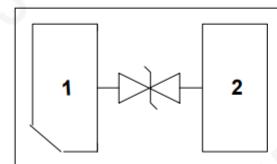


DESCRIPTION

PESD3V3S1BLYL-JSM is a low capacitance transient voltage suppressor (TVS) designed to provide electrostatic discharge (ESD) protection high-speed data interfaces. With a typical capacitance of 0.25pF, it is engineered to protect systems sensitive to parasitic inductance from the effects of voltage and overcurrent transients. It meets standards such as IEC 61000-4-2 (ESD), level 4 ($\pm 15k$ air, $\pm 8kV$ discharge), IEC 61000-4-4 (Electrical Fast Transient - EFT) (40A, 5/50 ns), and the fast charging device model (CDM) ESD and cable discharge event (CDE). The PESD3V3S1BLYL-JSM utilizes the ultra-small DFN106 package. Each PESD3V3S1BLYL-JSM device can safeguard a single high-speed data line. It provides system designers flexibility to protect a single data line in space constrained applications. The combination of low capacitance, ultra-small size, and high ESD robustness makes the PESD3V3S1BLYL-JSM ideal for high-speed data ports and high-frequency lines, such as those found in smart phones and HD visual devices.



DFN1006

FEATURES

- ◆ Transient protection for high-speed data lines IEC 61000-4-2 (ESD)
 $\pm 15kV$ (Air)
 $\pm 8kV$ (Contact)
- IEC 61000-4-4 (EFT) 40A (5/50 ns)
- Cable Discharge Event (CDE)
- ◆ Package optimized for high-speed lines
- ◆ Ultra-small package (1.0mm×0.6mm×0.5mm)
- ◆ Protects one data, control line
- ◆ Low capacitance: 0.25pF (Typical)
- ◆ Low leakage current
- ◆ Low clamping voltage

APPLICATIONS

- ◆ Serial ATA
- ◆ Desktops, Servers and Notebooks
- ◆ Cellular Phones
- ◆ MDDI Ports
- ◆ USB Data Line Protection
- ◆ Display Ports
- ◆ Digital Visual Interfaces (DVI)

MACHANICAL DATA

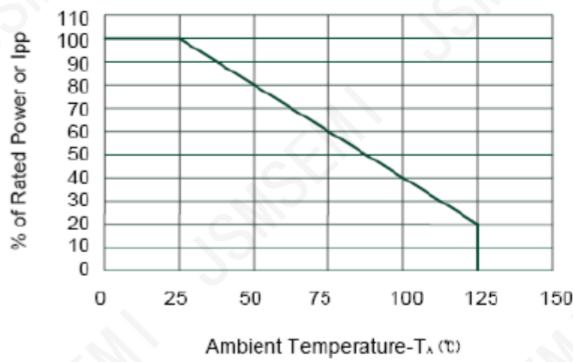
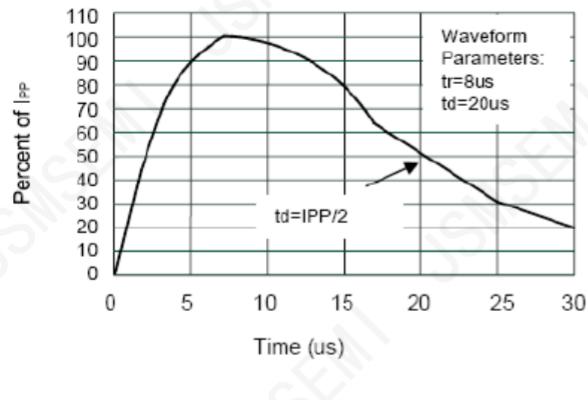
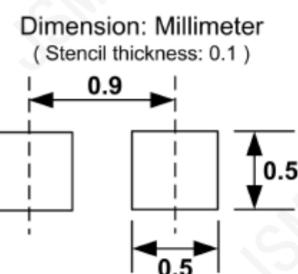
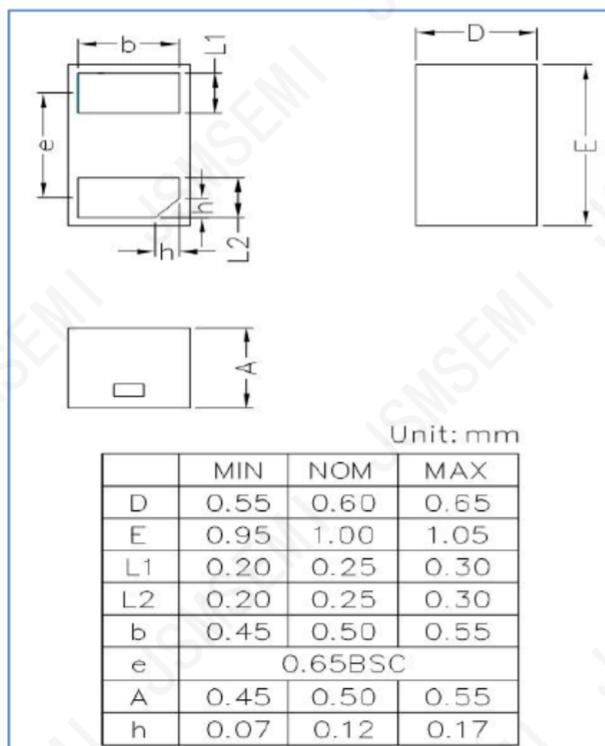
- ◆ Flammability Rating: UL 94V-0
- ◆ Packaging: Tape and Reel
- ◆ High temperature soldering guaranteed: 260°C/10s ◇ Reel size: 7 inch

ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	± 20 ± 20	kV
P_{PP}	Peak Pulse Power (8/20μs)	84	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				3.3	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	4.2			V
I_R	Reverse Leakage Current	$V_{RWM} = 3.3\text{V}$			100	nA
V_C	Clamping Voltage	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$			12	V
		$I_{PP} = 4\text{A}, t_p = 8/20\mu\text{s}$			21	V
C_J	Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$		0.25		pF

ELECTRICAL CHARACTERISTICS CURVE

DFN1006 PACKAGE OUTLINE DIMENSIONS


Revision History

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

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