

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

DESCRIPTION

SBESD0801C-C is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for data, control or power lines.

DFN1006

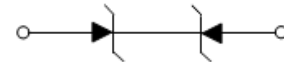


FEATURES

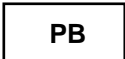
- Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (Air) $\pm 30\text{kV}$ (Contact)
IEC 61000-4-4 (EFT) 40A (5/50 ns)
Cable Discharge Event (CDE)
- Protects one data, control or power line
- Low capacitance
- Low leakage current
- Low clamping voltage
- Each I/O pin can withstand over 1000 ESD strikes for $\pm 8\text{kV}$ contact discharge

APPLICATIONS

- Portable Electronics
- Desktops, Servers and Notebooks
- Cellular Phones
- MP3 Ports
- Digital Ports
- Subscriber Identity Module (SIM) card



MARKING



PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN1006	10K	7 inch

ORDER INFORMATION

Part Number	Type
SBESD0801C-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
IEC 61000-4-2	Air	± 30	kV
	Contact	± 30	
Peak Pulse Power (8/20 μ s)	P _{PP}	60	W
Peak Pulse Current (8/20 μ s)	I _{PP}	5	A
Operating Temperature Range	T _J	-55~125	°C
Storage Temperature Range	T _{STG}	-55~150	°C

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted.)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Stand-Off Voltage	V_{RWM}	-	-	5	V	
Reverse Breakdown Voltage	V_{BR}	5.6	-	-	V	$I_T=1\text{mA}$
Reverse Leakage Current	I_R	-	-	1	μA	$V_{RWM}=5\text{V}$
Clamping Voltage @ $t_p=8/20\mu\text{s}$	V_C	-	-	9.5	V	$I_{PP}=1\text{A}$
		-	-	12		$I_{PP}=5\text{A}$
TLP Clamping Voltage IEC61000-4-2 Level 4 equivalent ($\pm 8\text{kV}$ Contact, $\pm 15\text{kV}$ Air)	V_{CTLP}	-	9.5	-	V	$I_{PP}=16\text{A}$
Junction Capacitance	C_J	-	15	-	pF	$V_R=0, f=1\text{MHz}$

