

TVS Diode

Primary characteristics			
Parameter	Symbol	Value	Unit
Peak Pulse Current	I_{PP}	20	A
ESD per IEC 61000-4-2 (Air/Contact)	V_{ESD}	30	kV
Peak Pulse Power	P_{PP}	350	W

Features

- Bidirectional and unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Applications

- Automatic Teller Machines
- Networks
- Powerline
- Dateline

Case dimensions

Top view diagram of a SOT-23 package. The diagram shows a rectangular body with a central dashed line. Dimensions include: D (total width), E (total height), E1 (height of the central body), e (distance from the central body to the pins), b (pin width), and pin numbers 1, 2, and 3.

Side view diagram of a SOT-23 package. The diagram shows the profile of the package with dimensions: theta (lead angle), L (lead length), and 0.25 (maximum lead thickness).

Bottom view diagram of a SOT-23 package. The diagram shows the underside of the package with dimensions: A (total height), A1 (height of the central body), and A2 (height of the pins).

SOT-23

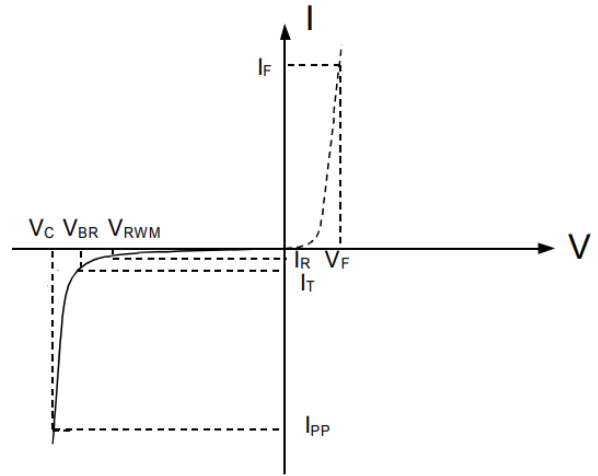
Symbol		A	A1	A2	D	b	E	E1	e	L	θ
Milimeters	Min.	0.900	0.000	0.900	2.800	0.300	2.250	1.200	0.950	0.300	0°
	Max.	1.150	0.100	1.050	3.000	0.500	2.550	1.400	BSC	0.500	8°
Inches	Min.	0.035	0.000	0.035	0.110	0.012	0.089	0.047	0.037	0.012	0°
	Max.	0.045	0.004	0.041	0.118	0.020	0.100	0.055	BSC	0.020	8°

Absolute Maximum Ratings and Electrical Characteristics

Characteristic	Test Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
Peak Pulse Power	$t_p = 8/20\mu s$	P_{PP}	-	350	-	W
Peak Pulse Current	$t_p = 8/20\mu s$	I_{PP}	-	20	-	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	-	°C
Junction Temperature	-	T_J	-55 / +125			°C
Storage Temperature	-	T_{stg}	-55 / +125			°C
Reverse Stand-Off Voltage	-	V_{RWM}	-	-	3.3	V
Reverse Breakdown Voltage	$I_T = 1mA$	V_{BR}	4.0	6.5	8.0	V
Reverse Leakage Current	$V_{RWM} = 3V, T = 25^\circ C$	I_R	-	0.1	0.5	μA
Clamping Voltage	$I_{PP} = 20A, t_p = 8/20\mu s$	V_C	-	-	16	V
Junction Capacitance	$V_R = 0V, f = 1MHz$	C_j	-	200	-	pF

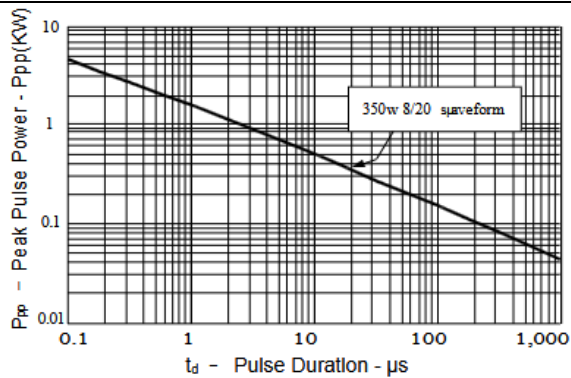
Electrical Parameters ($T_A=25^\circ\text{C}$ unless otherwise noted)

