

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited For Automatic Insertion
- For General Purpose Switching Applications
- High Conductance


Mechanical Date

- Case: JEDEC SOD-323 molded plastic body over chip.
- Terminals: Solder plated, solderable per MIL-STD-750 Method 2026.
- Polarity: types the band by laser denotes the cathode.
- Weight: 0.0063gram



SOD-323

Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V _{RRM}	250	V
Continuous Reverse Voltage	V _R	200	V
Non-repetitive Peak Forward Surge Current (t=1s)	I _{FSM}	500	mA
Non-Repetitive Peak Forward Surge Current (t=8.3ms half sine)	I _{FSM}	2.5	A
Repetitive Peak Forward Current	I _{FRM}	625	mA
Maximum average forward repetitive Current (av. over any 20ms period)	I _{FS(AV)}	200	mA

Thermal Characteristics

Power Dissipation	P _d	200	mW
Thermal Resistance Junction to Ambient Air	R _{θJA}	635	°C / W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to 150	°C

Electrical characteristics (T_A=25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Reverse Voltage Leakage Current (V _R = 200 Vdc) (V _R = 200 Vdc, T _J = 150°C)	I _R	-	0.1 100	μAdc
Reverse Breakdown Voltage (I _{BR} = 100 μAdc)	V _(BR)	250	-	Vdc
Forward Voltage (I _F = 100 mAdc) (I _F = 200 mAdc)	V _F	-	1000 1250	mV
Diode Capacitance (V _R = 0, f = 1.0 MHz)	C _D	-	5.0	pF
Reverse Recovery Time (I _F = I _R = 30 mAdc, R _L = 100 Ω)	t _{rr}	-	50	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

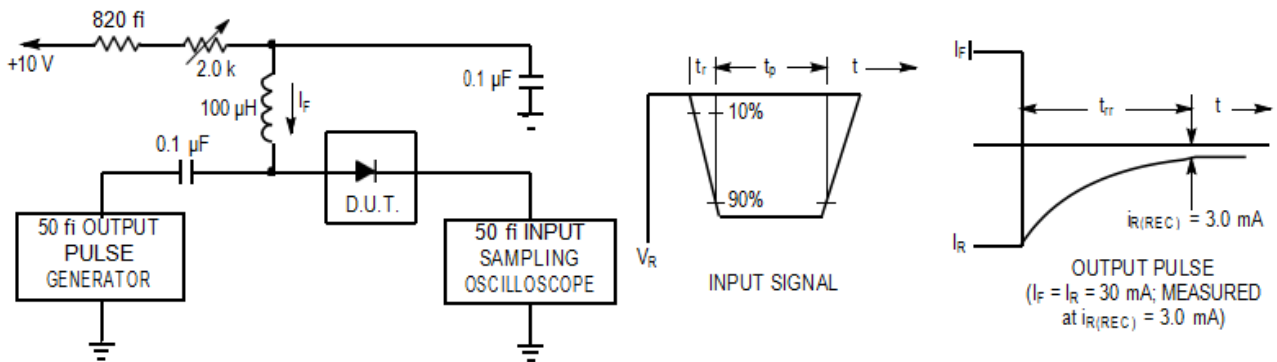


Fig.1-Recovery Time Equivalent Test Circuit

Notes:

1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 30 mA.
2. Input pulse is adjusted so I_R(peak) is equal to 30 mA.
3. t_p » t_{rr}

