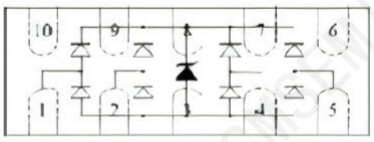
DESCRIPTION

IP4292CZ10-TBR,115-JSM is an ultra-low capacitance Transient Voltage Suppressor (TVS) designed to protection for high-speed data interfaces.With typical capacitance of 0.2pF (I/O to I/O)only, IP4292CZ10-TBR,115-JSM is designed to protect parasitic-sensitive systems against over-voltage andover-current transient events .It complies with IEC 61000 -4-2(ESD),Level 4(±15KV air,±8KV contact discharge), IEC61000-4-4 (electrical fast transient-EFT)(40A,5/50ns),very fast charged device model (CDM)ESD and cable discharge event(CDE),etc.IP4292CZ10-TBR,115-JSM uses ultra-small DFN2510 package. Each IP4292CZ10-TBR,115-JSM device can protect four high-speed data lines.The combined features of ultra-low capacitance,ultra-small size and high ESD robustness make IP4292CZ10-TBR,115-JSM ideal for high-speed data ports and high frequency ines (e.g,HDMI &DVI) applications.The low clamping voltage of the IP4292CZ10-TBR,115-JSM guarantees a minimum stresson the protected IC.





FEATURES

- ◆Transient protection for high-speed data lines
  IEC61000-4-2(ESD)±25KV(Air)
  ±20KV(Contact)
  IEC61000-4-4(EFT)40A(5/50ns)
  Cable Discharge Event(CDE)
- ◆Package optimizedfor high-speed lines
- ◆Ultra-small package(2.5mm*1.0mm*0.5mm)
- ◆Protects four data lines
- ◆Low capacitance:0.2pF (I/O to I/O)
- ◆Low leakage current
- ◆Low camping voltage
- ◆Each I/O pin can withstand over 1000 ESD strikes for ±8KV contact discharge

APPLICATIONS

- ◆Serial ATA
- ◆PCI Express
- ◆Desktops,Servers and Notebooks
- ◆MDDI Ports
- ◆USB 2.0/3.0 Power and Data Line Protection
- ◆Display Ports
- ◆Hgh Definition Muli-Media Interface (HDMI)
- ◆Digital Visual Interface(DV)

MACHANICAL DATA

- ◆DFN2510 package
- ◆Terminal:Matte tin plated.
- ◆Packaging:Tape and Reel
- ◆High temperature soldering guaranted:260C/10s
- ◆Reel size:7 inch

