Elektronische Bauelemente

SBESD0801S

56W, 5V
Ultra Low Capacitance
ESD Protection for high-speed interfaces

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

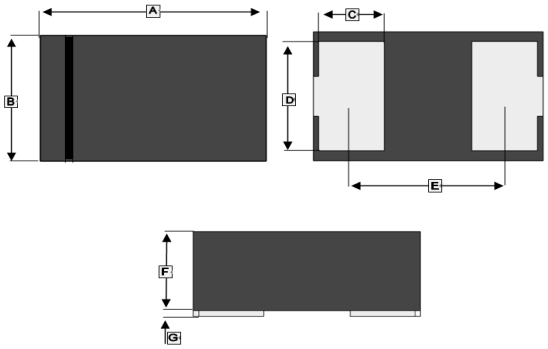
DESCRIPTION

SBESD0801S is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for high-speed data interfaces. With typical capacitance of 0.35pF only, SBESD0801S 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 (±15kV air, ±8kV contact discharge), IEC 61000-4-4 (electrical fast transient - EFT) (40A,5/50 ns), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc.

SBESD0801S uses ultra-small DFN1006-2L package. Each SBESD0801S 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

SBESD0801S ideal for high-speed data port and high-frequency line (e.g., USB 2.0 & antenna line) applications, such as cellular phones and HD visual devices.

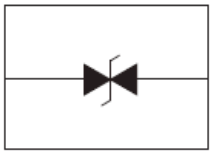
DFN1006-2L



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.95	1.05	E	0.65 TYP.	
B	0.55	0.65	F	0.3	0.4
C	0.2	0.3	G	0.00	0.05
D	0.45	0.55			

MACHANICAL DATA

- Flammability Rating: UL 94V-0
- High temperature soldering guaranted:260℃ /10s



Bi-direction

APPLICATIONS

- Mobile phone
- PAD
- Notebook
- LCD TV
- MDDI Ports
- Digital Visual Interfaces (DVI)

FEATURES

- Ultra-low clamping voltage
- Low leakage current
- Small package

MARKING

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PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN1006-2L	10K	7 inch

ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

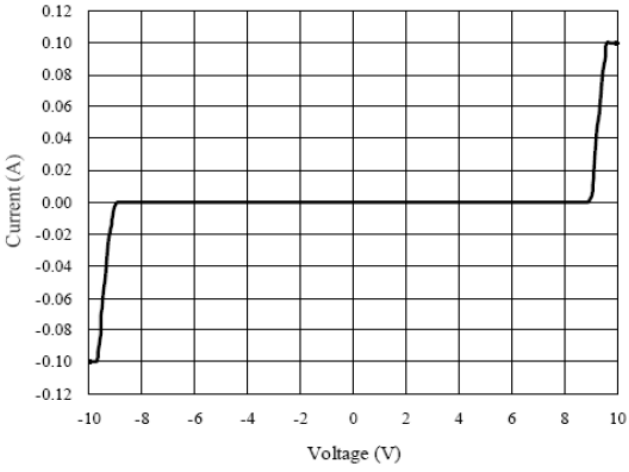
Rating		Symbol	Value	Unit
IEC 61000-4-2 (ESD)	Air contact		±17	kV
	Contact discharge		±12	
Peak pulse power (tp=8/20us)		P_{PK}	56	W
Peak pulse current (tp=8/20us)		I_{PP}	2	A
Storage temperature range		T_J, T_{STG}	-55~125 , -55 ~ 150	℃

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

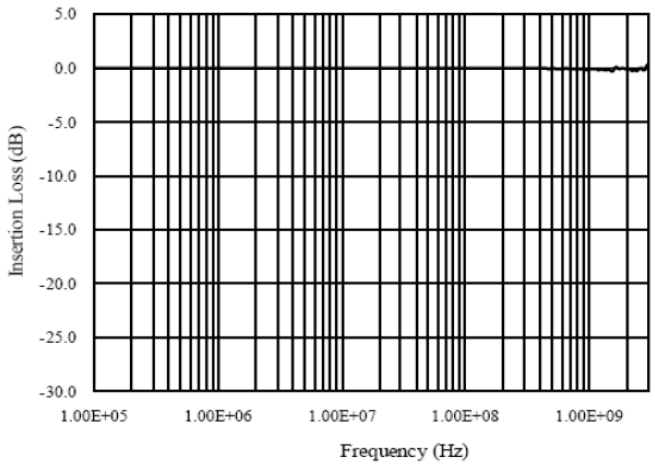
Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Reveres maximum working voltage	V_{RWM}		-	-	5	V
Reveres leakage current	I_R	V_{RWM}=5V	-	0.01	1	μA
Reveres breakdown voltage	V_{BR}	I_T=1mA	6	8.8	11	V
Clamping Voltage	V_C	I_{PP}=1A, tp=8/20us	-	-	12	V
		I_{PP}=2A, tp=8/20us	-	-	14	V
Junction capacitance	C_J	f=1MHz, V_R=0	-	0.35	0.5	pF

RATINGS AND CHARACTERISTICS CURVES

Voltage Sweeping of I/O to I/O

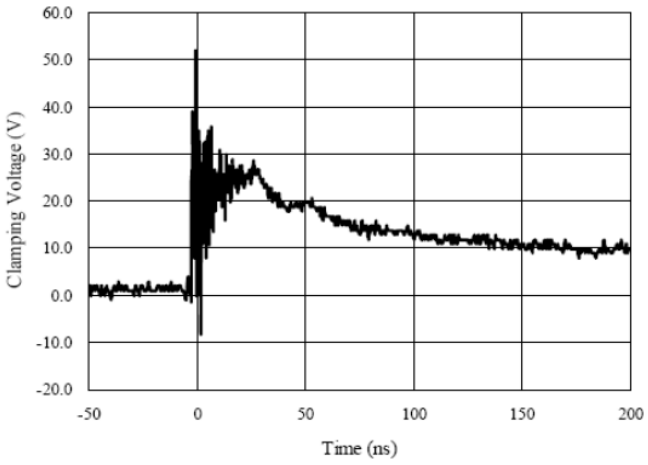


Insertion Loss S21 of I/O to I/O

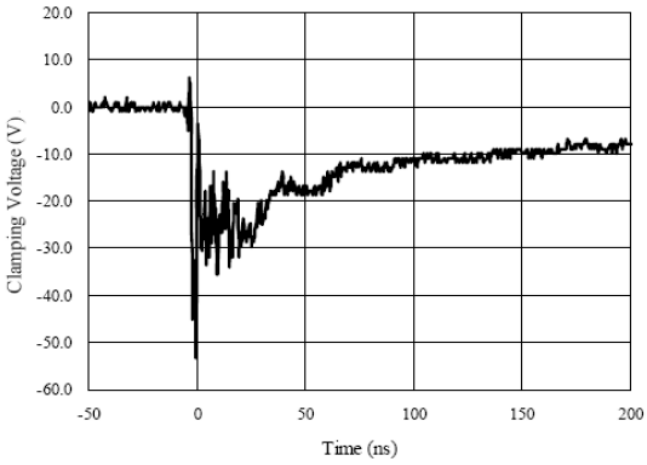


RATINGS AND CHARACTERISTICS CURVES

ESD Clamping of I/O to I/O (+8kV Contact per IEC 61000-4-2)

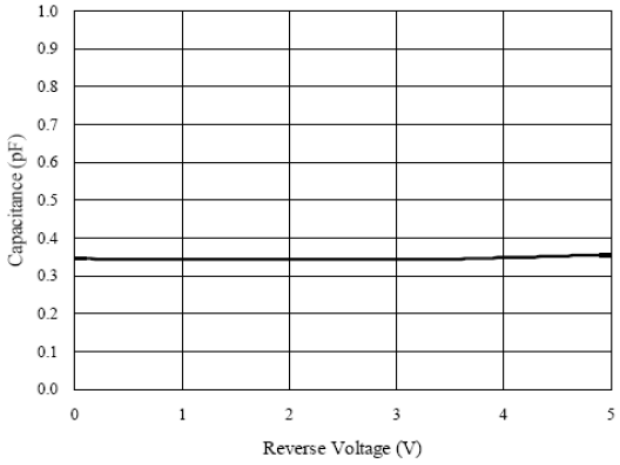


ESD Clamping of I/O to I/O (-8kV Contact per IEC 61000-4-2)



Capacitance *vs.* Voltage of I/O to I/O (f = 1MHz)

Capacitance *vs.* Reverse Voltage



Normalized Capacitance *vs.* Reverse Voltage