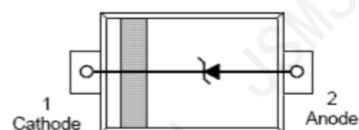


## Description

PESD5V0U1UA,115-JSM is an ultra-low capacitance ESD protection diode designed to safeguard high-speed data lines. It complies with RoHS standards and features a Pb-Free matte tin lead finish, offering reliable ESD protection in a compact SOD-323 package.



SOD-323

## Features

- 80W (8/20 $\mu$ s) peak pulse power
- Ultra-low junction capacitance (typ 0.5pF)
- SOD-323 compact package
- RoHS compliant, Pb-Free matte tin lead finish
- Protects one high-speed data line
- Meets IEC61000-4-2 Level 4 standards

## Applications

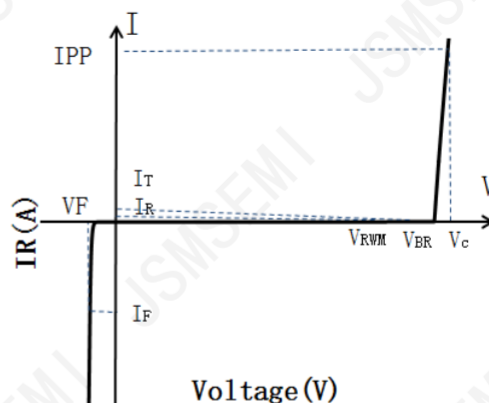
- Serial ATA
- USB Ports
- MDDI Ports
- Display Port
- PCI Express
- Digital Visual Interface (DVI)
- Cellular Handsets and Accessories

## Maximum Ratings(TA=25°C)

Symbol	Parameter	Value	Unit
PPK	Peak Pulse Power	80	W
IPP	Peak Pulse Current	4	A
VESD (Contact)	Contact ESD Voltage per IEC61000-4-2	15	kV
VESD (Air)	Air ESD Voltage per IEC61000-4-2	20	kV
TJ	Junction Temperature	-55 to +125	°C
TSTG	Storage Temperature	-55 to +150	°C

## Partial Electronic Parameters

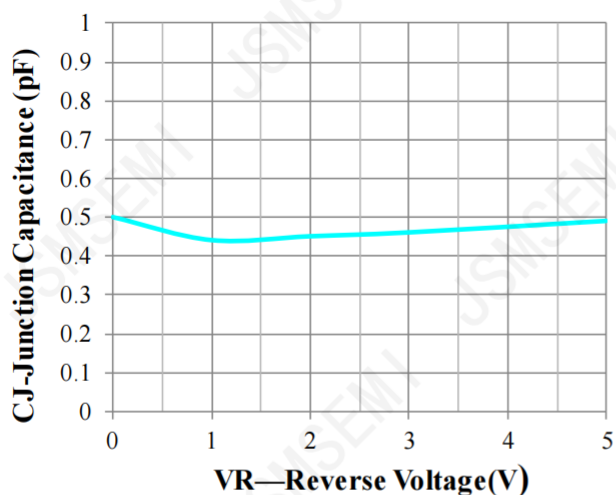
Symbol	Parameter
$I_T$	Test Current
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_C$



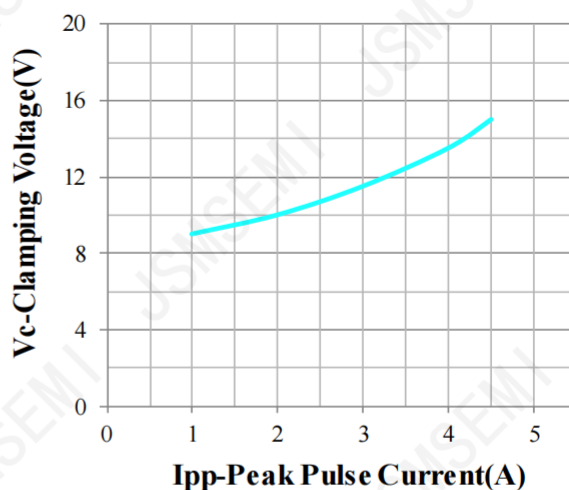
## Electrical Characteristics(TA=25℃)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	VRWM				5.0	V
Breakdown Voltage	VBR	$I_T = 1\text{mA}$	6.5	7.5	8.5	V
Reverse Leakage Current	$I_R$	VRWM= 5.0V			0.2	$\mu\text{A}$
Clamping Voltage	VC	$I_{PP} = 1\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			9.0	V
Clamping Voltage	VC	$I_{PP} = 4\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			20	V
Junction Capacitance	CJ	VR = 0V, f = 1MHz		0.5	0.7	pF

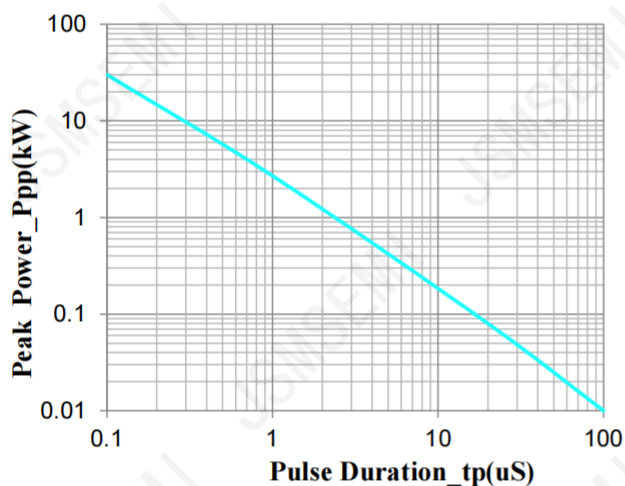
Typical Performance Characteristics(TA=25°C unless otherwise Specified)