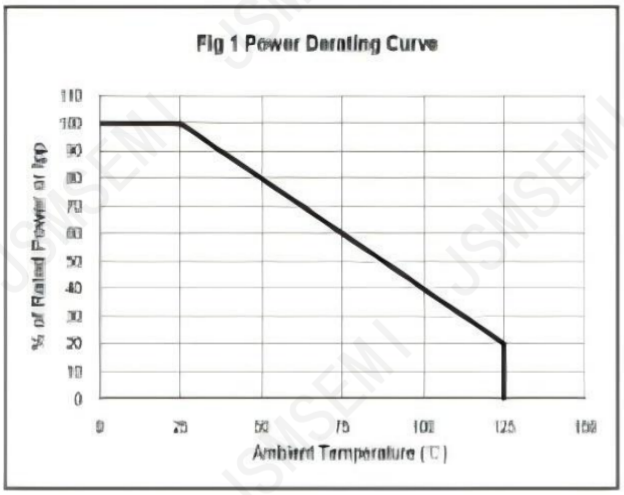
ABSOLUTE MAXIMUM RATING

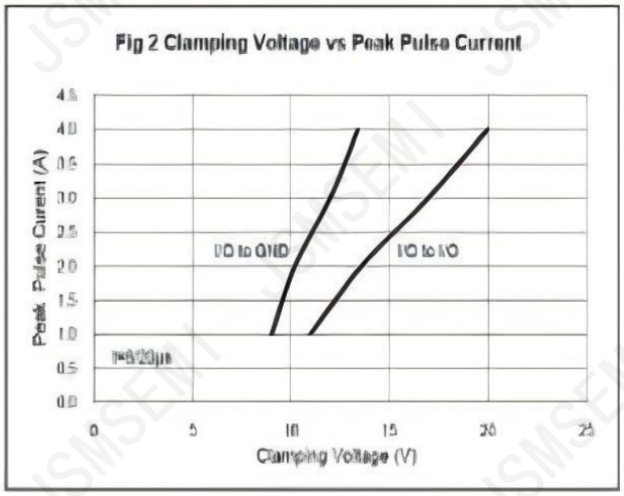
Symbol	Parameter	Value	Units
P_{pp}	Peak Pulse Power (8/20μs)	60	W
V_{ESD}	ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	±25 ±20	kV
T_{OPT}	Operating Temperature	-55/+125	℃
T_{STG}	Storage Temperature	-55/+150	℃

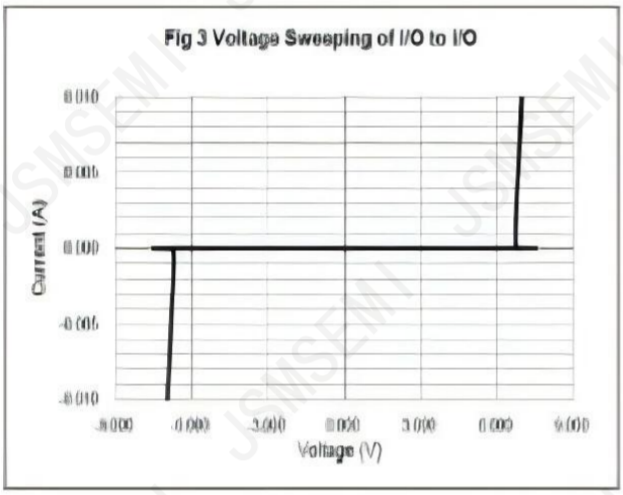
ELECTRICAL CHARACTERISTICS (Tamb=25°C)

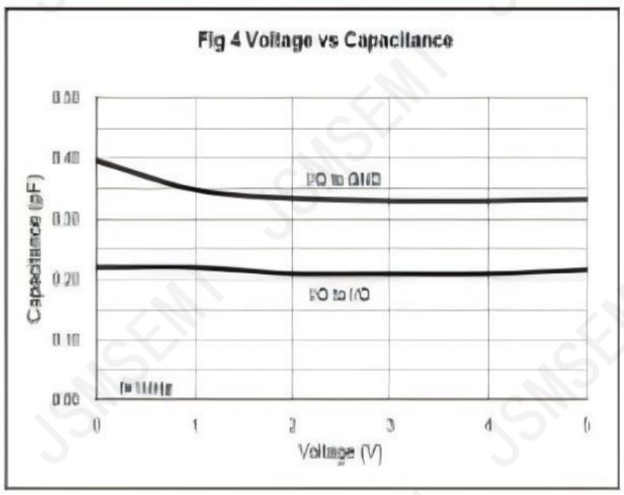
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage	Any I/O pin to GND			5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T=1mA Any I/O pin to GND	6.0		9.0	V
I_R	Reverse Leakage Current	V_{RWM}=5V Any I/O pin to GND			1.0	μA
V_C	Clamping Voltage	I_{pp}=1A,to=8/20μs Any I/O pin to GND			10	V
V_C	Clamping Voltage	I_{pp}=4A,to=8/20μs Any I/O pin to GND			15	V
C_{ESD}	Parastic Capactance	V_R=0V,f=1MHz Between I/O and GND		0.4	0.5	pF
C_{ESD}	Parasitic Capacitance	V_R=0V,f=1MHz Between I/O and I/O		02	0.3	pF

