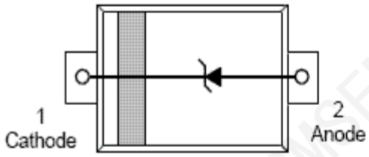
General Description

The PESD24VS1UB,115-JSM is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

Features

- ◆Small Body Outline Dimensions
- ◆Low Body Height
- ◆Stand−off Voltage:24V
- ◆Peak Power up to 150 Watts @ 8 x 20 _s Pulse
- ◆Low Leakage
- ◆Response Time is Typically < 1 ns
- ◆ESD Rating of Class 3 (> 15 kV) per Human Body Model
- ◆IEC61000−4−2 Level 4 ESD Protection
- ◆IEC61000−4−4 Level 4 EFT Protection
- ◆We declare that the material of product compliance with RoHS requirements.
- ◆S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



SOD−523

ORDERING INFORMATION

Device	Package	Shipping
PESD24VS1UB,115-JSM	SOD−523	3000/Tape & Reel

Applications

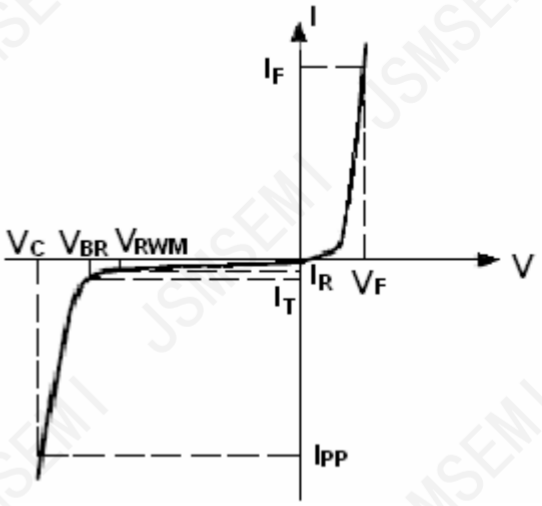
- ◆Cellular phones
- ◆Portable devices
- ◆Digital cameras
- ◆Power supplies

Absolute Ratings (T_{amb}=25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20μs)	150	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_{op}	Operating Temperature Range	-40 to +125	°C
T_j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge contact discharge	±15 ±8	KV
	IEC61000-4-4 (EFT)	40	A
	ESD Voltage Per Human Body Model	16	KV

Electrical Parameter

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
I_F	Forward Current
V_F	Forward Voltage @ I_F