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

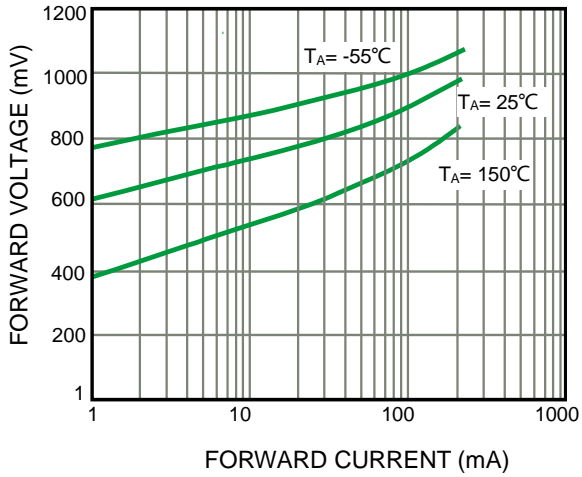


Fig.2-Forward Voltage

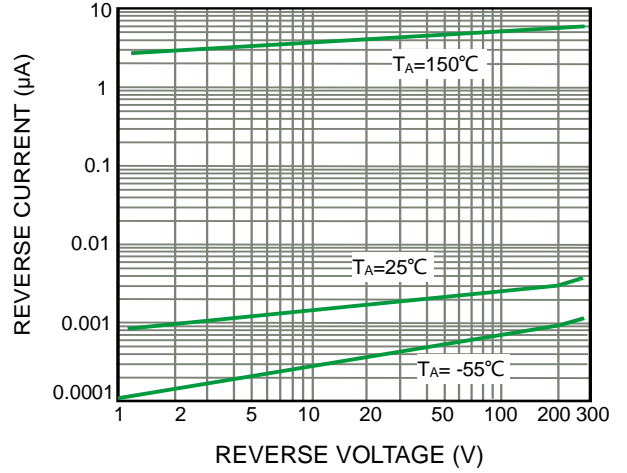


Fig.3-Reverse Leakage

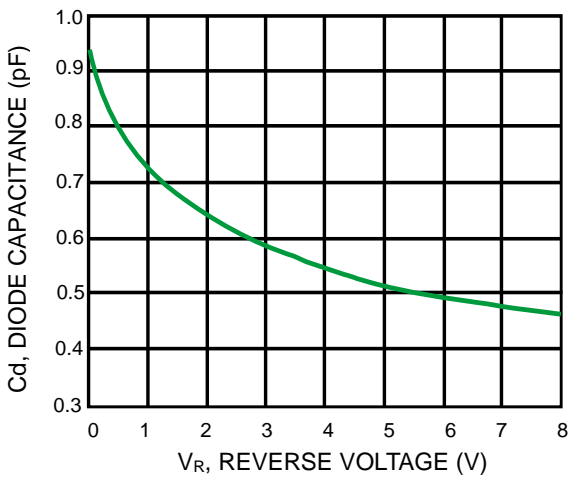


Fig.4-Diode Capacitance

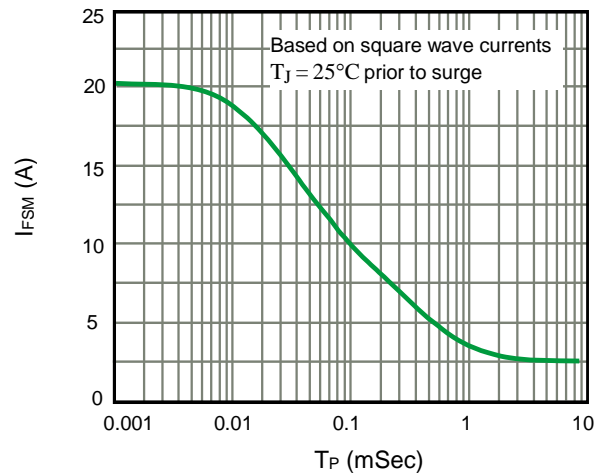
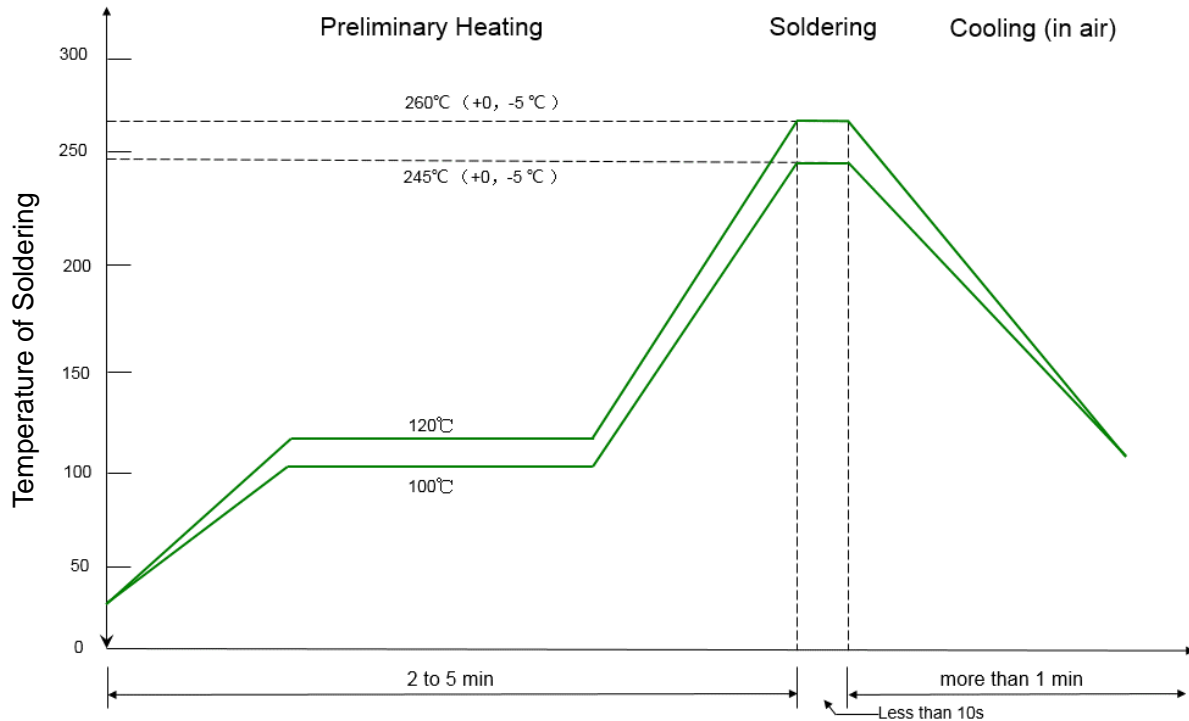


