

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

DESCRIPTION

SBESD3V3C-C is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for data, control or power lines. With typical capacitance of 13pF, it is designed to protect parasitic sensitive systems against over voltage and over current transient events. It complies with IEC 61000-4-2 (ESD) Level 4, IEC 61000-4-4 (EFT), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc.

It uses ultra-small DFN1006 package. Each device can protect one data line. It offers system designers flexibility to protect single data line where space is a premium concern.

FEATURES

- Transient Protection for High-Speed Data Lines
- IEC61000-4-2 Level 4 ESD Protection
- Low Capacitance
- Low Clamping Voltage
- Low Leakage Current
- Flammability Rating: UL 94V-0

MARKING

F3

PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN1006	10K	7 inch

ORDER INFORMATION

Part Number	Type
SBESD3V3C-C	Lead (Pb)-free and Halogen-free

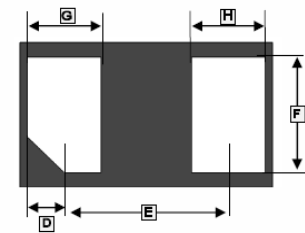
ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted.)

Parameter	Symbol	Ratings	Unit
IEC 61000-4-2 ESD Voltage	Air	±30	kV
	Contact	±30	
Peak Pulse Power	P _{PP}	84	W
Maximum Lead Solder Temperature (10 Second Duration)	T _L	260	°C
Operating Junction Temperature Range	T _J	-55~125	
Storage Temperature Range	T _{STG}	-55~150	

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted.)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Stand-off Voltage	V _{RWM}	-	-	3.3	V	
Breakdown Voltage	V _(BR)	3.6	-	-	V	I _T =1mA
Clamping Voltage	V _C	-	4.4	5.6	V	I _{PP} =1A, t _p =8/20μs
		-	7	12		I _{PP(MAX)} =7A, t _p =8/20μs
Reverse Leakage Current	I _R	-	-	0.5	μA	V _{RWM} =3.3V
Junction Capacitance	C _J	-	13	-	pF	V _R =0V, f=1MHz

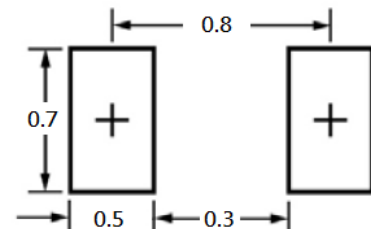
DFN1006



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.90	1.10	E	0.65 BSC.	
B	0.50	0.70	F	0.25	0.60
C	0.32	0.55	G	0.15	0.40
D	0.10 TYP.		H	0.15	0.40



