PRODUCT DATA SHEET

To learn more about JGSEMI, please visit our website at

Datasheet Resources Samples

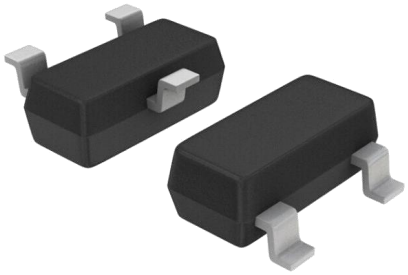
Please note: Please check the JINGAO Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.jg-semi.cn. Please email any questions regarding the system integration to JINGAO_questions@jgsemi.com.

SM712

ESD Protection Diode Array

Features

- 400 Watts peak pulse power (tp = 8/20μs)
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (C_j=60 pF typ.)
- Protection two data lines:
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 12A (8/20μs)



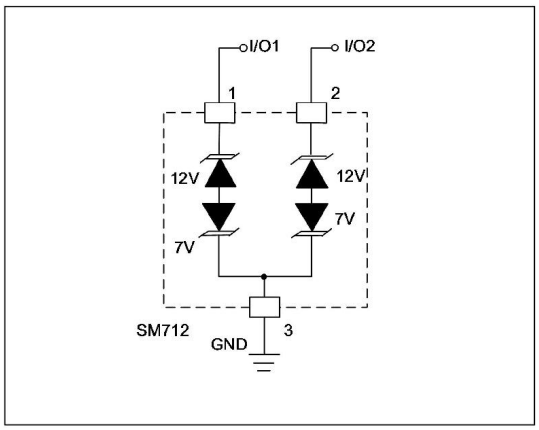
Applications

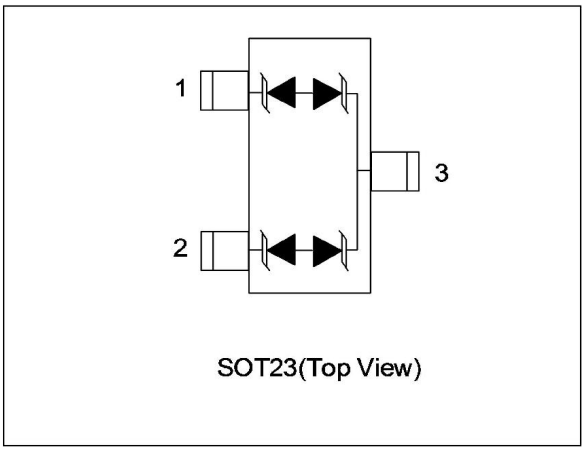
- Dataline
- Automatic Teller Machines
- Net works
- Power line

Mechanical Data

- SOT23 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Schematic & PIN Configuration





Absolute Maximum Rating

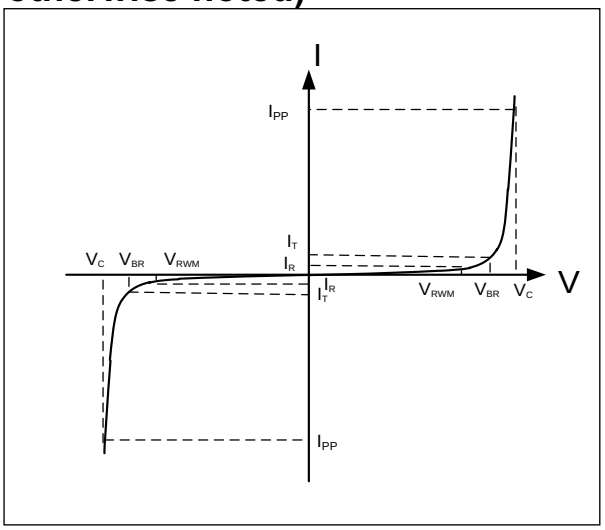
Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	400	Watts
Peak Pulse Current (t_p =8/20μs) (note1)	I_{pp}	12	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 125	℃

Electrical Characteristics

			Pins 1 to 3 and 2 to 3 (12V TVS)			Pins 3 to 1 and 3 to 2 (7V TVS)			
Parameter	**Symbol**	**Conditions**	**Min**	**Typical**	**Max**	**Min**	**Typical**	**Max**	**Units**
Reverse Stand-Off Voltage	V_{RWM}				12			7	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	13.3			7.5			V
Reverse Leakage Current	I_R	VR=V_{RWM}			1			1	μA
Clamping Voltage	V_C	I_{PP}=12A,t_p=8/20μs			20			10	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz		60	75		60	75	pF

Electrical Parameters (TA = 25℃ unless otherwise noted)

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}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

