

ESD24VAP

Features

- SOT-23 package
- Operating voltage: 24V
- Low leakage current
- Low clamping voltage
- Response time is typically < 1ns
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 7A (8/20 μs)
- AEC-Q101 qualified

Description

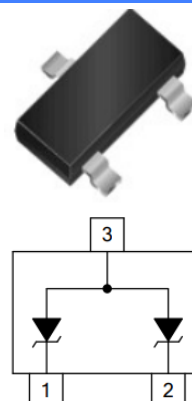
The ESD24VAP TVS Diode Array is designed to protect sensitive equipment from damage due to electrostatic discharge (ESD), electrical fast transients (EFT), and lightning induced surges.

Absolute Maximum Ratings

Tamb=25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	350	W
Maximum Reverse Peak Pulse Current	I _{PP} *1	7	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
Storage Temperature Range	T _{STJ}	-55 to +150	°C
Operating Temperature Range	T _J	-55 to +125	°C

Circuit Diagram



Applications

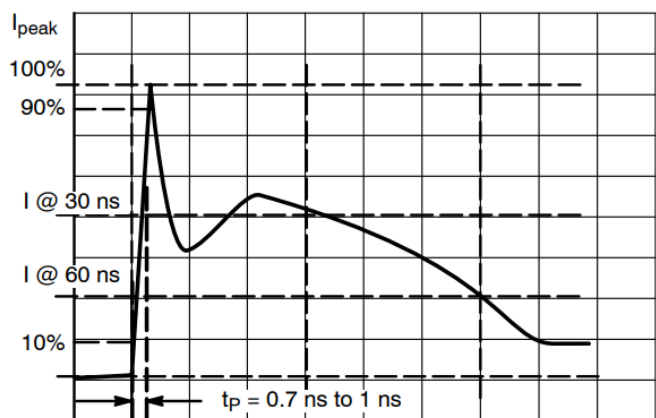
- Automotive Applications
- Industrial Equipment
- Motor Controls
- Legacy Ports (RS-232, RS-485)

Electrical Characteristics

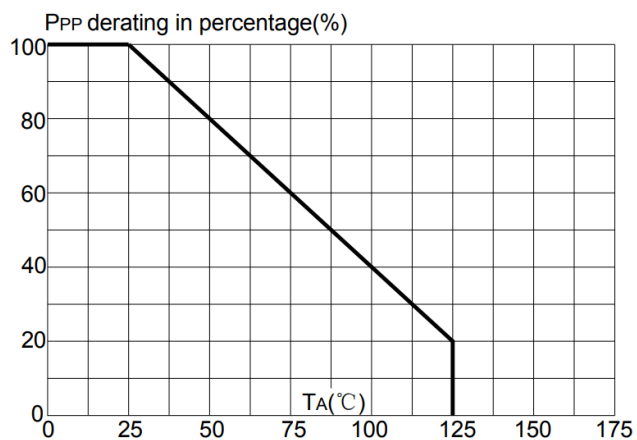
TA=25°C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V _{RWM}	Reverse Working Peak Voltage	-			24.0	V
V _F	Forward Voltage	I _F =10mA			1.1	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA	26.5	27.5	30	V
I _R	Reverse Current	V _{RWM} = 24V			1	μA
V _C	Clamping Voltage	I _{PP} =1A, t _P =8/20 μs			31	V
V _C	Clamping Voltage	I _{PP} =7A, t _P =8/20 μs			42	V
C _D	Diode Capacitance	V _R = 0V, f = 1MHz			50	pF