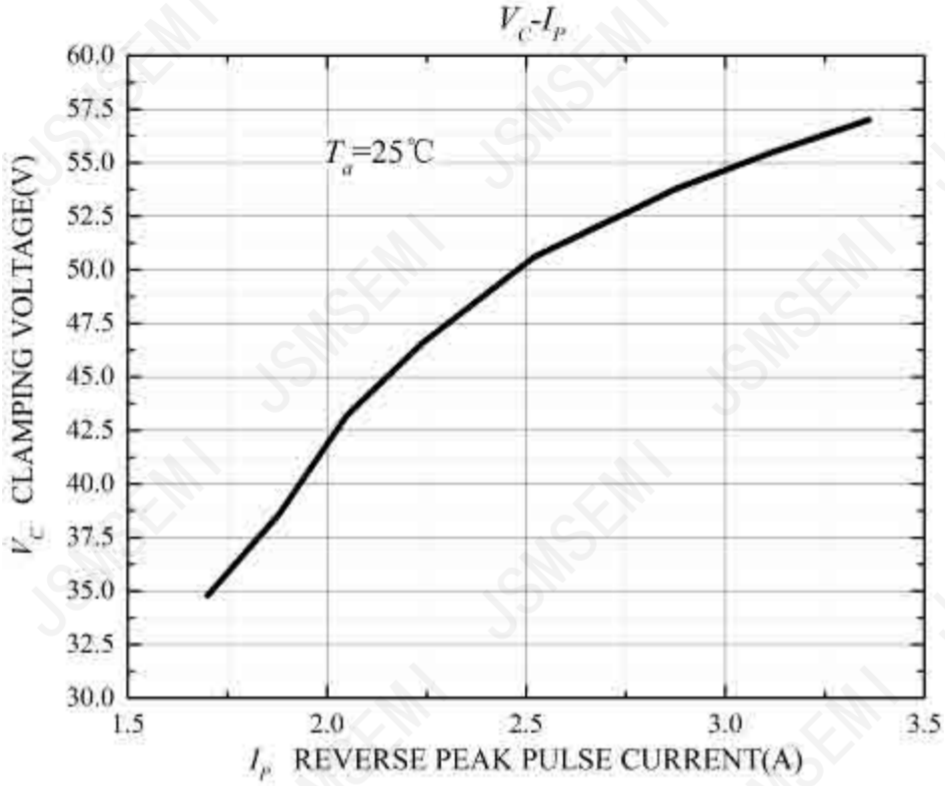
Electrical Characteristics

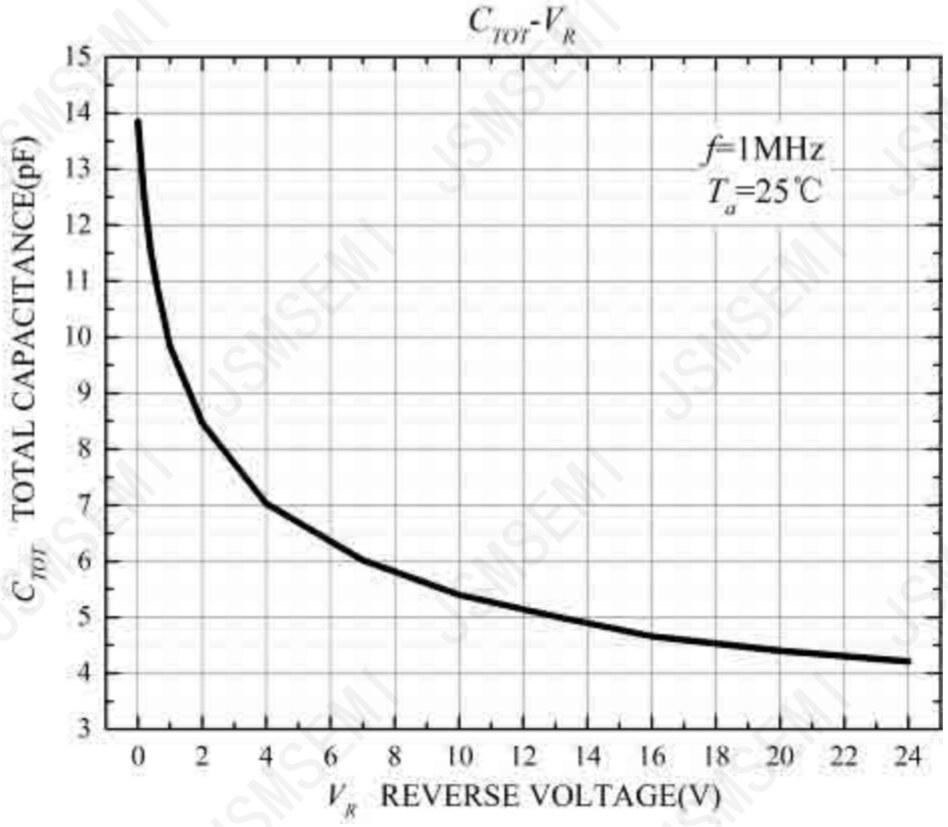
Ratings at 25°C ambient temperature unless otherwise specified.VF = 0.9V at IF = 10mA

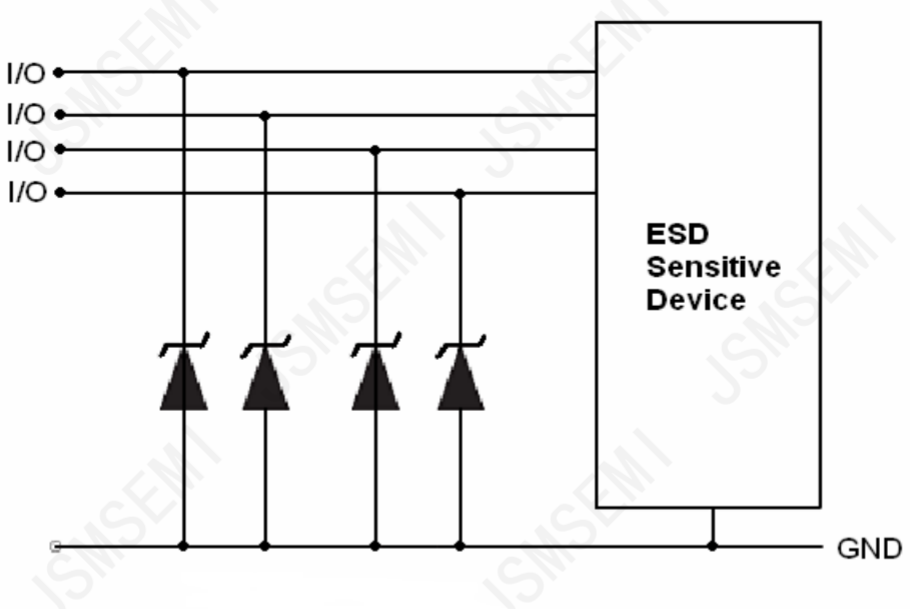
Device	V_{RWM} (V)	I_R(uA) @ V_{RWM}	V_{BR} (V)@ I_T (Note 1)	I_T	V_C (V) @I_{PP}=3A*	V_C (V) @ Max I_{PP}*	I_{PP} (A)*	P_{PK} (W)*	C (pF)
	Max	Max	Min	mA	Typ	Max	Max	Max	Typ
PESD24VS1UB,115-JSM	24	1.0	26.7	1.0	45	55	3	150	15

