WILLAS

RoHS COMPLIANT

ESDA6V1W5

Transient Voltage Suppressors for ESD Protection

General Description

The ESDA6V1W5 is monolithic suppressor designed to protect components connected to data and transmission lines against ESD. This device clamps the voltage just above the logic level supply for positive transients and to a diode drop below ground for negative transients.

Applications

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

Features

- 4 Unidirectional Transil functions
- Low leakage current: < 1 μA
- Very small PCB area < 4.2 mm 2 typically
- High integration
- **Pb-Free package is available**
  RoHS product for packing code suffix ”G”
  Halogen free product for packing code suffix “H”
- **Moisture Sensitivity Level 1**

Complies with the following standards

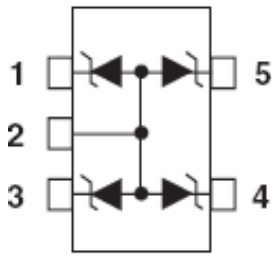
IEC61000-4-2

Level 4 15 kV (air discharge)
8 kV(contact discharge)

MIL STD 883E - Method 3015-7 Class 3
25 kV HBM (Human Body Model)

Functional diagram

SOT-353



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Absolute Ratings (T_{amb}=25°C)			
Symbol	**Parameter**	**Value**	**Units**
P_{PP}	Peak Pulse Power (t_p = 8/20μs)	150	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-40 to +125	°C
T_{op}	Operating Temperature Range	-40 to +125	°C

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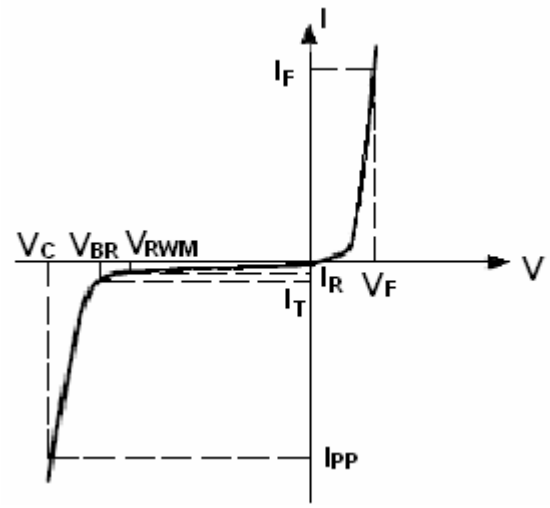
Electrical Parameter

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}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

Part Numbers	V_{BR}			I_T	V_{RWM}	I_R	V_F	I_F	C
	Min.	Typ	Max.				Max.		Typ. 0v bias
	V	V	V	mA	V	μA	V	mA	pF
ESDA6V1W5	6.1	6.7	7.2	1	5	1	1.25	200	35

1.Square pulse I_{PP}=15A,t_p=2.5μs 2.V_{BR}=aT*(T_{amb}-25°C)*V_{BR}(25°C)

Typical Characteristics

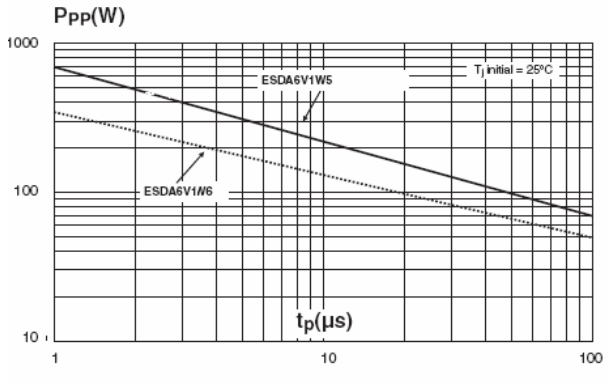


Fig1.Peak pulse power versus exponential Pulse duration (T_j initial=25°C)

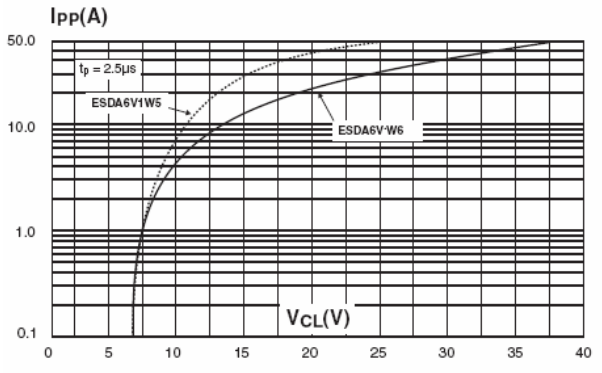


Fig2. Clamping voltage versus peak pulse current(T_j initial=25°C, rectangular Waveform, t_p=2.5μs)