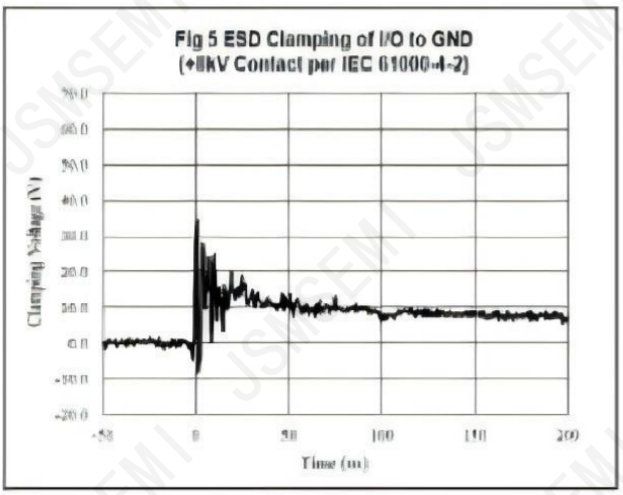
ELECTRICAL CHARACTERISTICs CURVE

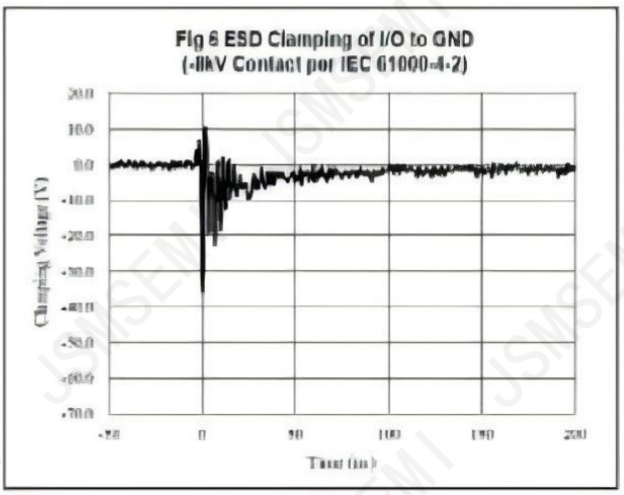




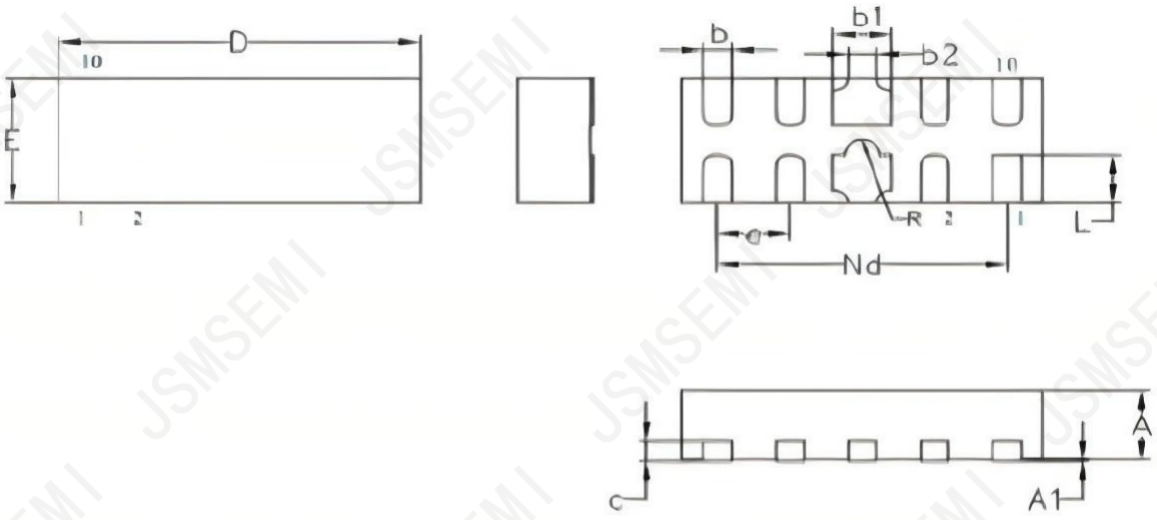








PACKAGE OUTLNE DIMENSIONS



Symbol	Dimensions (mm)		
	Min.	Nom.	Max.
D	2.45	2.50	2.55
E	0.95	1.00	1.05
b1	0.35	0.40	0.45
b2		0.20REF	
b	0.15	0.20	0.25
L	0.33	0.38	0.43
Nd		2.00BSC	
e		0.50BSC	
R	0.10	0.125	0.15
A	0.45	0.50	0.55
c		0.15REF	
A1	0.00	-	0.05

Revision History

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

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