

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

## DESCRIPTION

SBESDL03C-C is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for high-speed data interfaces. With typical capacitance of 0.25pF, 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 high-speed data line. It offers system designers flexibility to protect single data line where space is a premium concern. The combined features of low capacitance, ultra-small size and high ESD robustness make SBESDL03C-C ideal for high-speed data port and high-frequency line applications, such as cellular phones and HD visual devices.

## FEATURES

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

## MARKING

3BU

## PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN1006	10K	7 inch

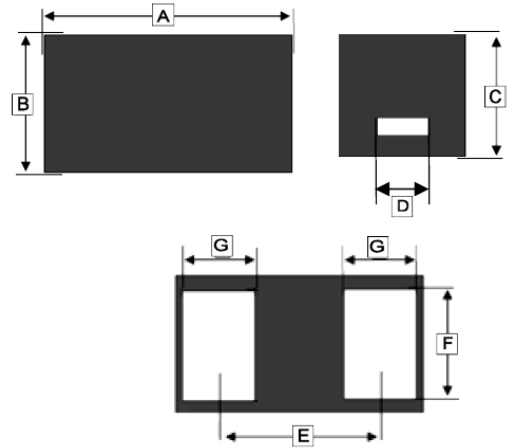
## ORDER INFORMATION

Part Number	Type
SBESDL03C-C	Lead (Pb)-free and Halogen-free

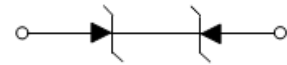
## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted.)

Parameter		Symbol	Ratings	Unit
IEC 61000-4-2 ESD Voltage	Air	V <sub>ESD</sub>	±20	kV
	Contact		±20	
Peak Pulse Power		P <sub>PP</sub>	100	W
Peak Pulse Current		I <sub>PP</sub>	4	A
Maximum Lead Solder Temperature (10 Second Duration)		T <sub>L</sub>	260	°C
Operating Junction Temperature Range		T <sub>J</sub>	-55~125	
Storage Temperature Range		T <sub>STG</sub>	-55~150	

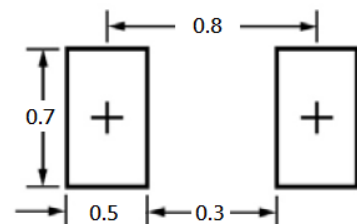
### DFN1006



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.95	1.075	E	0.64 BSC.	
B	0.55	0.675	F	0.45	0.55
C	0.40	0.55	G	0.20	0.30
D	0.20 TYP.				



