

### ESDA6V8AV6

### Low Junction Capacitance Transient Voltage Suppressors for ESD Protection

#### **Description:**

The ESDA6V8AV6 array is 5-Line ESD transient voltage suppressor which provides a very high level of protection for sensitive electronic components that may be subjected to electrostatic discharge (ESD). These devices clamp the voltage just above the logic level supply for positive transient, and to a diode drop below ground for negative transients.

The ESDA6V8AV6 safely dissipates ESD strikes of ±20kV, exceeding the maximum requirement of the IEC 61000-4-2 international standard. Using the MILSTD-883 (Method 3015) specification for Human Body Model (HBM) ESD, the device provides protection for contact discharges to greater than ±16kV. The ESDA6V8AV6 is available in a SOT-563 SMT package with working voltages of 5 volt.

#### **Specification Features:**

- Working Peak Reverse Voltage: 5 V
- Low Leakage current: <1uA@3V
- High ESD protection Level: >20kV per HBM
- IEC61000- 4- 2 Level 4 ESD Protection
- IEC61000- 4- 4 Level 4 EFT Protection
- Five separate unidirectional configurations

### **Mechanical Characteristics**

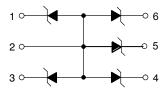
- Void Free, Transfer-Molded, Thermosetting Plastic Case
- Corrosion Resistant Finish, Easily Solderable
- Small Packaging

#### **Applications**

- Cell Phone Handsets and Accessories
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Digital Cameras
- Peripherals
- MP3 Players

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#### **MARKING DIAGRAM**



xx = Specific Device Code M = Date Code

### **Ordering Information**

Device	Package	Shipping
ESDA6V8AV6-6/TR	SOT-563	3000 Tape
		& Reel

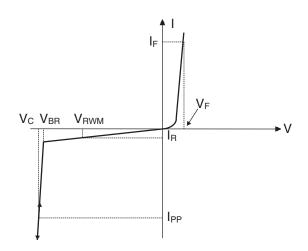


# **Absolute Maximum Rating**

Rating	Symbol	Value	Units
Peak Pulse Power(tp=8/20us)	Ppp	20	W
Maximum Peak Pulse	Ipp	1.6	A
Current(tp=8/20us)			
ESD per IEC 61000-4-2 (Air)	Vpp	±20	KV
ESD per IEC 61000-4-2 (Contact)		±16	
Maximum lead temperature for soldering	TL	260	°C
during 10s			
Storage Temperature Range	Tstg	-55~+150	°C
Operating Temperature Range	Тор	-55~+125	°C

# **Electrical Parameter**

Symbol	Parameter
IPP	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @ IPP
V <sub>RWM</sub>	Working Peak Reverse Voltage
IR	Maximum Reverse Leakage Current @ VRWM
IT	Test Current
$V_{BR}$	Breakdown Voltage @ IT
IF	Forward Current
VF	Forward Voltage @ IF



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### **Electrical Characteristics**

## (T=25°C, Device for 5.0V Working Peak Reverse Voltage)

	Conditions	Minimum	Typical	Maximum	Unit
IR	$V_{RWM}=5V$			0.5	uA
$V_{\mathrm{F}}$	$I_F = -10 \text{mA}$	-0.4	-0.8		V
VBR	I <sub>T</sub> =1mA	6.2	6.8	7.2	V
Vc	$I_{PP}=1A$ , $tp = 8/20us$ , note1			12	V
	$I_{PP}=1.6A$ , $tp = 8/20us$ , note1			14.4	V
С	Pin1 to 2 $V_R = 0V$ , $f = 1MHz$		9		pF

Note1: Surge current waveform per Figure 1.

# **Typical Characteristics**

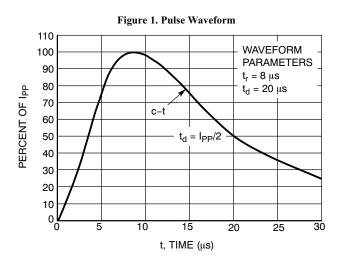
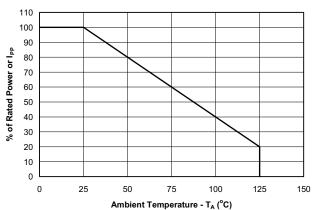
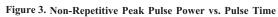


Figure 2. Power Derating Curve





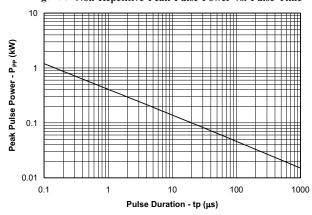
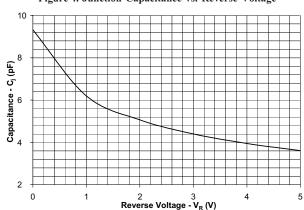
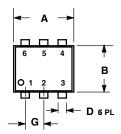


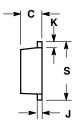
Figure 4. Junction Capacitance vs. Reverse Voltage





# Package mechanical data

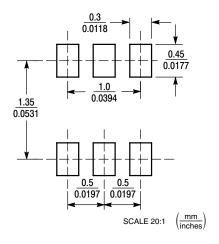




	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
Α	1.50	1.70	0.059	0.067
В	1.10	1.30	0.043	0.051
С	0.50	0.60	0.020	0.024
D	0.17	0.27	0.007	0.011
G	0.50 BSC		0.020 BSC	
J	0.08	0.18	0.003	0.007
K	0.10	0.30	0.004	0.012
S	1.50	1 70	0.059	0.067

- STYLE 6:
  PIN 1. CATHODE
  2. ANODE
  3. CATHODE
  4. CATHODE
  5. CATHODE
  6. CATHODE

#### **SOLDERING FOOTPRINT**



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