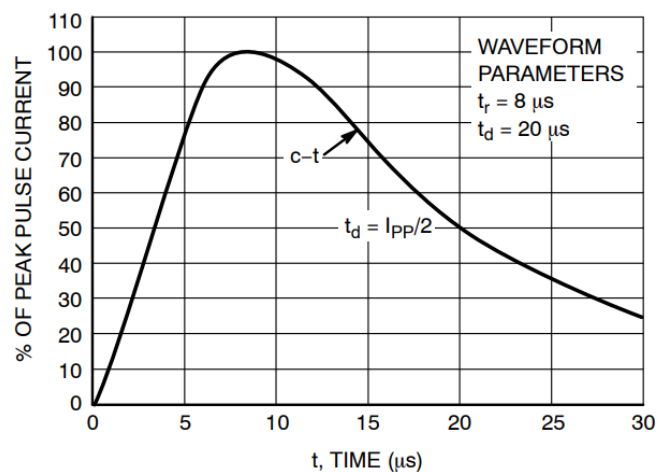
Characteristic Curves



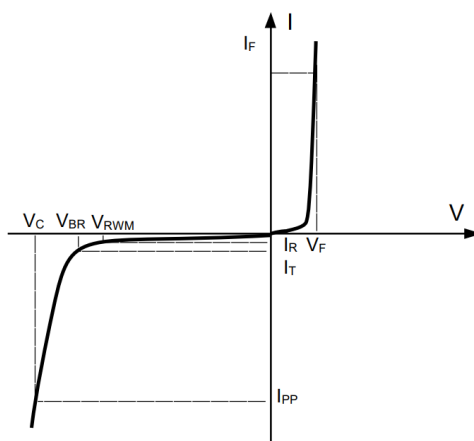
IEC61000-4-2 Pulse Waveform



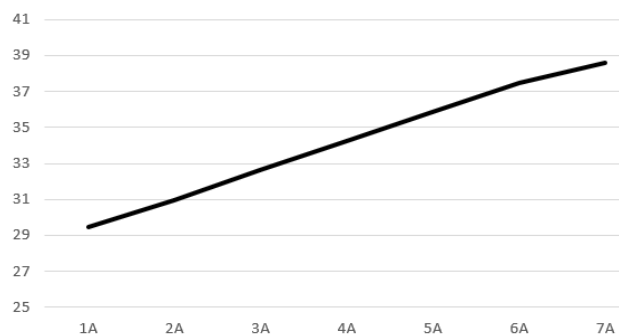
Power Derating Curve



8/20μs Pulse Waveform

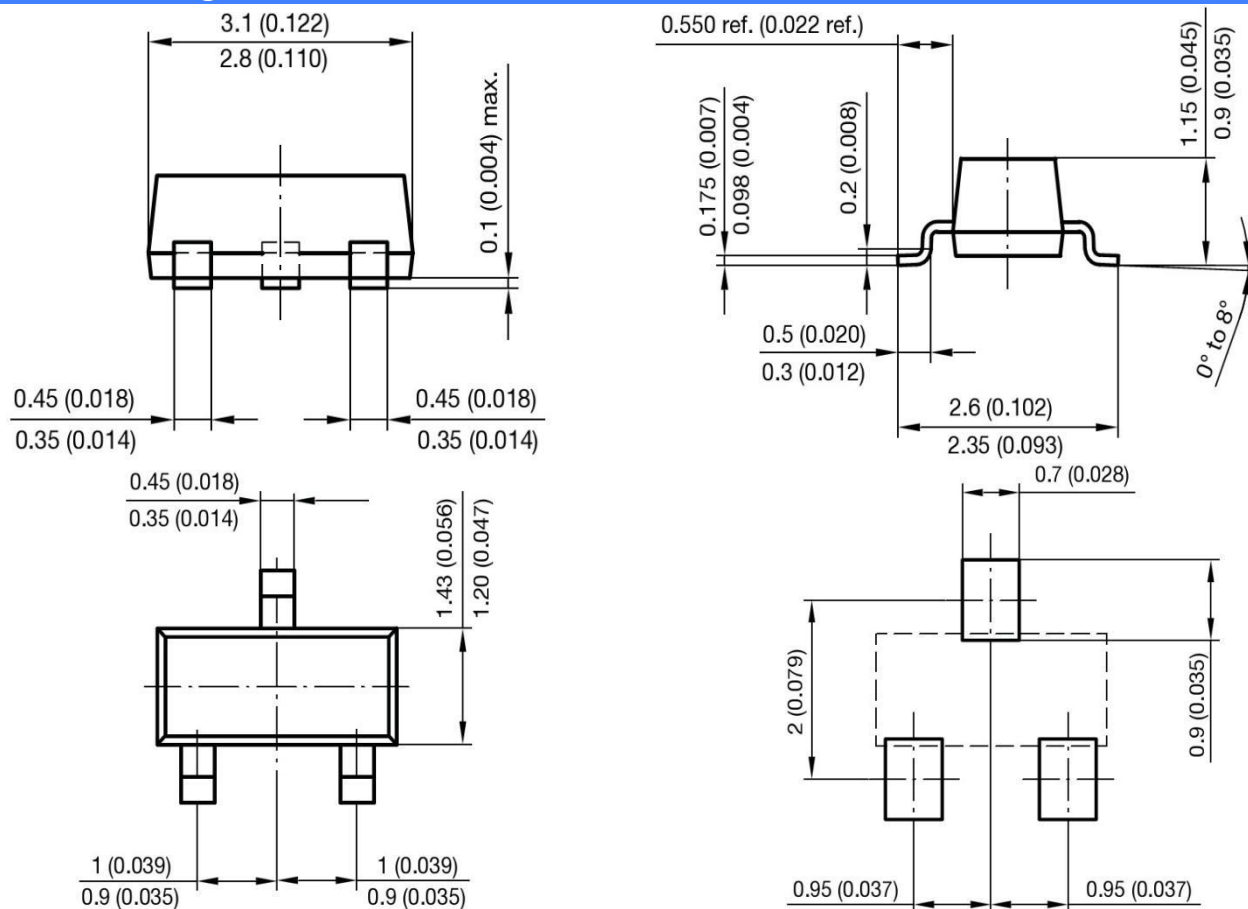


V-I Characteristics for Unidirectional Diode



VC(V)-IPP(A)

SOT-23 Package Outline & Dimensions



Mounting Pad Layout

Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.