### Mounting Pad Layout



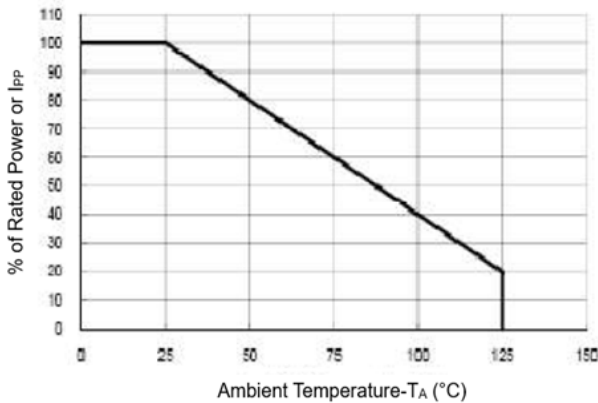
\*Dimensions in millimeters

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

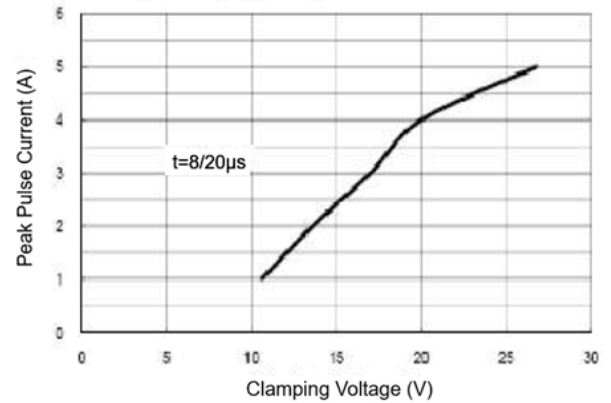
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Stand-off Voltage	$V_{RWM}$	-	-	3.3	V	
Breakdown Voltage	$V_{(BR)}$	4.2	-	-	V	$I_T=1\text{mA}$
Clamping Voltage @ $t_p=8/20\mu\text{s}$	$V_C$	-	-	12	V	$I_{PP}=1\text{A}$
		-	-	25		$I_{PP}=4\text{A}$
Reverse Leakage Current	$I_R$	-	-	100	nA	$V_{RWM}=3.3\text{V}$
Junction Capacitance	$C_J$	-	0.25	-	pF	$V_R=0\text{V}$ , $f=1\text{MHz}$

**TYPICAL CHARACTERISTICS**

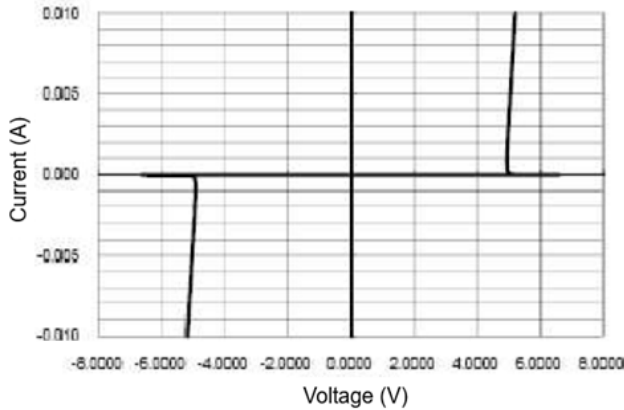
Power Derating Curve



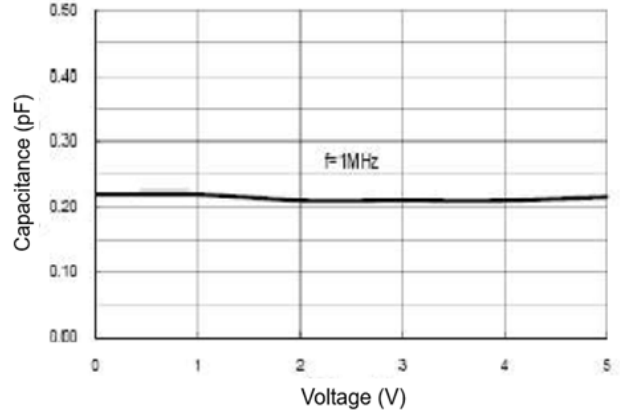
Clamping Voltage v.s Peak Pulse Current



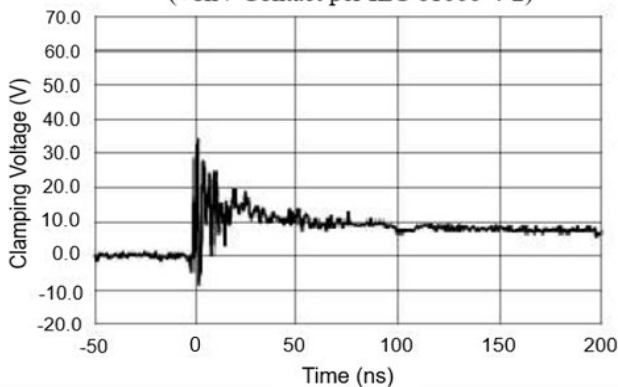
Voltage Sweeping



Voltage v.s Capacitance



ESD Clamping  
(+8kV Contact per IEC 61000-4-2)



ESD Clamping  
(-8kV Contact per IEC 61000-4-2)

