



ESDA05V35

TRANSIENT VOLTAGE SUPPRESSORS FOR ESD PROTECTION

General Description

The ESDA05V35 is a 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

- 5 Unidirectional Transil functions
- Low leakage current: $< 1 \mu\text{A}$
- High integration

Complies with the following standards
IEC61000-4-2

Level 4 15 kV (air discharge)

8 kV (contact discharge)

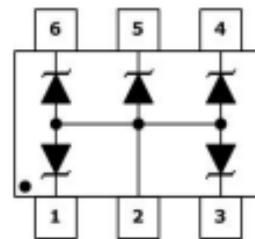
MIL STD 883E – Method 3015-7 Class 3

25 kV HBM (Human Body Model)

Functional diagram



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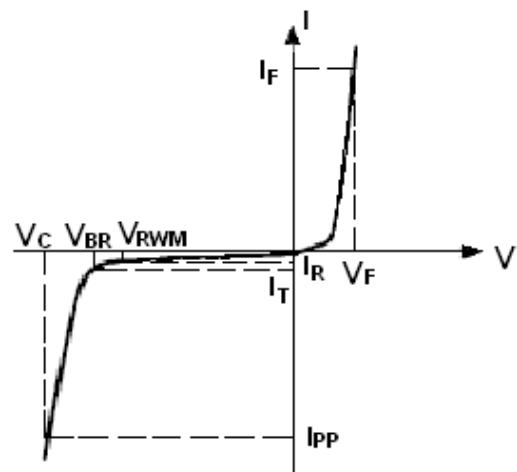
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Absolute Ratings ($T_{amb}=25^{\circ}\text{C}$)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	150	W
T_L	Maximum lead temperature for soldering during 10s	260	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-40 to +125	$^{\circ}\text{C}$
T_{op}	Operating Temperature Range	-40 to +125	$^{\circ}\text{C}$

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





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Electrical Characteristics

Part Number	V_{BR}			I_T	V_{RWM}	I_R	V_F	I_F	C
	Min.	Typ	Max.				Max.		Typ. 0v bias
	V	V	V				V		pF
ESDA05V35	6.1	6.7	7.2	1	5	1	1.25	200	35

