

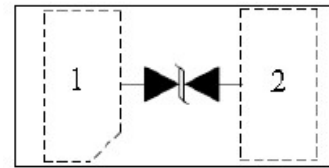
## DESCRIPTION

PESD3V3V1BCSF 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 PESD3V3V1BCSF 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.

PESD3V3V1BCSF uses ultra-small DSN0603-2 package. Each PESD3V3V1BCSF 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
  - IEC 61000-4-2 (ESD)  $\pm 30\text{kV}$  (Contact)
  - $\pm 30\text{kV}$  (Air)
  - IEC 61000-4-4 (EFT) 40A (5/50 ns)
- Peak power dissipation: 80W (8/20 $\mu\text{s}$ )
- Working voltages : 3.3V
- Ultra-small package (0.6mm $\times$ 0.3mm $\times$ 0.3mm)
- Protects one I/O line
- Low clamping voltage
- Low leakage current



## MACHANICAL DATA

- DFN0603 -2 package
- Flammability Rating: UL 94V-0
- High temperature soldering guaranteed: 260 $^{\circ}\text{C}$ /10s
- Packaging: Tape and Reel

## APPLICATIONS

- Personal digital assistants (PDA's)
- Notebooks, Desktops, and Servers
- Cell phone Handsets and Accessories
- Portable Electronics
- IOT Terminal Equipment/Device
- Smart Wearable Device

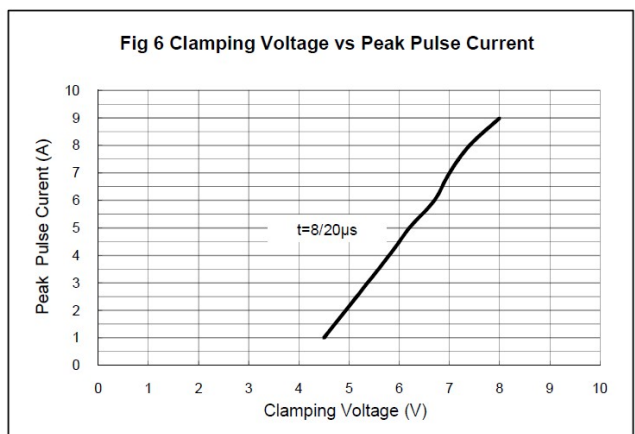
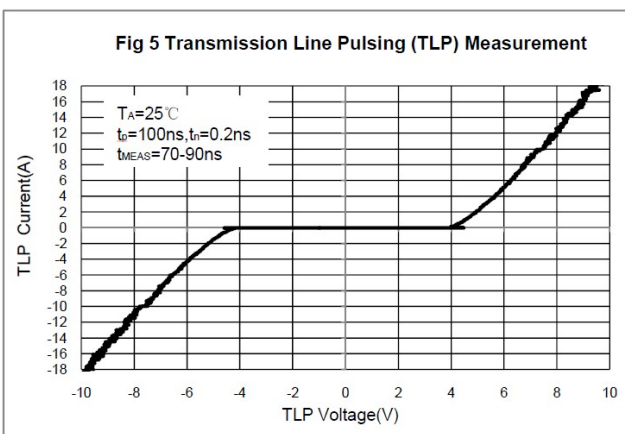
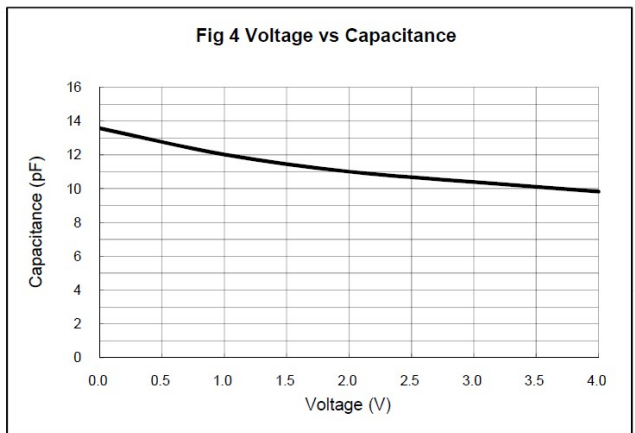
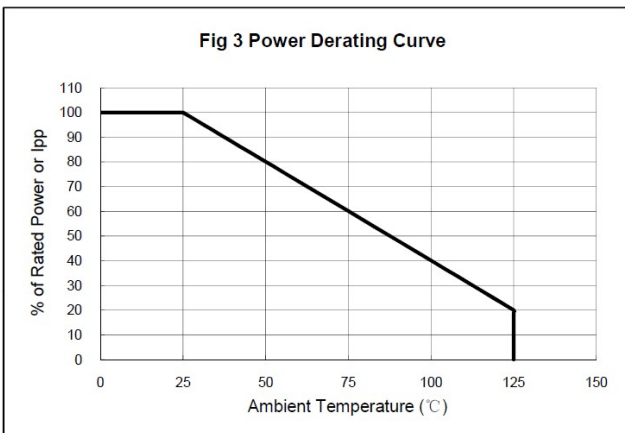
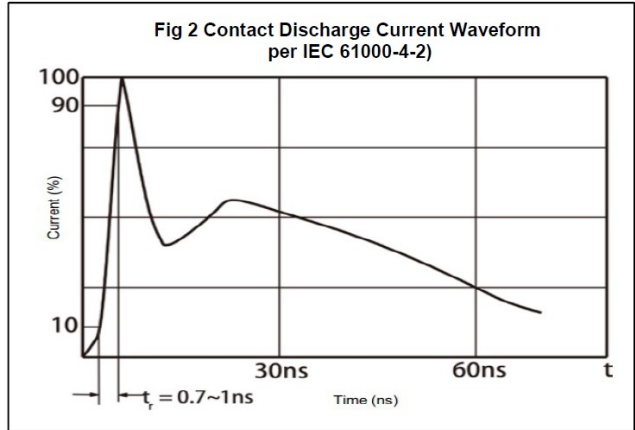
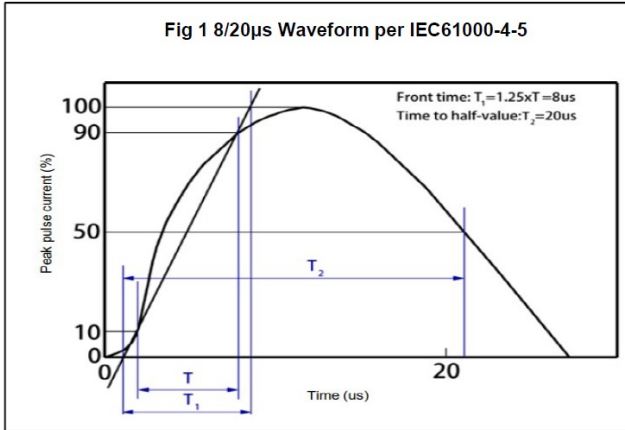
## ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
$V_{\text{ESD}}$	ESD per IEC 61000-4-2 (Contact)	$\pm 30$	kV
	ESD per IEC 61000-4-2 (Air)	$\pm 30$	
$P_{\text{PP}}$	Peak Pulse Power (8/20 $\mu\text{s}$ )	80	W
$T_{\text{OPT}}$	Operating Temperature	-40~125	$^{\circ}\text{C}$
$T_{\text{STG}}$	Storage Temperature	-40~150	$^{\circ}\text{C}$