Fig.5-Maximum Non-repetitive Peak Forward Current as a Function of Pulse Duration, Typical Values

Solder Reflow Recommendation



Remark: Pb free for 260°C; Pb for 245°C.

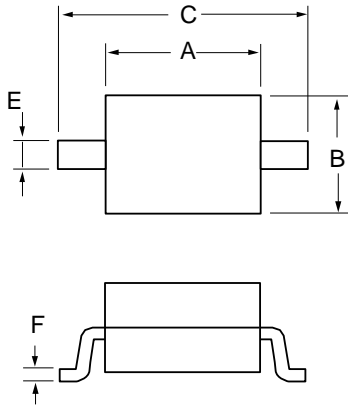
PCB Design

For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:

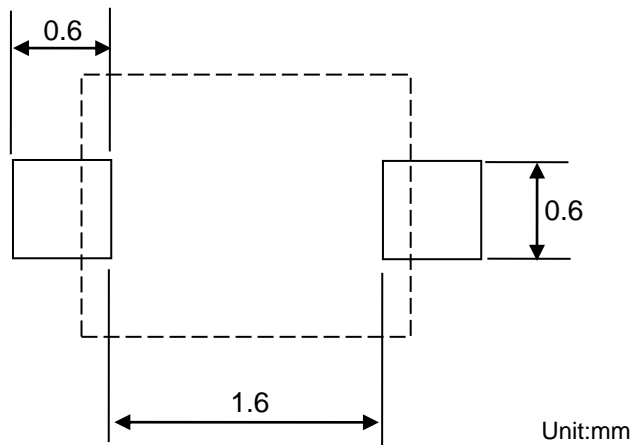
- Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
- Do not make false economies and save copper for the ground connection.
- Place via holes to ground as close as possible to the anode of the TVS diode.
- Use as many via holes as possible for the ground connection.
- Keep the length of via holes in mind! The longer the more inductance they will have.

High Voltage Switching Diode

Product dimension (SOD-323)

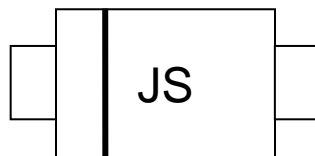


Dim	Millimeters	
	MIN	MAX
A	1.60	1.95
B	1.10	1.50
C	2.50	2.85
D	0.80	1.15
E	0.25	0.45
F	0.10	0.15
H	0.00	0.10



Suggested PCB Layout


Marking information



Ordering information

Device	Package	Reel	MPQ
PBAS21HT	SOD-323 (Pb-Free)	7"	3000 / Tape & Reel


IMPORTANT NOTICE

 and **Prisemi**[®] are registered trademarks of **Prisemi Electronics Co., Ltd (Prisemi)** ,Prisemi reserves the right to make changes without further notice to any products herein. Prisemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Prisemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. “Typical” parameters which may be provided in Prisemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including “Typicals” must be validated for each customer application by customer’s technical experts. Prisemi does not convey any license under its patent rights nor the rights of others. The products listed in this document are designed to be used with ordinary electronic equipment or devices, Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Website: <http://www.prisemi.com>

For additional information, please contact your local Sales Representative.

©Copyright 2009, Prisemi Electronics

 **Prisemi**[®] is a registered trademark of Prisemi Electronics.

All rights are reserved.