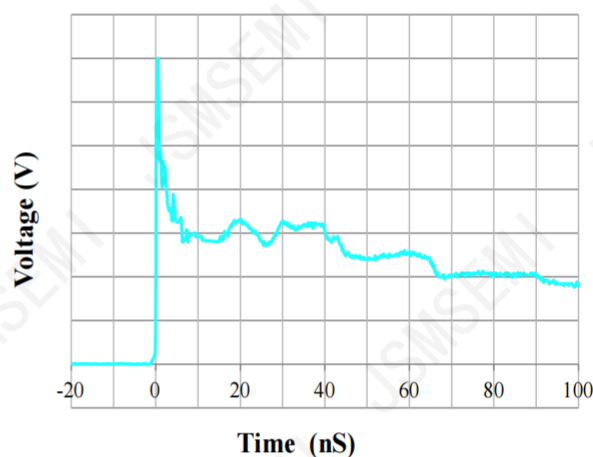
Junction Capacitance vs. Reverse Voltage



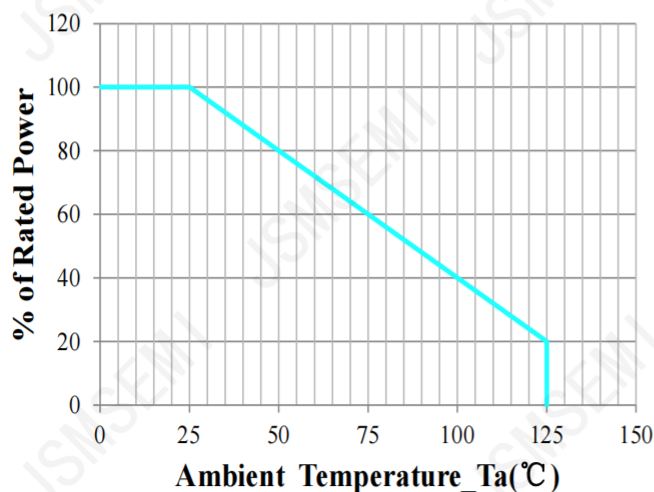
Clamping Voltage vs. Peak Pulse Current



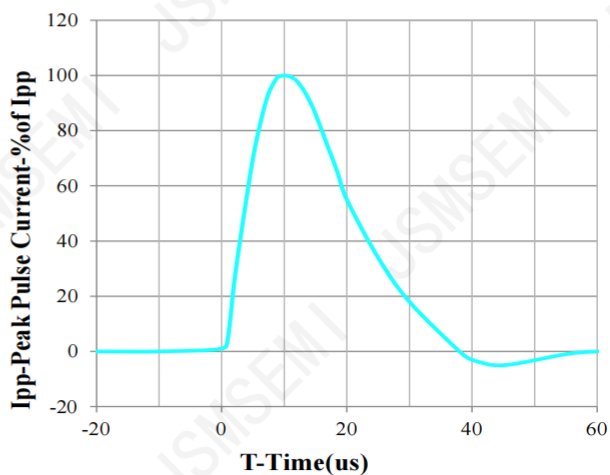
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

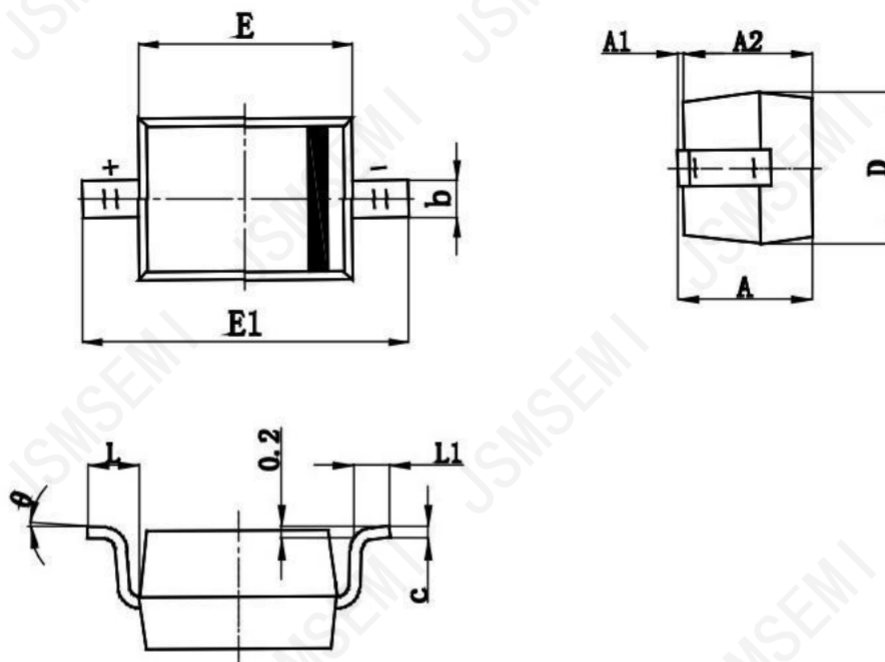


Power Derating Curve



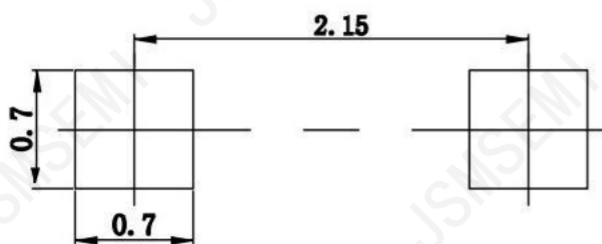
8 X 20us Pulse Waveform

## Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475REF.		0.019REF.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

## Suggested Pad Layout



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.

## Revision History

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

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