1. Square pulse $I_{PP}=15A, t_p=2.5\mu s$ 2. $V_{BR}=aT*(T_{amb}-25^\circ C)*V_{BR}(25^\circ C)$

Typical Characteristics

Fig1. 8/20 μs Pulse Waveform

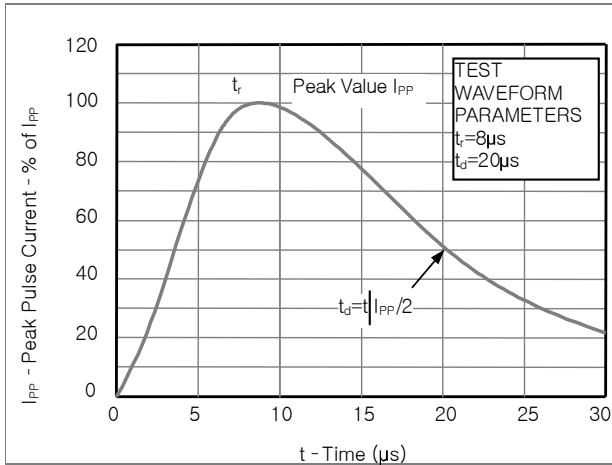


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

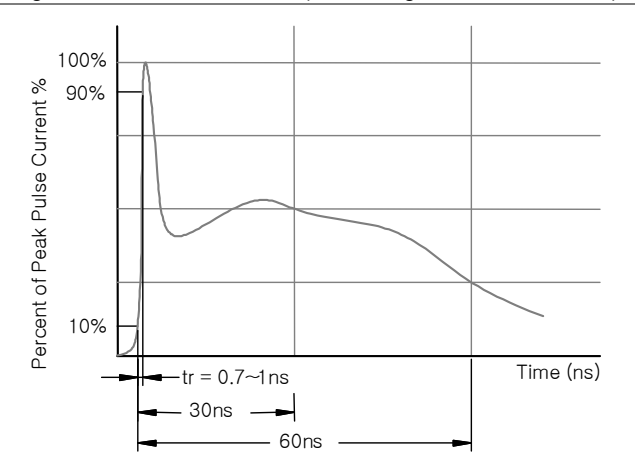
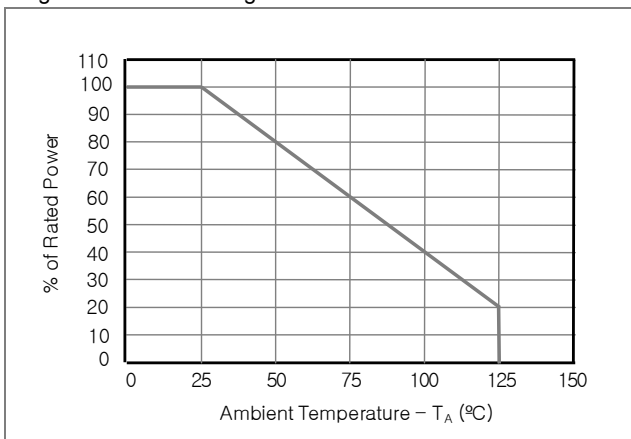


Fig3. Power Derating Curve

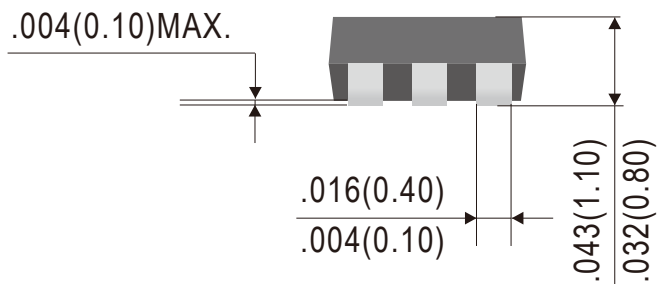
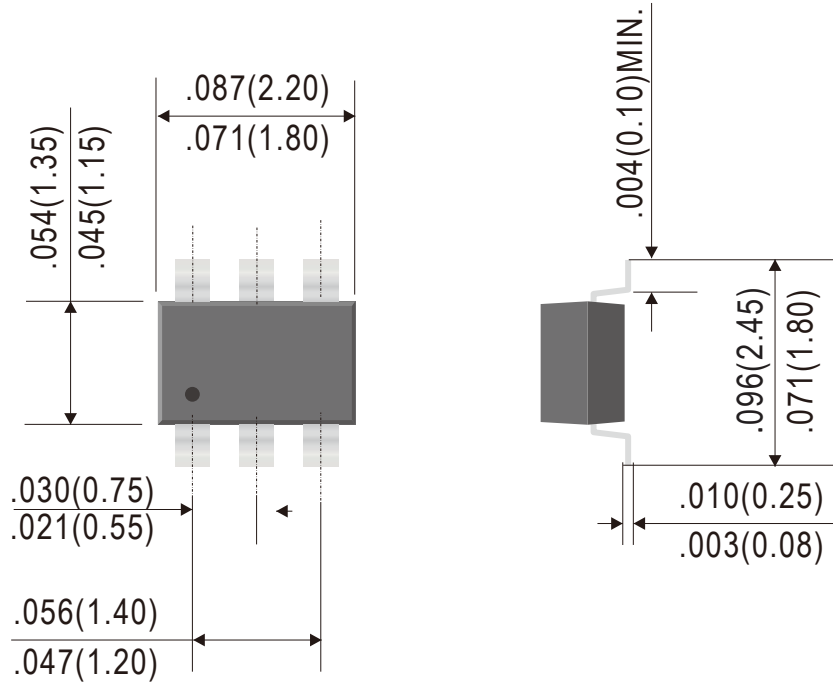




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SOT-363 Mechanical Data



Dimensions in inches and (millimeters)