

DESCRIPTION

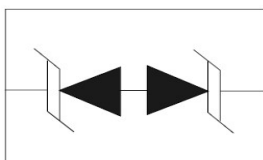
ESD0801PB is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for data, control or power lines. With maximum capacitance of 15pF, ESD0801PB is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD), Level 4 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ 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.

ESD0801PB uses ultra-small DFN1006 package. Each ESD0801PB device can protect one data line. It offers system designers flexibility to protect single data line where space is a premium concern.

ORDERING INFORMATION

- ✧ Device: ESD0801PB
- ✧ Package: DFN1006
- ✧ Marking: PB
- ✧ Material: RoHS compliant, Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 10,000pcs

CIRCUIT DIAGRAM



FEATURES

- ✧ Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (Contact)
 $\pm 30\text{kV}$ (Air)
- IEC 61000-4-4 (EFT) 40A (5/50 ns)
Cable Discharge Event (CDE)
- ✧ Package optimized for high-speed lines
- ✧ Ultra-small package (1.0mm \times 0.6mm \times 0.4mm)
- ✧ 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

MACHANICAL DATA

- ✧ DFN1006 package
- ✧ Flammability Rating: UL 94V-0
- ✧ High temperature soldering guaranteed:
260 $^{\circ}\text{C}$ /10s
- ✧ Packaging: Tape and Reel
- ✧ Reel size: 7 inch
- ✧ MSL1

APPLICATIONS

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

PIN CONFIGURATION



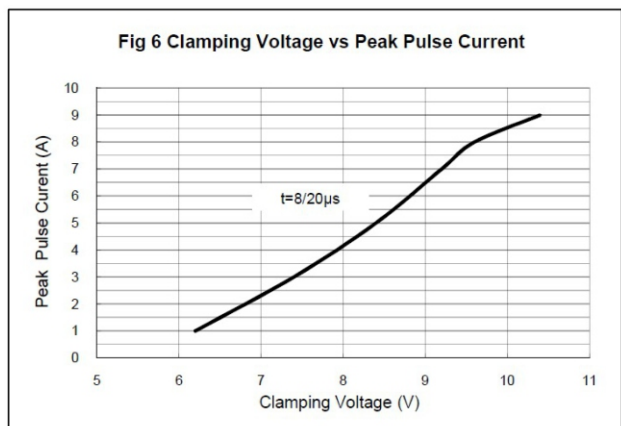
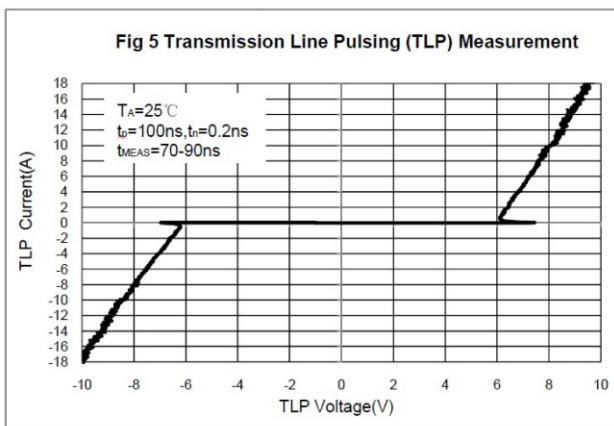
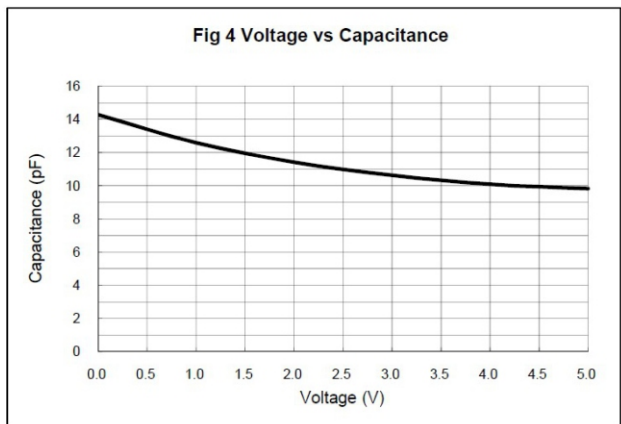
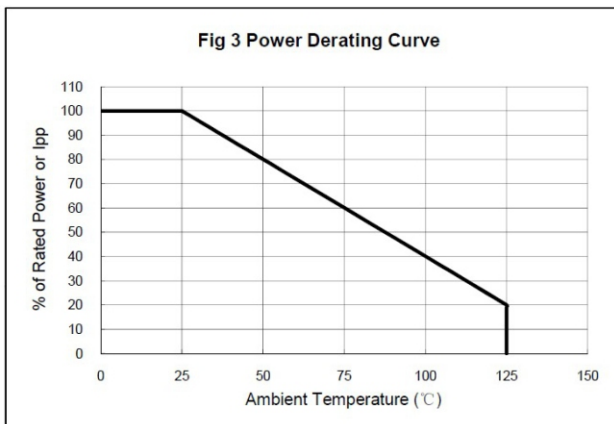
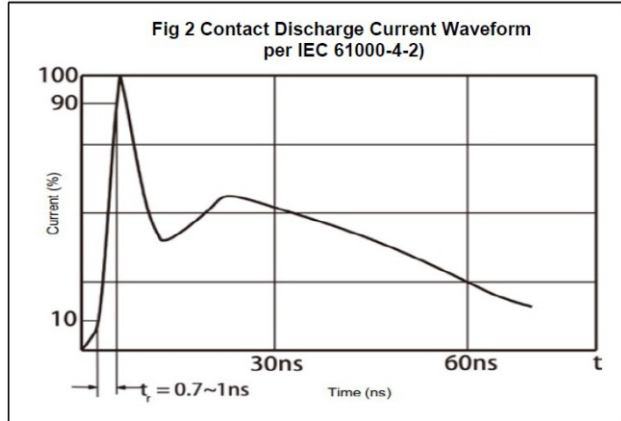
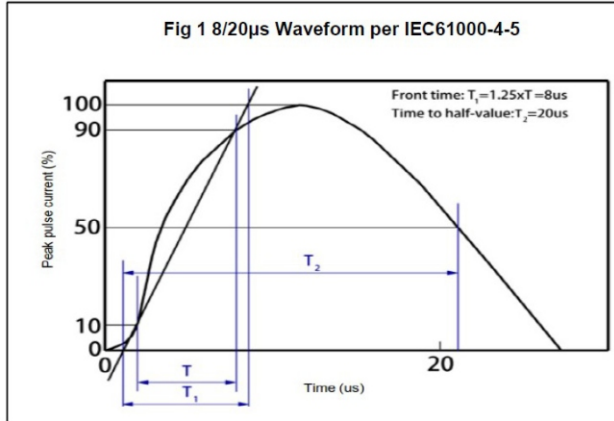
ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V _{ESD}	ESD per IEC 61000-4-2 (Contact)	±30	KV
	ESD per IEC 61000-4-2 (Air)	±30	
P _{PP}	Peak Pulse Power (8/20μs)	60	W
I _{PP}	Peak Pulse Current (8/20μs)	5	A
T _j	Operating Temperature	-55/+125	°C
T _{STG}	Storage Temperature	-55/+150	°C