*Surge current waveform per Figure 1.

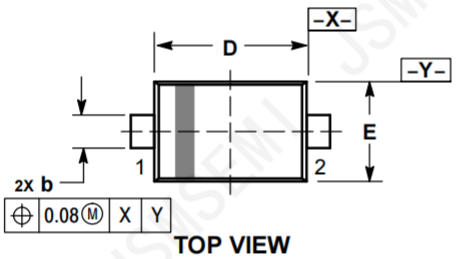
1. V_{BR} is measured with a pluse test current I_T at an ambient temperature of 25℃.


V_C-I_P
T_a=25℃
V_C CLAMPING VOLTAGE(V)
60.0
57.5
55.0
52.5
50.0
47.5
45.0
42.5
40.0
37.5
35.0
32.5
30.0
1.5
2.0
2.5
3.0
3.5
I_P REVERSE PEAK PULSE CURRENT(A)

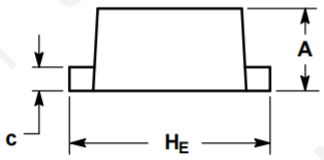

C_{TOT}-V_R
f=1MHz
T_a=25℃
C_{TOT} TOTAL CAPACITANCE(pF)
15
14
13
12
11
10
9
8
7
6
5
4
3
0
2
4
6
8
10
12
14
16
18
20
22
24
V_R REVERSE VOLTAGE(V)



SC−79/SOD−523



TOP VIEW

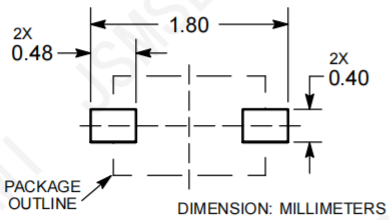


SIDE VIEW

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS		
DIM	MIN	NOM	MAX
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.07	0.14	0.20
D	1.10	1.20	1.30
E	0.70	0.80	0.90
HE	1.50	1.60	1.70
L	0.30 REF		
L2	0.15	0.20	0.25

RECOMMENDED SOLDERING FOOTPRINT*



DIMENSION: MILLIMETERS

Revision History

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

Important Notice

JSMSEMI Semiconductor (JSMSEMI) PRODUCTS ARE NEITHER DESIGNED NOR INTENDED FOR USE IN MILITARY AND/OR AEROSPACE, AUTOMOTIVE OR MEDICAL DEVICES OR SYSTEMS UNLESS THE SPECIFIC JSMSEMI PRODUCTS ARE SPECIFICALLY DESIGNATED BY JSMSEMI FOR SUCH USE. BUYERS ACKNOWLEDGE AND AGREE THAT ANY SUCH USE OF JSMSEMI PRODUCTS WHICH JSMSEMI HAS NOT DESIGNATED FOR USE IN MILITARY AND/OR AEROSPACE, AUTOMOTIVE OR MEDICAL DEVICES OR SYSTEMS IS SOLELY AT THE BUYER’S RISK.

JSMSEMI assumes no liability for application assistance or customer product design. Customers are responsible for their products and applications using JSMSEMI products.

Resale of JSMSEMI products or services with statements diferent from or beyond the parameters stated by JSMSEMI for that product or service voids all express and any implied warranties for the associated JSMSEMI product or s ervice. JSMSEMI is not responsible or liable for any such statements.

JSMSEMI All Rights Reserved. Information and data in this document are owned by JSMSEMI wholly and may not be edited, reproduced, or redistributed in any way without the express written consent from JSMSEMI.

Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc.When designing equipment, refer to the "Delivery Specification" for the JSMSEMI product that you intend to use.

For additional information please contact Kevin@jsmsemi.com or visit www.jsmsemi.com