



DESCRIPTION

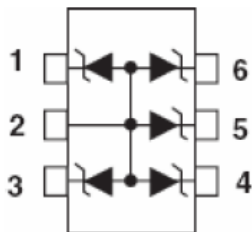
The ESDA6V1W6 is a monolithic suppressor designed to protect components connected to data and transmission lines against ESD. The device clamp the voltage just above the logic level supply for positive transients, and to a diode drop below ground for negative transients.

The ESDA6V1W6 is available in SC-88 package.

ORDERING INFORMATION

Package Type	Part Number
SC-88	ESDA6V1W6-1
Note	Package Q'ty/Reel 1=3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION



FEATURES

- 5 Unidirectional Transil functions
- Breakdown voltage:
 - $V_{BR} = 6.1V$ min. and $25V$ min.
- Low leakage current: $< 1mA$
- Very small PCB area $< 4.2 mm^2$ typically
- High ESD protection level: up to $25kV$
- High integration
- Complies with the following standards
 - IEC61000-4-2
 - Level 4 $15kV$ (air discharge)
 - $9kV$ (contact discharge)
 - MIL STD 883E - Method 3015-7 Class 3
 - $25kV$ HBM (Human Body Model)
- Available in SC-88 package

APPLICATIONS

- Computers
- Printers
- Communication systems
- Cellular phones handsets and accessories
- Wired and wireless telephone sets
- Set top boxes



ABSOLUTE MAXIMUM RATINGS

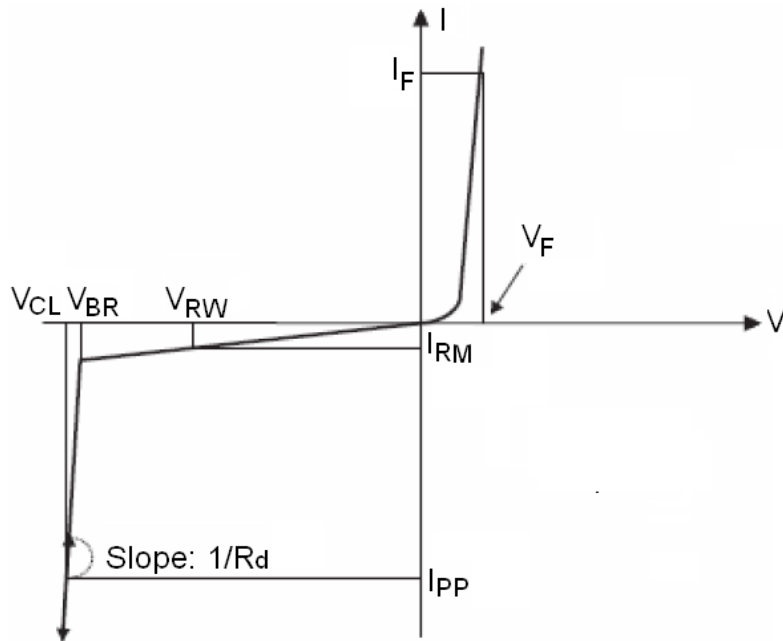
$T_{amb} = 25^{\circ}\text{C}$

P_{PP} , Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	100W
T_L , Maximum lead temperature for soldering during 10s	260°C
T_{stg} , Storage Temperature Range	-40°C to +125°C
T_{op} , Operating Temperature Range	-40°C to +125°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.



ELECTRICAL PARAMETER



Symbol	Parameter
V_{RM}	Stand-off voltage
V_{BR}	Breakdown voltage
V_{CL}	Clamping voltage
I_{RM}	Leakage current
I_{PP}	Peak pulse current
I_R	Reverse current
I_F	Forward current
αT	Voltage temperature coefficient
V_F	Forward voltage drop
C	Capacitance
R_d	Dynamic



ELECTRICAL CHARACTERISTICS

Part Number	V _{BR}		I _R	V _{RM}	I _{RM}	V _F	I _F	R _d	αT	C
	MIN	MAX				MAX		TYP NOTE1	MAX NOTE2	TYP 0v bias
	V	V	mA	V	μA	V	mA	Ω	10 ⁻⁴ /°C	pF
ESDA6V1W6	6.1	7.2	1	3	1	1.25	200	0.61	6	50

NOTE1: Square pulse I_{PP} = 15A, t_p = 2.5μs

NOTE2: V_{BR} = αT x (T_{amb}-25°C) x V_{BR} (25°C)