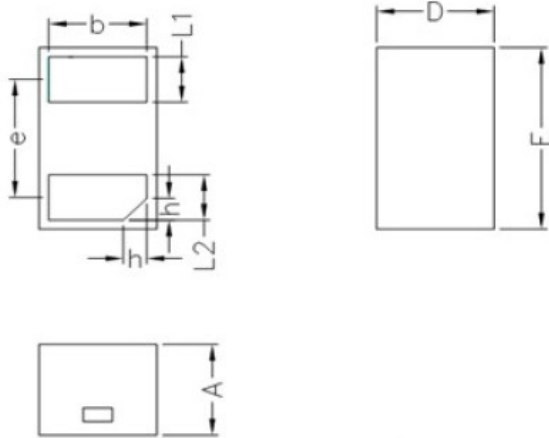
ELECTRICAL CHARACTERISTICS (T_{amb}=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V _{RWM}	Reverse Stand-Off Voltage				5.0	V
V _{BR}	Reverse Breakdown voltage	I _T =1mA	5.6			V
I _R	Reverse leakage current.	V _{RWM} =5V			1	μA
V _C	Clamping Voltage	I _{PP} =1A, t _p =8/20us I _{PP} =5A, t _p =8/20us			9.5 12	V
V _{CTL}	TLP Clamping Voltage	I _{PP} = 16A IEC61000-4-2 Level 4 equivalent (± 8kV Contact, ± 15kV Air)		9.5		V
C _J	Junction Capacitance	V _R =0V,f=1MHz			15	pF

ELECTRICAL CHARACTERISTICS CURVE



DFN1006 PACKAGE OUTLINE DIMENSIONS



Unit: mm

	MIN	NOM	MAX
D	0.55	0.60	0.65
E	0.95	1.00	1.05
L1	0.20	0.25	0.30
L2	0.20	0.25	0.30
b	0.45	0.50	0.55
e	0.65BSC		
A	0.45	0.50	0.55
h	0.07	0.12	0.17