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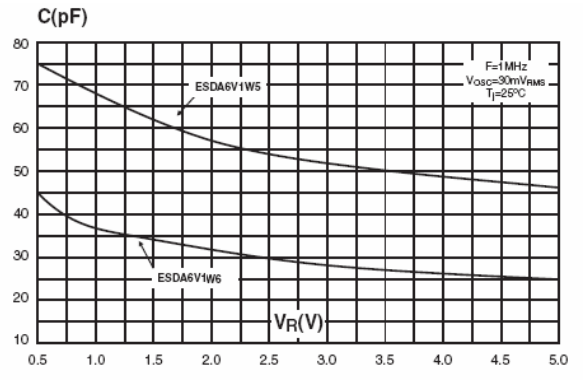


Fig 3 Capacitance Versus reverse applied voltage

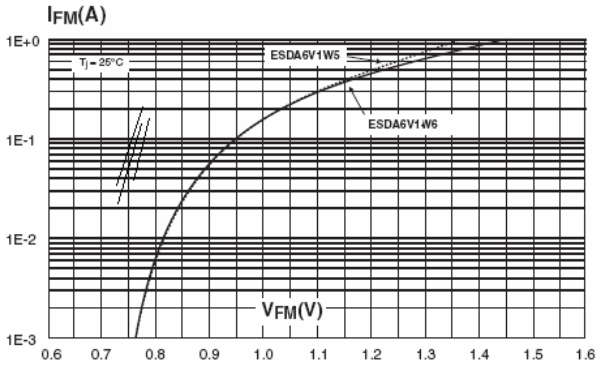
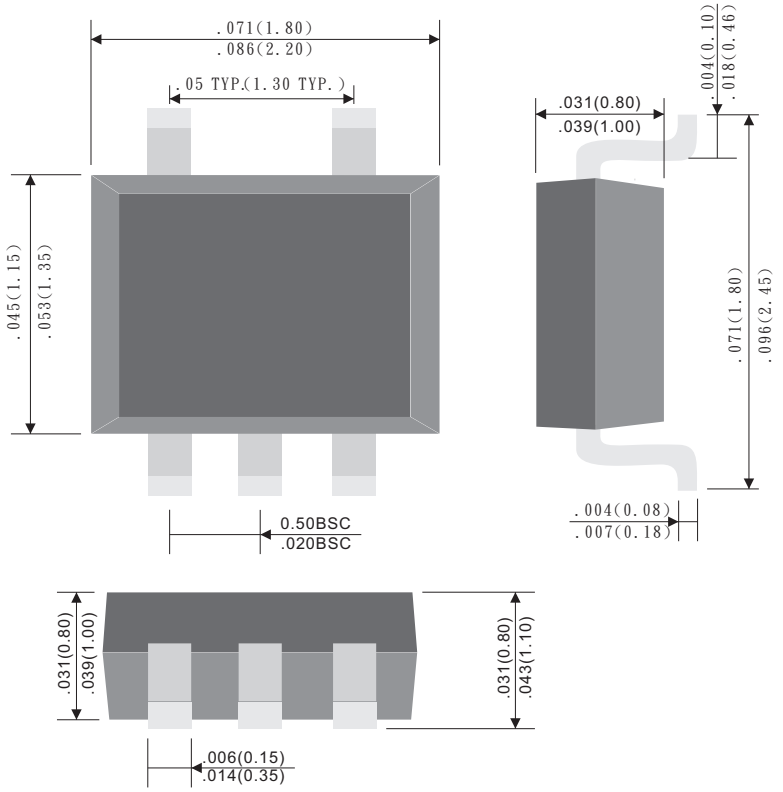


Fig 4 Peak Forward Voltage Drop versus forward current

SOT-353 Mechanical Data



Dimensions in inches and (millimeters)

Marking

Type number	Marking code
ESDA6V1W5	W5

Transient Voltage Suppressors for ESD Protection

Ordering Information:

Device PN	Packing
ESDA6V1W5 -T(1)G(2)-WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel

(2) RoHS product for packing code suffix ”G”；Halogen free product for packing code suffix “H”