CHARACTERISTICS CURVES

Fig 1 8/20 μs Waveform per IEC61000-4-5

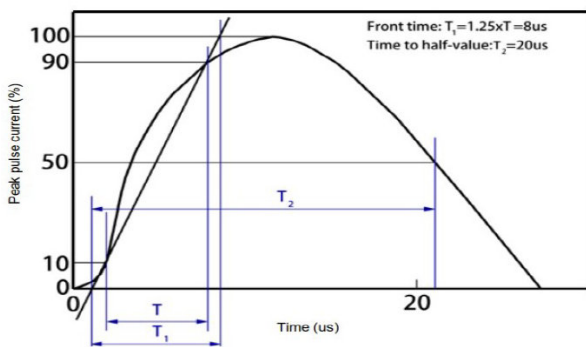


Fig 3 Power Derating Curve

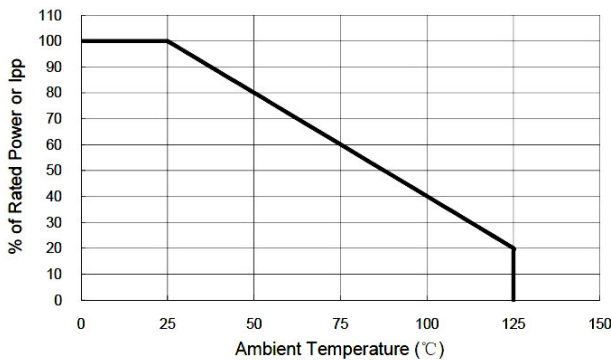


Fig 5 Transmission Line Pulsing (TLP) Measurement

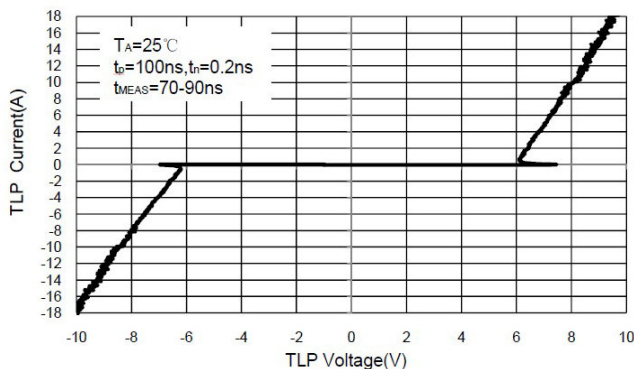


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

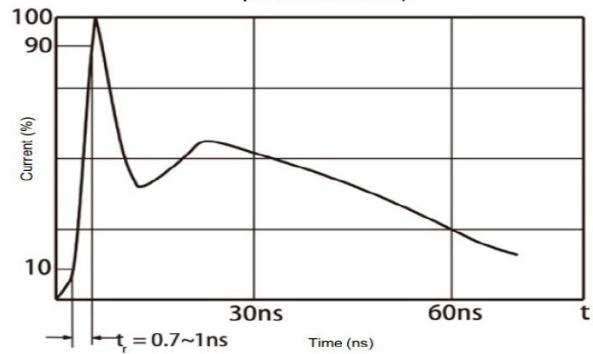


Fig 4 Voltage vs Capacitance

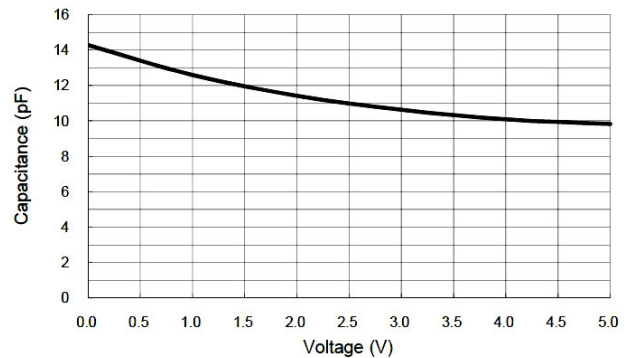
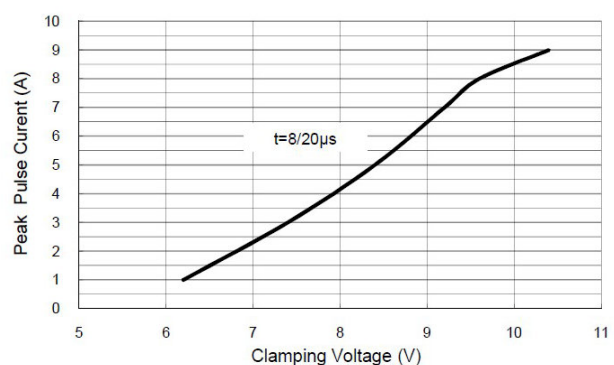
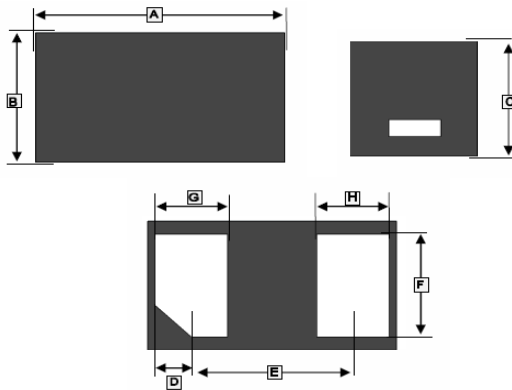


Fig 6 Clamping Voltage vs Peak Pulse Current



PACKAGE OUTLINE DIMENSIONS

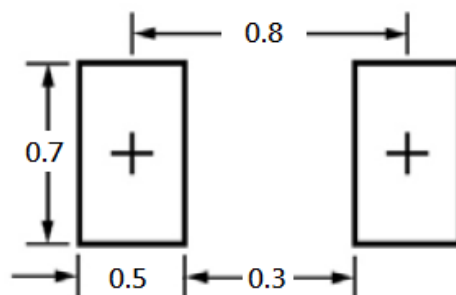
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REF.	Millimeter	
	Min.	Max.
A	0.90	1.10
B	0.48	0.70
C	0.32	0.55
D	0.10 TYP.	
E	0.65 BSC.	
F	0.20	0.60
G	0.15	0.55
H	0.15	0.55

MOUNTING PAD LAYOUT

DFN1006



*Dimensions in millimeters