

DESCRIPTION

PESD5V0R1BSFYL-JSM is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for high-speed data interfaces. With typical capacitance of 0.25pF, PESD5V0R1BSFYL-JSM 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, 5/50ns), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc. PESD5V0R1BSFYL-JSM uses ultra-small DFN0603 package. Each PESD5V0R1BSFYL-JSM device can protect one high-speed data line. It offers system designers flexibility to protect single data line where space is a premium concern. The combined features low capacitance, ultra-small size and high ESD robustness make PESD5V0R1BSFYL-JSM ideal for high-speed data port and high-frequency line applications, such as cellular phones and HD visual devices.

FEATURES

Transient protection for high-speed data lines

IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (Air)

$\pm 8\text{kV}$ (Contact)

IEC 61000-4-4 (EFT) 40A (5/50 ns)

Cable Discharge Event (CDE)

Package optimized for high-speed lines

Ultra-small package (0.6mm 0.3mm 0.3mm)

Protects one data, control line

Low capacitance: 0.25pF (Typical)

Low leakage current

Low clamping voltage

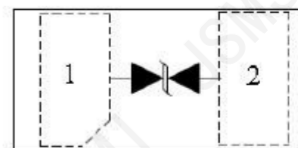
MACHANICAL DATA

DFN0603 package

Packaging: Tape and Reel

High temperature soldering guaranteed: $260^{\circ}\text{C}/10\text{s}$

Reel size: 7inch



PIN CONFIGURATION



CIRCUIT DIAGRAM

APPLICATIONS

Serial ATA

Desktops, Servers and Notebooks

Cellular Phones

MDDI Ports

USB Data Line Protection

Display Ports

Digital Visual Interfaces (DVI)

