	0.75	0.85
B	0.55	0.65	E	0.15	0.25
C	0.34	0.43	F	0.07	0.17



MARKING



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-923	8K	7 inch

ORDER INFORMATION

Part Number	Type
SSESD05C	Lead (Pb)-free
SSESD05C-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Rating		Symbol	Value	Units
IEC61000-4-2 (ESD)	Air Discharge	V _{ESD}	±15	KV
	Contact Discharge		±8	
Peak Pulse Power @tp= 8/20µs		P _{PP}	60	W
Maximum Lead Temperature for Soldering During 10s		T _L	260	°C
Operating Temperature Range		T _{OP}	-40~125	
Junction & Storage Temperature Range		T _J , T _{STG}	150, -55~155	

ELECTRICAL CHARACTERISTICS (Ratings at 25°C ambient temperature unless otherwise specified.)

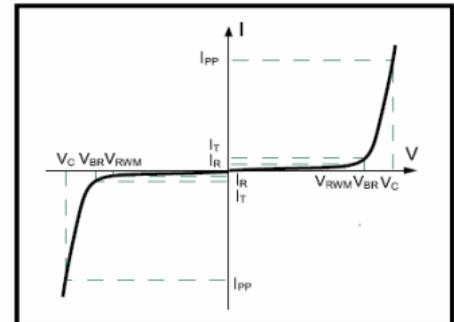
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Stand-off Voltage	V_{RWM}	-	-	5	V	
Breakdown Voltage ²	$V_{(BR)}$	5.6	-	-	V	$I_T=1mA$
Reverse Leakage Current	I_R	-	-	0.5	μA	$V_{RWM}=5V$
		-	-	0.3		$V_R=3.5V$
Clamping Voltage @ $t_p=8/20\mu s$	V_C	-	-	16	V	$I_{PP}=4A$
Junction Capacitance	C_J	-	15	-	pF	$V_R=0V, f=1MHz$

Notes:

- Surge current waveform per Figure. 1.
- V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C.

ELECTRICAL PARAMETER

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



V-I characteristics for a Bi-directional TVS

APPLICATION NOTE

Electrostatic discharge (ESD) is a major cause of failure in electronic systems. Transient Voltage Suppressors (TVS) are an ideal choice for ESD protection. They are capable of clamping the incoming transient to a low enough level such that damage to the protected semiconductor is prevented.

Surface mount TVS offers the best choice for minimal lead inductance. They serve as parallel protection elements, connected between the signal lines to ground. As the transient rises above the operating voltage of the device, the TVS becomes a low impedance path diverting the transient current to ground. The SSESD05C is the ideal board-level protection of ESD sensitive semiconductor components.

The tiny SOD-923 package allows design flexibility in the design of high density boards where the space saving is at a premium. This enables to shorten the routing and contributes to hardening against ESD.

RATINGS AND CHARACTERISTICS CURVES

Fig1. Pulse Waveform

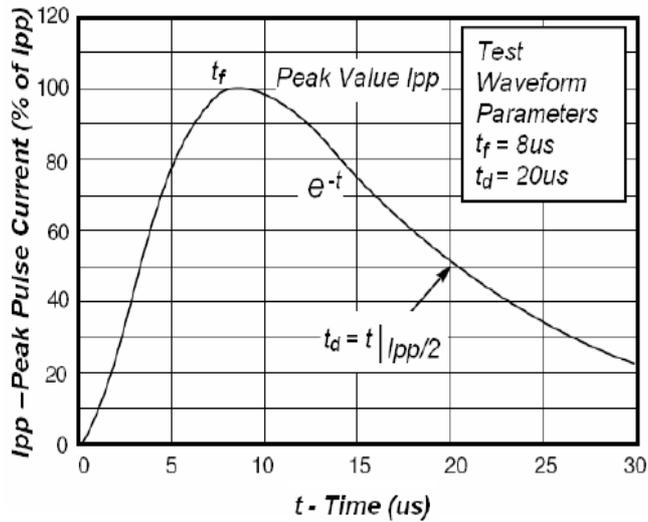


Fig2. Power Derating Curve