TYPICAL CHARACTERISTICS

Figure 1. Pulse Width

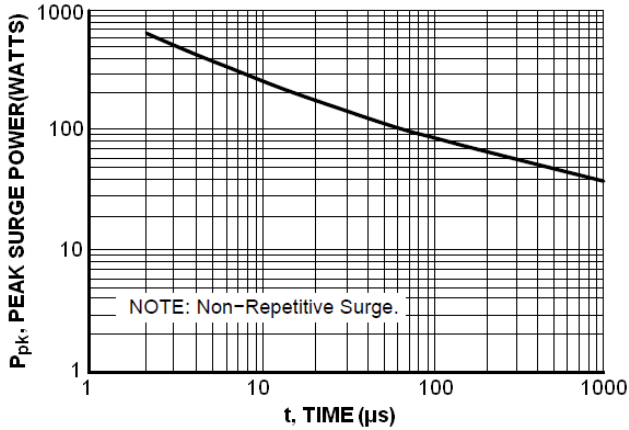


Figure 2. 8 x 20μs Pulse Waveform

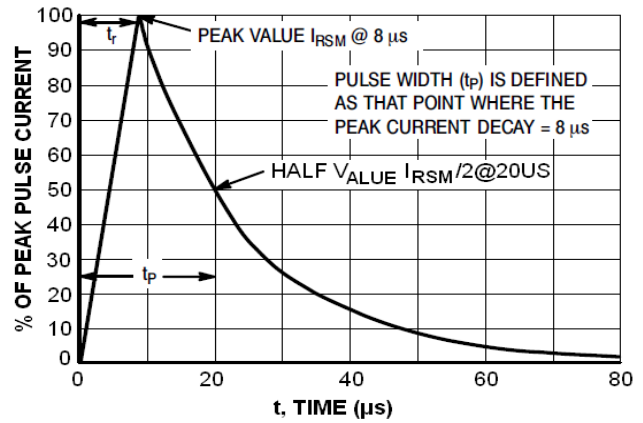


Figure 3. Pulse Derating Curve

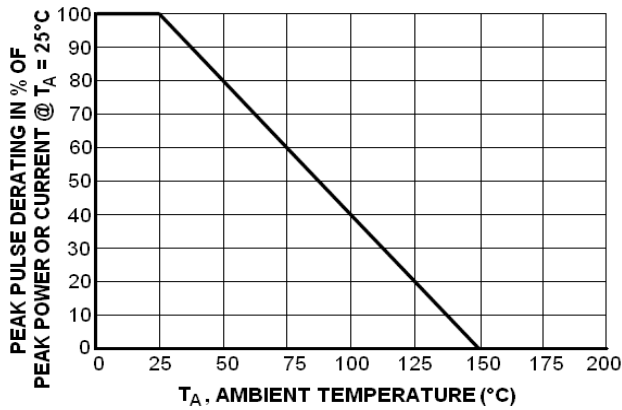


Figure 4. Capacitance

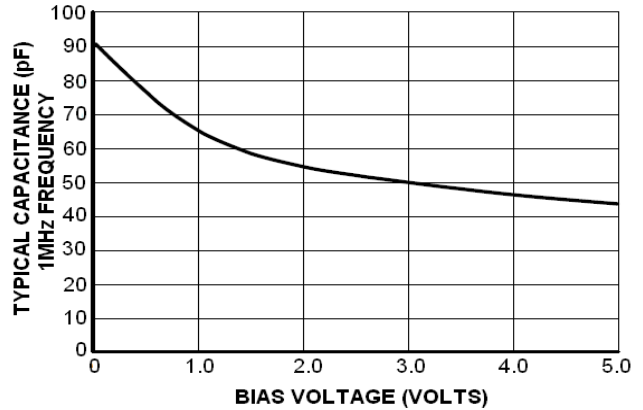


Figure 5. Forward Voltage

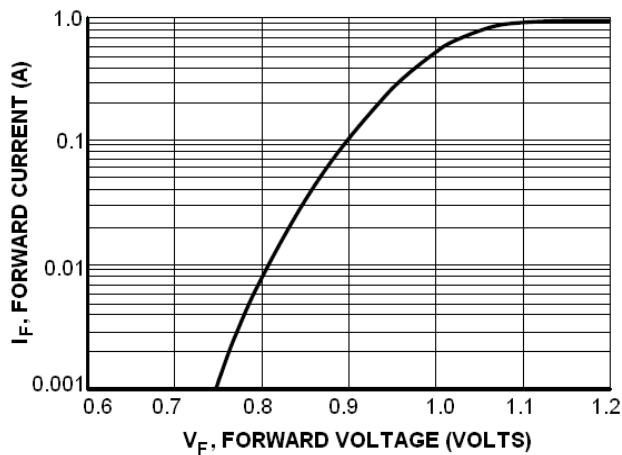


Figure 6. Clamping Voltage versus Peak Pulse Current (Reverse Direction)