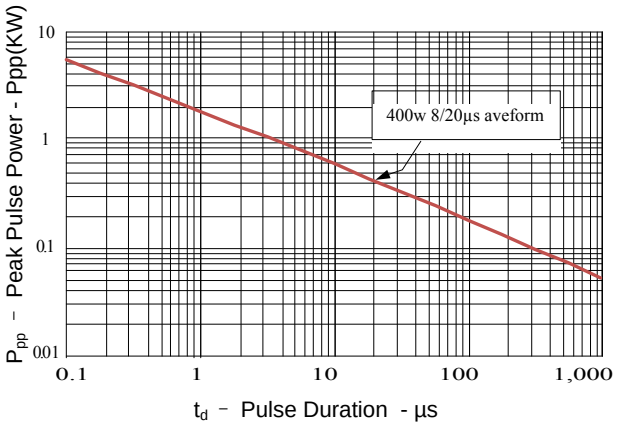


Figure 2: Power Derating Curve

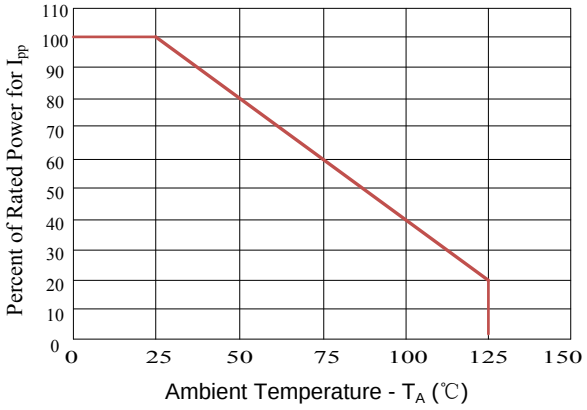


Figure3: Pulse Waveform

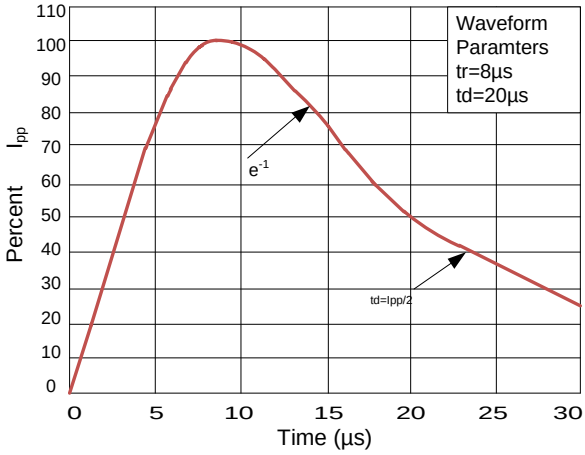
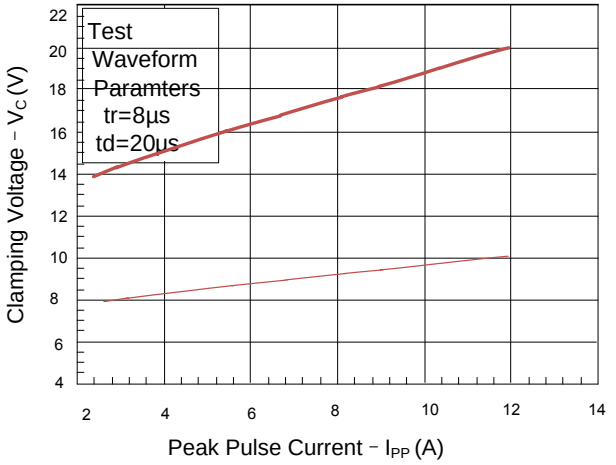
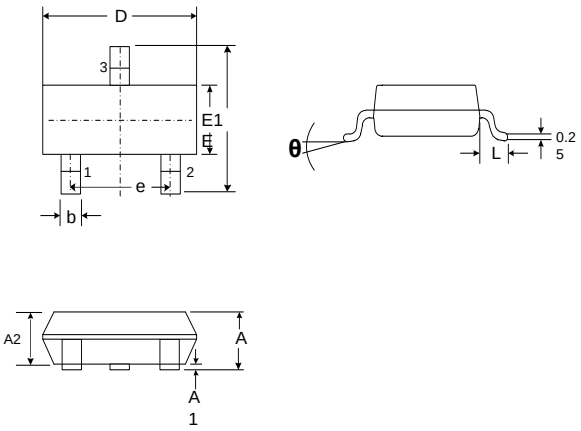


Figure 4: Clamping Voltage vs.Ipp



Outline Drawing – SOT23



	DIMENSIONS			
	MILLIMETER		INCHES	
SYMBOL	MIN	MAX	MIN	MAX
A	0.89	1.12	0.035	0.044
A1	0.01	0.10	0.0006	0.0043
A2	0.88	1.02	0.035	0.040
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.082	0.104
E1	1.20	1.40	0.047	0.055
e	1.90BSC		0.75 BSC	
L	0.40	0.60	0.015	0.024
θ	0	8°	0	8°

Attention

1, Any and all JGSEMI products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, orother applic ations whose failure can be reasonably expected to result in serious physical or material damage. Consult with your JGSEMI representative nearest you before using any JGSEMI products described or contained herein in such applicati ons.

2,JGSEMI assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all JGSEMI products described or contained herein.

3, Specifications of any and all JGSEMI products described or contained herein stipulate the performance, characteri stics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To ver ify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate an d test devices mounted in the customer's products or equipment.

4,In the event that any or all JGSEMI products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported wit hout obtaining the export license from the authorities concerned in accordance with the above law.

5, No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanic al, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the pr ior written permission of JGSEMI Semiconductor CO., LTD.

6, 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 JGSEMI produ ct that you Intend to use.

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

JGSEMI:

BAT46WS 2N7002-7-F