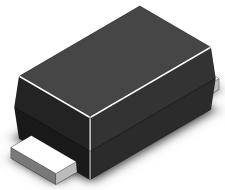
Transient Voltage Suppressors for ESD Protection

ESD12V92D-A Series

Description

The ESD12V92D-A is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is very suitable for signal port and board space speed transmission is very small places, such as mobile phones , MP3 players, digital cameras and other portable.

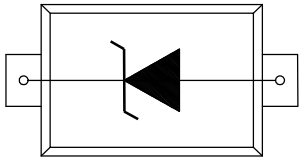
SOD-923



Feature

- Protects one I/O line (unidirection)
- Low clamping voltage
- Working voltages: 12V
- Low leakage current
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)

Functional Diagram



Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Peripherals
- USB Interface

Mechanical Data

- SOD-923 Package (1.0 mm x 0.60 mm)
- Low Body Height: 0.43 mm Max
- Quantity Per Reel : 8,000pcs
- We declare that the material of product compliance with RoHS requirements.
- Marking: H

Mechanical Characteristics

Symbol	Parameter	Value	Units
Ppp	**Peak Pulse Power (tp=8/20μs waveform)**	140	Watts
T_J	**Operating Junction Temperature Range**	-55 to +150	ºC
T_{STG}	**Storage Temperature Range**	-55 to +150	ºC
T_L	**Soldering Temperature**	260	ºC

RoHS

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Electrical Characteristics (@ 25ÿ Unless Otherwise Specified)

Part Number	Device Marking Code	Stand-Off Voltage V_{RMW} (V)	Breakdown Voltage V_{BR}	Test Current I_T (mA)	V_C		Maximum Reverse Leakage I_R @V_{RWM} (uA)	Typ Capacitance @0 V 1MHz (pF)
					(Max.)	(@A)		
ESD12V92D-A	H	12	13.5	1.0	23.7	5.9	1	30

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

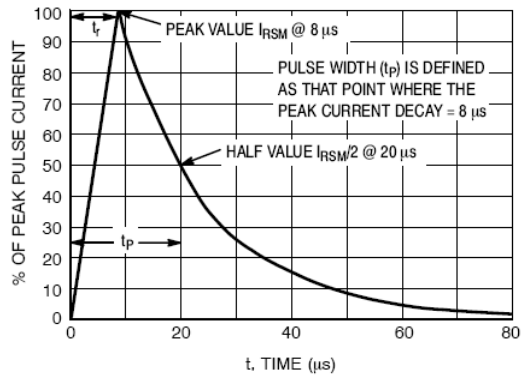
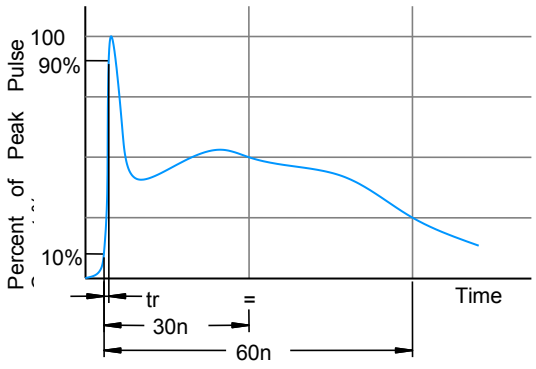
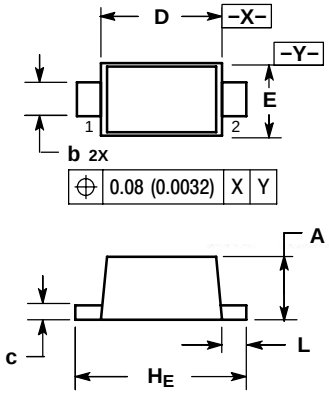


Fig2.ESD Pulse Waveform (according to IEC 61000-4-2)



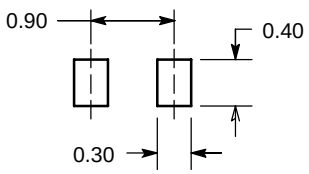
SOT-143 Package Outline & Dimensions



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.34	0.37	0.40	0.013	0.015	0.016
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.031	0.033
E	0.55	0.60	0.65	0.022	0.024	0.026
H_E	0.95	1.00	1.05	0.037	0.039	0.041
L	0.05	0.10	0.15	0.002	0.004	0.006

SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS