Elektronische Bauelemente

# SBESD0801C-C

**60W, 5V**

**Low Capacitance TVS/ESD Protection Diode**

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.

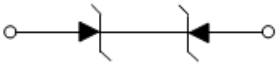
**DFN1006**

## FEATURES

- Transient protection for high-speed data lines
  IEC 61000-4-2 (ESD) ±30kV (Air) ±30kV (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 ±8kV contact discharge

## APPLICATIONS

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



## MARKING

**PB**

## 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 | $V_{ESD}$ | ±30 | kV |
| | Contact | | ±30 | |
| Peak Pulse Power (8/20μs) | | $P_{PP}$ | 60 | W |
| Peak Pulse Current (8/20μs) | | $I_{PP}$ | 5 | A |
| Operating Temperature Range | | $T_J$ | -55~125 | °C |
| Storage Temperature Range | | $T_{STG}$ | -55~150 | °C |

Elektronische Bauelemente

# SBESD0801C-C

**60W, 5V**

**Low Capacitance TVS/ESD Protection Diode**

## ELECTRICAL CHARACTERISTICS ($T_A$=25°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 | $I_T$=1mA |
| Reverse Leakage Current | $I_R$ | - | - | 1 | μA | $V_{RWM}$=5V |
| Clamping Voltage @tp=8/20μs | $V_C$ | - | - | 9.5 | V | $I_{PP}$=1A |
| | | - | - | 12 | | $I_{PP}$=5A |
| TLP Clamping Voltage IEC61000-4-2 Level 4 equivalent (±8kV Contact, ±15kV Air) | $V_{CTLP}$ | - | 9.5 | - | V | $I_{PP}$=16A |
| Junction Capacitance | $C_J$ | - | 15 | - | pF | $V_R$=0, f=1MHz |

## CHARACTERISTICS CURVES

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

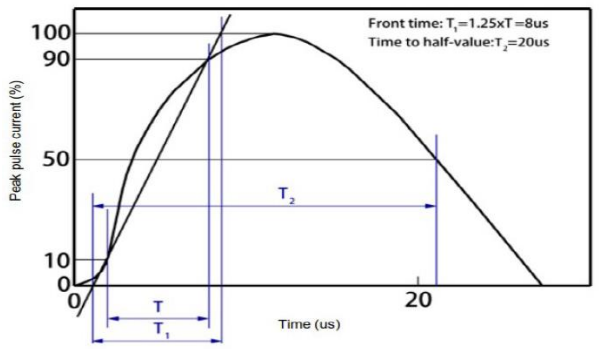



Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

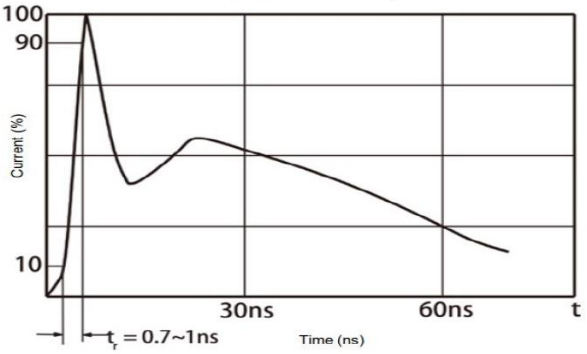



Fig 3 Power Derating Curve

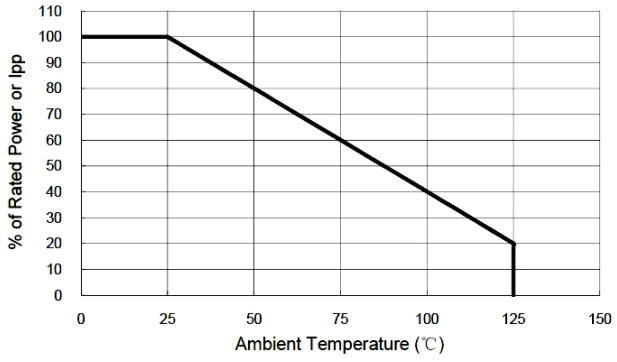



Fig 4 Voltage vs Capacitance

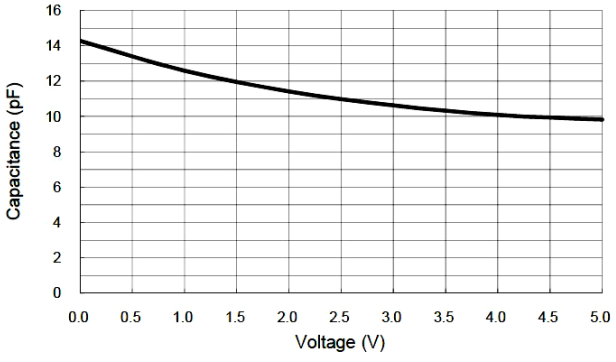



Fig 5 Transmission Line Pulsing (TLP) Measurement

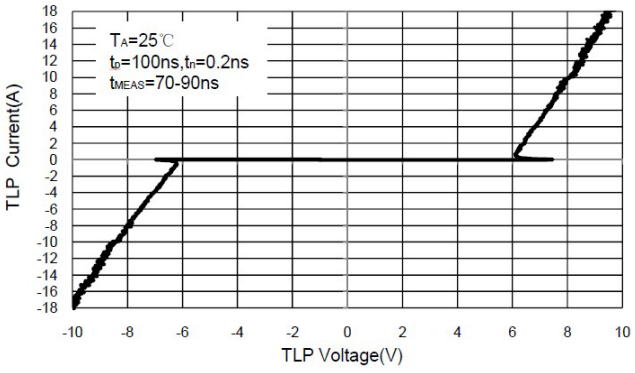
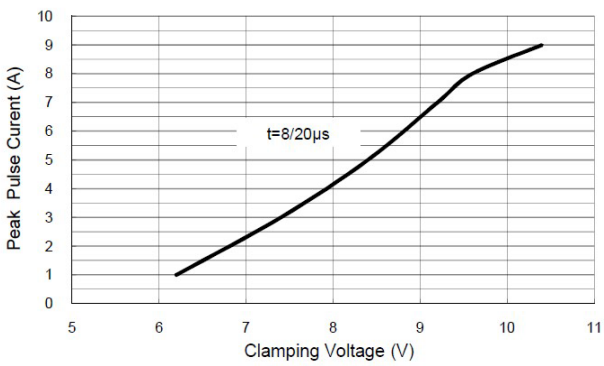
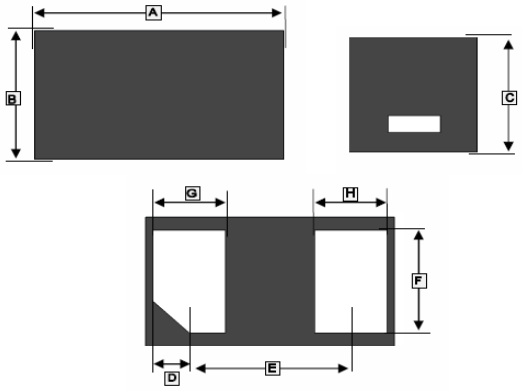



Fig 6 Clamping Voltage vs Peak Pulse Current



## PACKAGE OUTLINE DIMENSIONS

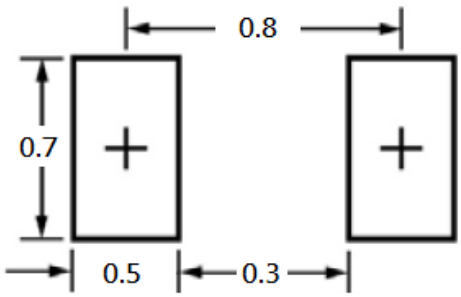
**DFN1006**




| REF. | Millimeter | |
|---|---|---|
| | Min. | Max. |
| A | 0.95 | 1.05 |
| B | 0.55 | 0.65 |
| C | 0.45 | 0.55 |
| D | 0.10 TYP. | |
| E | 0.65 BSC. | |
| F | 0.45 | 0.55 |
| G | 0.20 | 0.30 |
| H | 0.20 | 0.30 |

## MOUNTING PAD LAYOUT

**DFN1006**




*Dimensions in millimeters