**JSMSEMI**
杰盛微半导体

DESCRIPTION

PESD24VF1BLYL-JSM is an ultra low capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for high speed data interfaces. With a typical capacitance of 0.3 pF, it protects sensitive systems from over voltage and over current transient events.

The device complies with IEC 61000-4-2 (ESD) Level 4(±15 kV air, ±8 kV contact discharge), and offers high robustness against very fast charged device model(CDM) ESD and cable discharge events (CDE).

Housed in an ultra small DFN1006 package, each PESD24VF1BLYL-JSM can protect one high speed data line. This makes it ideal for space constrained applications where protection of individual lines is required.

The combination of low capacitance, ultra compact size, and high ESD robustness makes PESD24VF1BLYL-JSM well suited for high speed data ports and high frequency line applications.
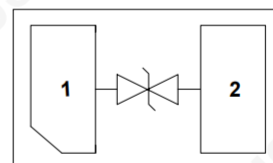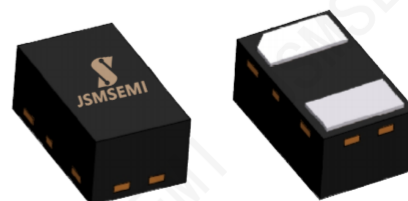
DFN1006

FEATURES

◆ Transient protection for high-speed data lines
   IEC 61000-4-2 (ESD)

   ±15kV (Contact)
   ±20kV (Air)

   Cable Discharge Event (CDE)
◆ Package optimized fo high-speed lines
◆ Ultra-small package (1.0mm×0.6mm×0.5mm)
◆ Protects one data, control line
◆ Low capacitance: 0.3pF (Typical)
◆ Low leakage current
◆ Low clamping voltage

MACHANICAL DATA

◆ Flammability Rating: UL 94V-0
◆ High temperature soldering guaranteed: 260℃/10s
◆ Packaging: Tape and Reel

APPLICATIONS

◆ Local Area Network (LAN) equipment
◆ FireWire
◆ Computers and peripherals
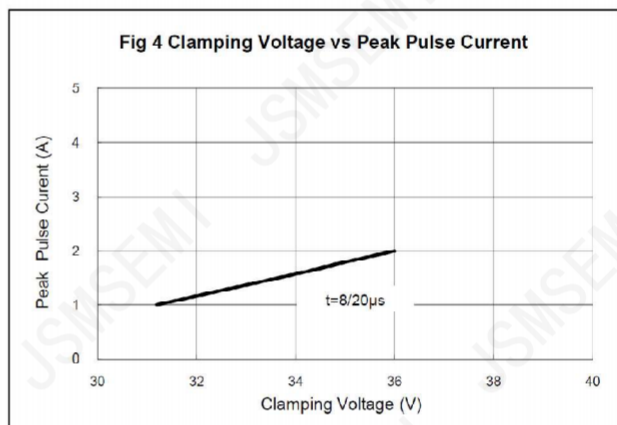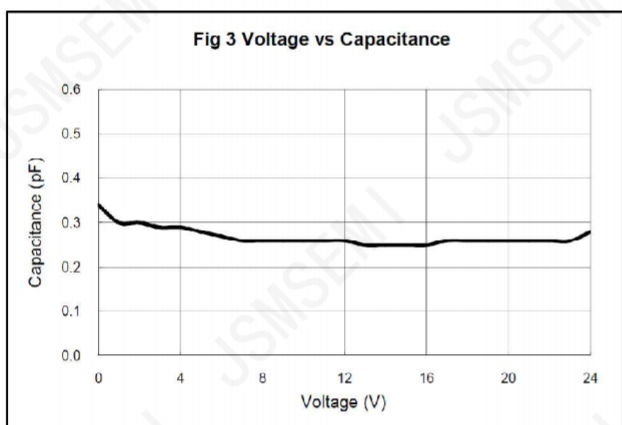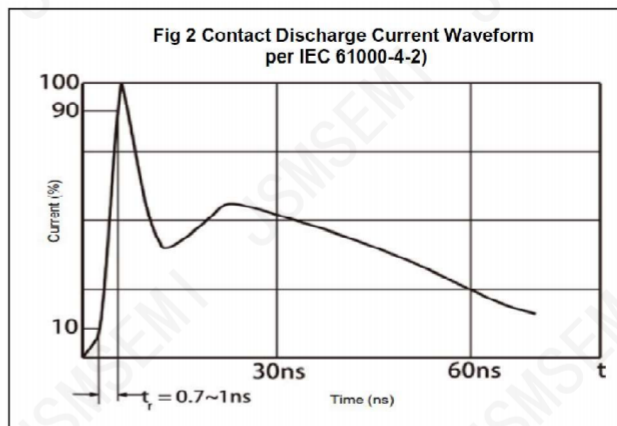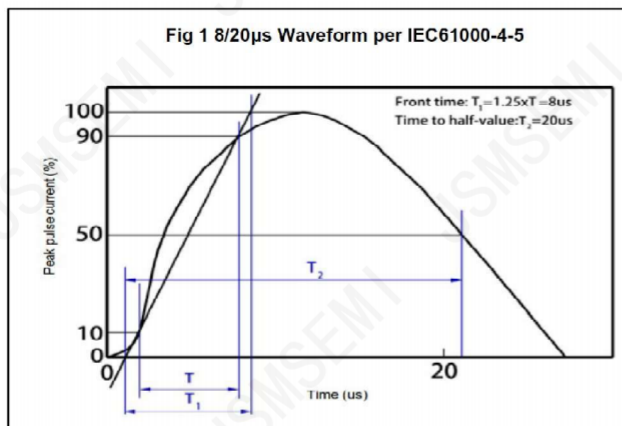◆ Communication systems
◆ High-speed data lines

ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±15 ±20	kV
P_{PP}	Peak Pulse Power (8/20µs)	38	W
T_{OPT}	Operating Temperature	-55~125	°C
T_{STG}	Storage Temperature	-55~150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				24	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	26			V
I_R	Reverse Leakage Current	V_{RWM} = 24V			500	nA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20µs			38	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		0.3	0.5	pF

Typical Performance Characteristics (TA=25°C unless otherwise Specified)

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

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

Fig 3 Voltage vs Capacitance

Fig 4 Clamping Voltage vs Peak Pulse Current

PACKAGE OUTLINE DIMENSIONS

Dimension: Millimeter
(Stencil thickness: 0.1)

Soldering Footprint
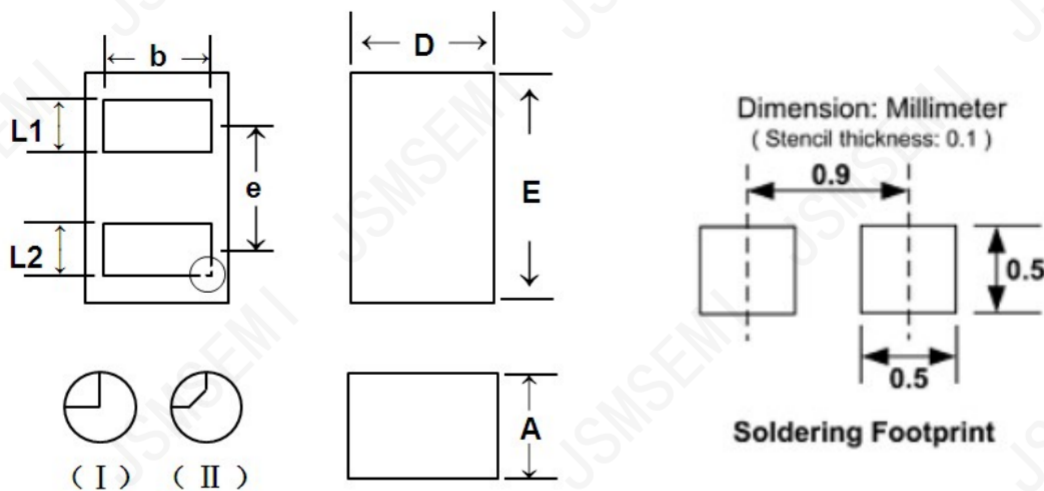
	MIN	NOM	MAX
D	0.55	0.60	0.65
E	0.95	1.00	1.05
L1	0.20	0.25	0.30
L2	0.20	0.25	0.30
A	0.45	0.50	0.55
b	0.45	0.50	0.55
e		0.64BSC	

NOTE:ALL DIMENSIONS IN MM

Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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