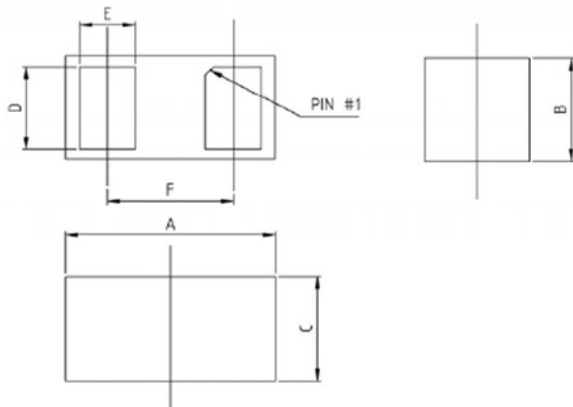
## ELECTRICAL CHARACTERISTICS (Tamb=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage				3.3	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1mA$	3.6			V
$I_R$	Reverse Leakage Current	$V_{RWM} = 3.3V$			1.0	$\mu A$
$V_C$	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$		4.5	6	V
		$I_{PP} = 8A, t_p = 8/20\mu s$			10	V
$V_{CTL P}$	TLP Clamping Voltage	$I_{PP} = 16A$ IEC61000-4-2 Level 4 equivalent ( $\pm 8kV$ Contact, $\pm 15kV$ Air)		9		V
$C_J$	Junction Capacitance	$V_R = 0V, f = 1MHz$			16.5	pF

**ELECTRICAL CHARACTERISTICS CURVE**

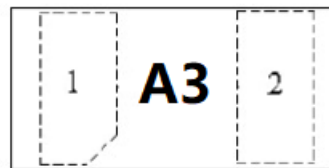


**DFN0603-2 PACKAGE OUTLINE DIMENSIONS**



Dimensions in Millimeter			
Symbol	Min.	Typ.	Max.
A	0.58	0.60	0.65
B	0.28	0.30	0.35
C	0.28	0.30	0.34
D	0.20	0.24	0.26
E	0.13	0.16	0.19
F		0.36	

**Marking**



**Ordering information**

Order code	Package	Baseqty	Deliverymode
UMW PESD3V3V1BCSF	DFN0603-2	10000	Tape and reel