Mounting Pad Layout



*Dimensions in millimeters

TYPICAL CHARACTERISTICS

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

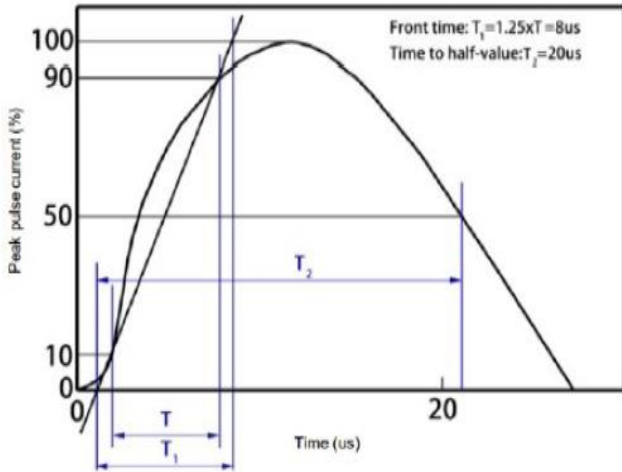


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

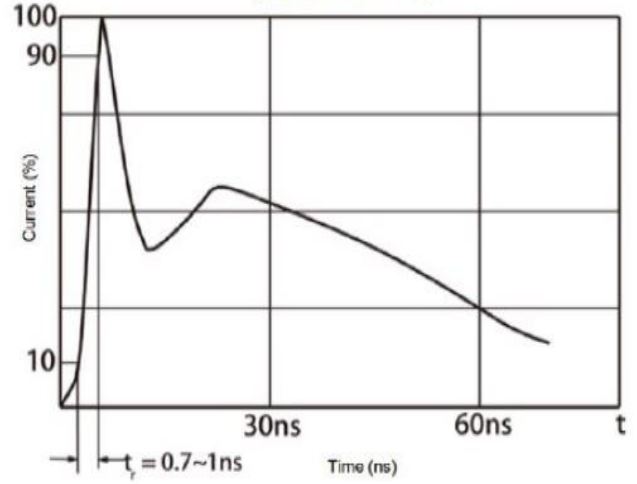


Fig 3 Power Derating Curve

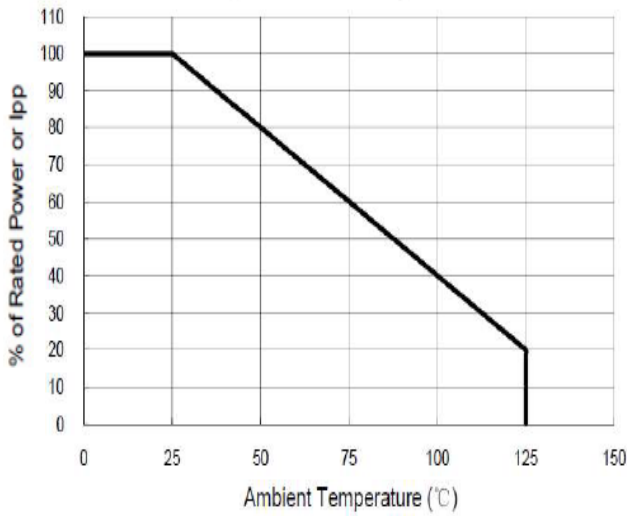


Fig 4 Voltage vs Capacitance

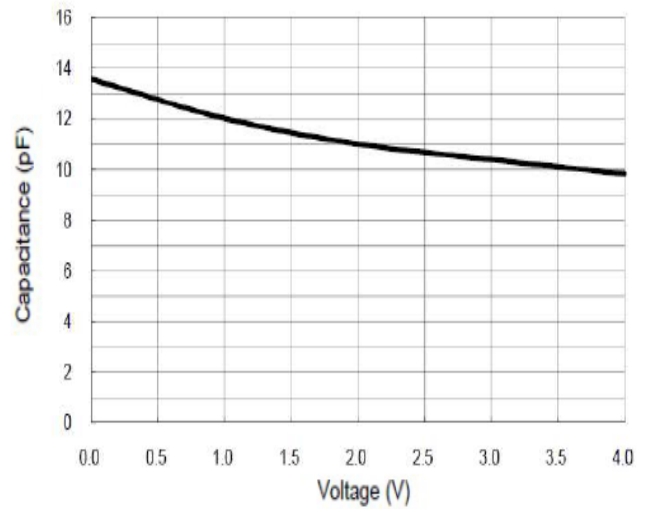


Fig 5 Transmission Line Pulsing (TLP) Measurement

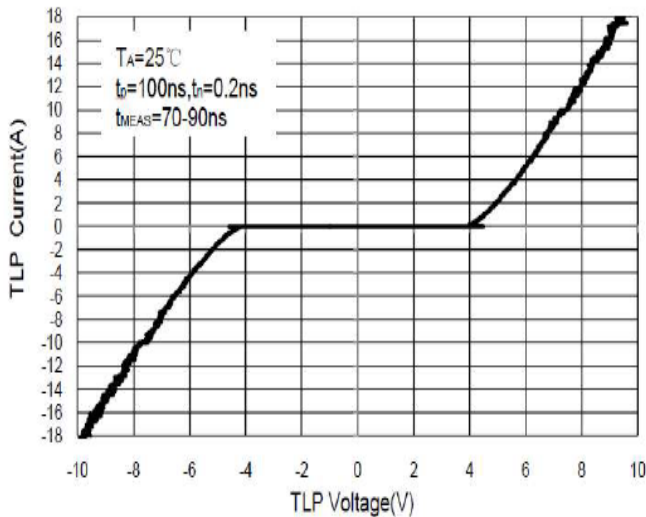


Fig 6 Clamping Voltage vs Peak Pulse Current