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

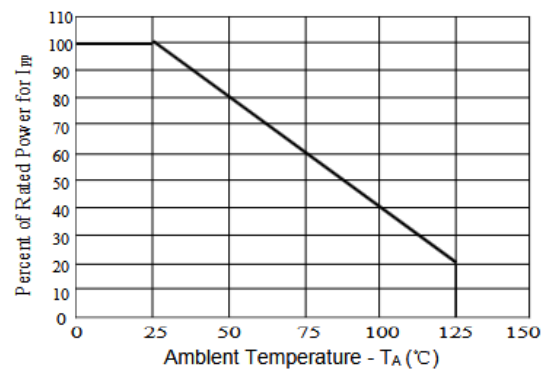


Typical Characteristics

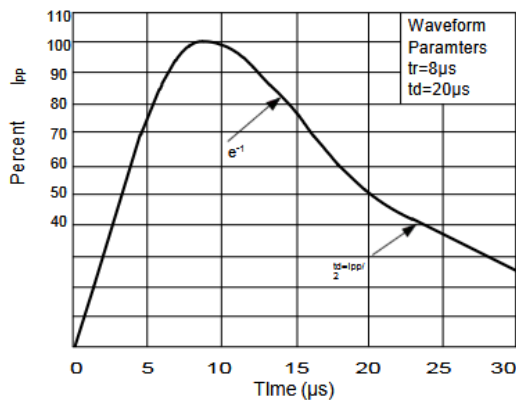
Peak Pulse Power vs. Pulse Time



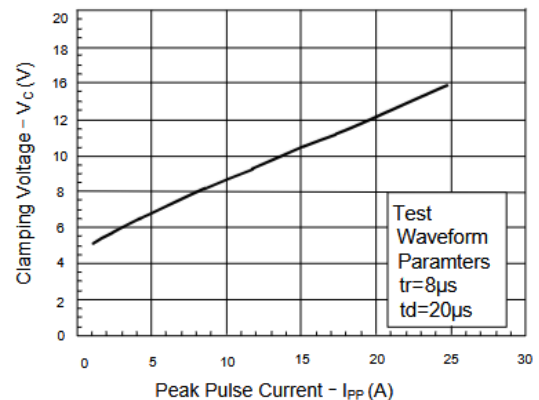
Power Derating Curve

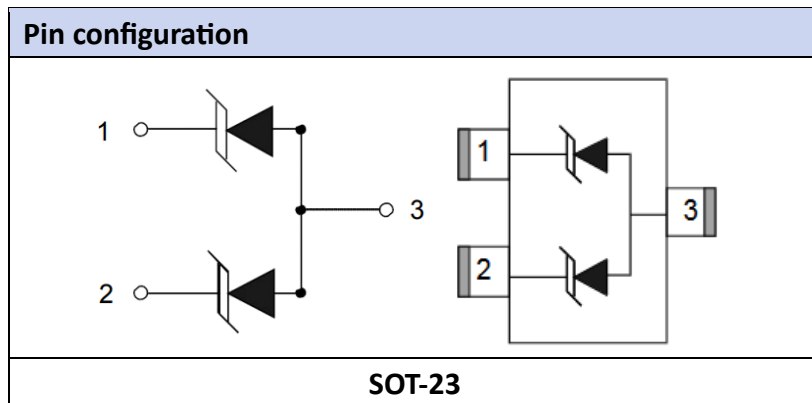


Pulse Waveform



Clamping Voltage vs. I_{PP}





Ordering information			
Part Number	Package	Shipping Quantity	Delivery Mode
PESD3V3S2UT	SOT-23	3 000 pcs	Tape and reel

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