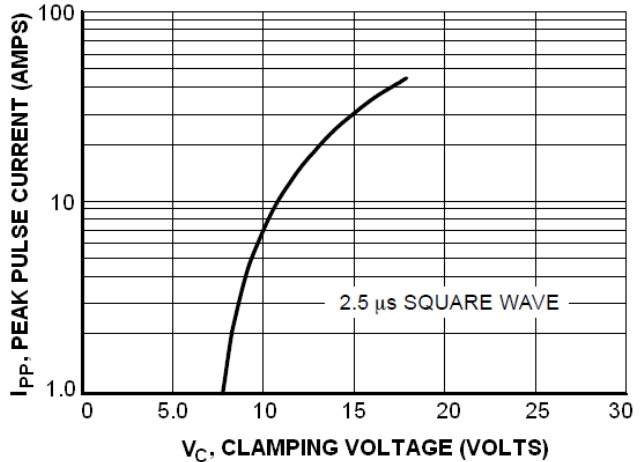
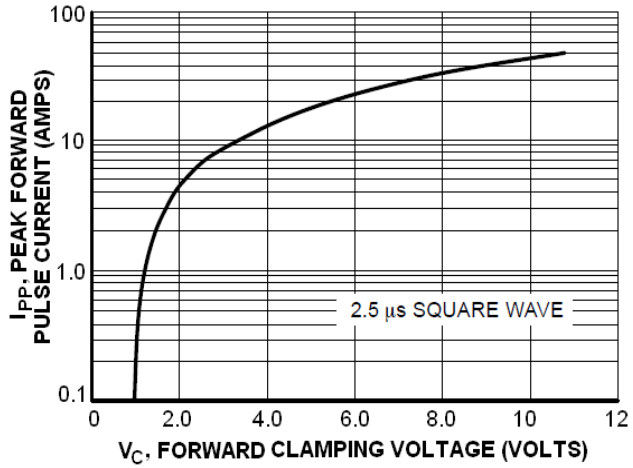




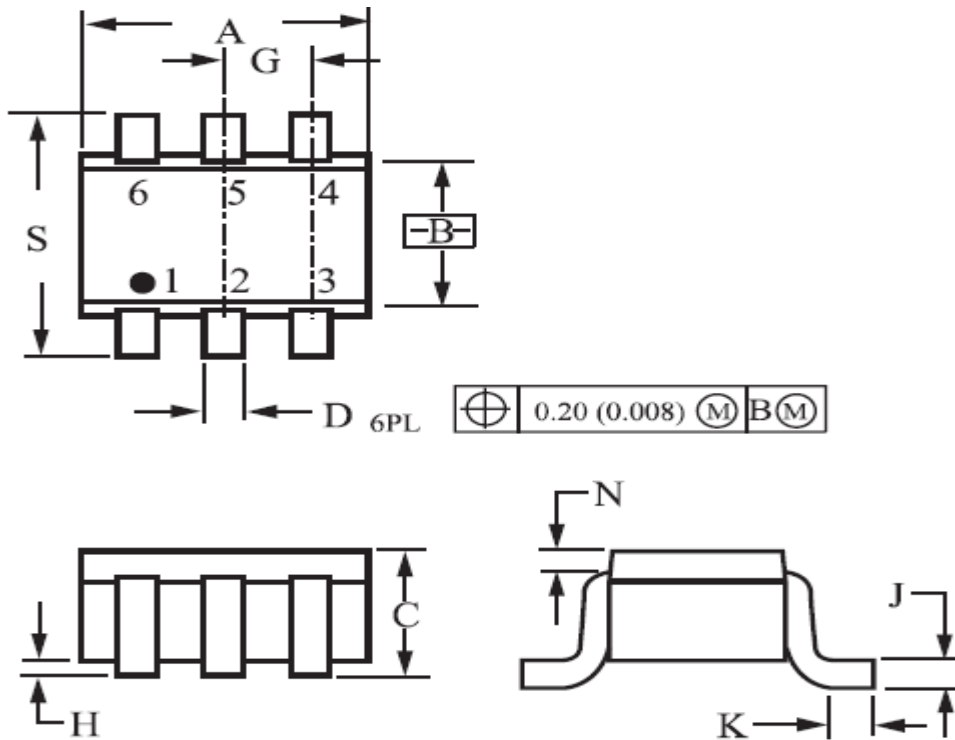
Figure 7. Clamping Voltage versus Peak Pulse Current (Forward Direction)





PACKAGE INFORMATION

Dimension in SC-88 Package (Unit: mm)



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	-	0.004	-	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20



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