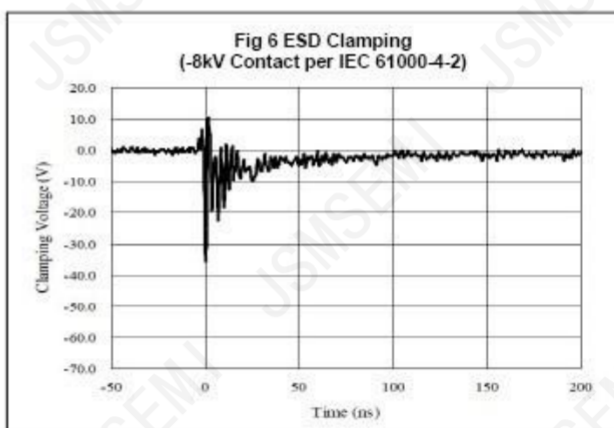
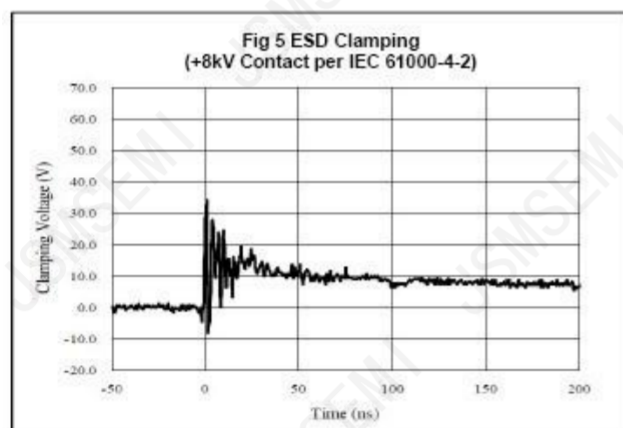
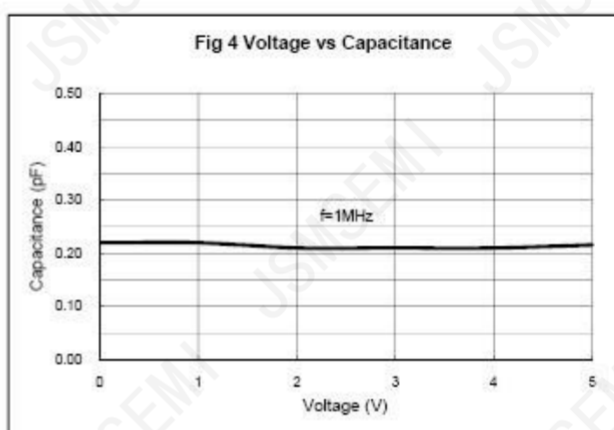
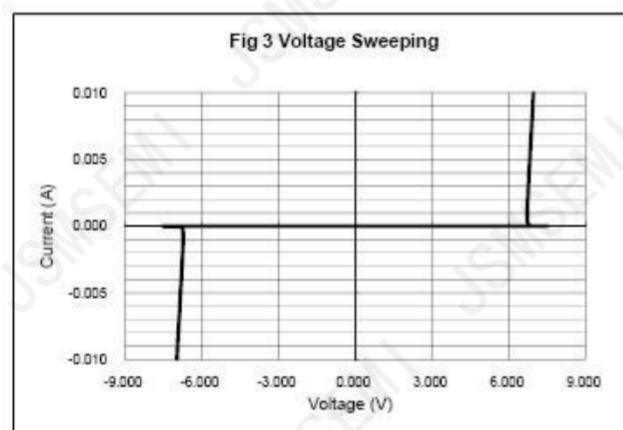
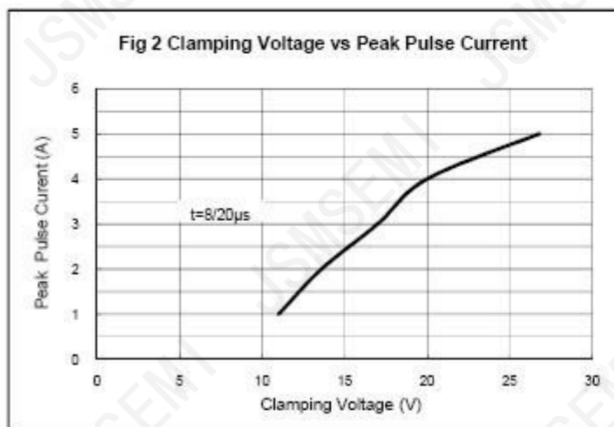
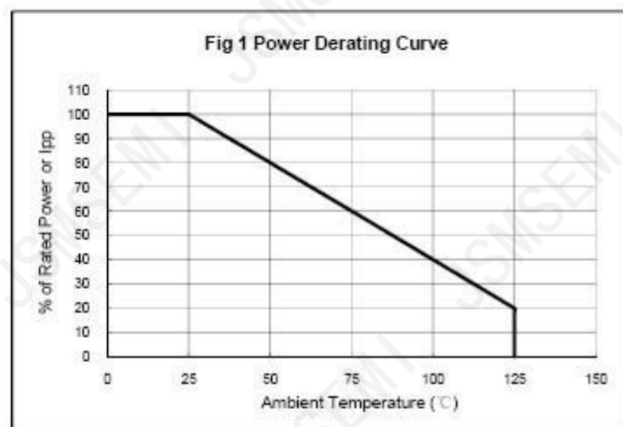
ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC61000-4-2(Air) ESD per IEC61000-4-2(Contact)	± 20 ± 20	kV
P_{PP}	Peak Pulse Power (8/20 μ s)	100	W
T_{OPT}	Operating Temperature	-55~125	°C
T_{STG}	Storage Temperature	-55~150	°C

ELECTRICAL CHARACTERISTICS($T_{amb}=25^{\circ}C$)

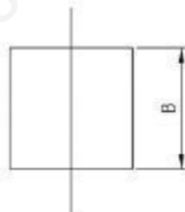
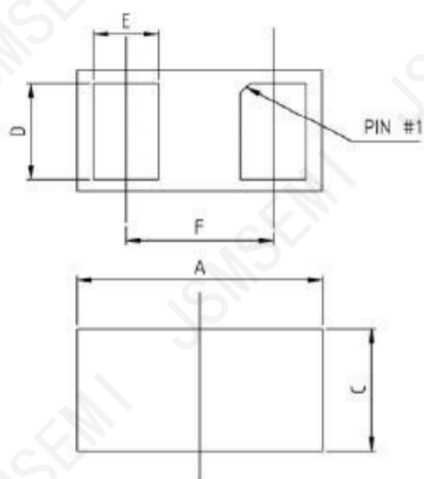
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$	6.0			V
I_R	Reverse Leakage Current	$V_{RWM}=5V$			100	nA
V_C	Clamping Voltage	$I_{PP}=1A, t_p=8/20\mu s$			13	V
		$I_{PP}=4A, t_p=8/20\mu s$			25	V
C_J	Junction Capacitance	$V_R=0V, f=1MHz$		0.25		pF

ELECTRICAL CHARACTERISTICS CURVE



DFN0603

PACKAGE OUTLINE DIMENSIONS



Dimensions In Millimeterer			
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	-

Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

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