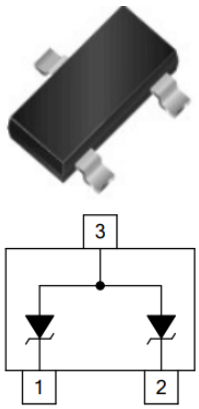
ESD12VAP

Features

- SOT-23 package
- Operating voltage: 12V
- Low leakage current
- Low clamping voltage
- Response time is typically < 1ns
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  - IEC61000-4-5 (Lightning) 10A (8/20μs)
- AEC-Q101 qualified

Circuit Diagram



Description

The ESD12VAP TVS Diode Array is designed to protect sensitive equipment from damage due to electrostatic discharge (ESD), electrical fast transients (EFT), and lightning induced surges.

Applications

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

Absolute Maximum Ratings

Tamb=25°C unless otherwise specified

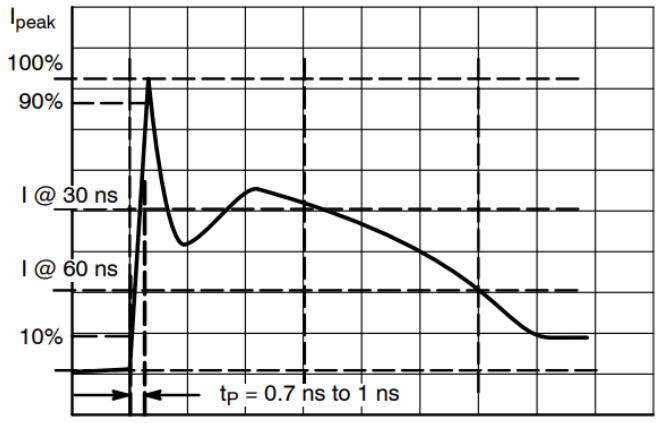
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	350	W
Maximum Reverse Peak Pulse Current	I_{PP} *1	10	A
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±30	KV
ESD per IEC 61000−4−2 (Contact)		±30	
Storage Temperature Range	T_{STJ}	-55 to +150	℃
Operating Temperature Range	T_J	-55 to +125	℃

Electrical Characteristics

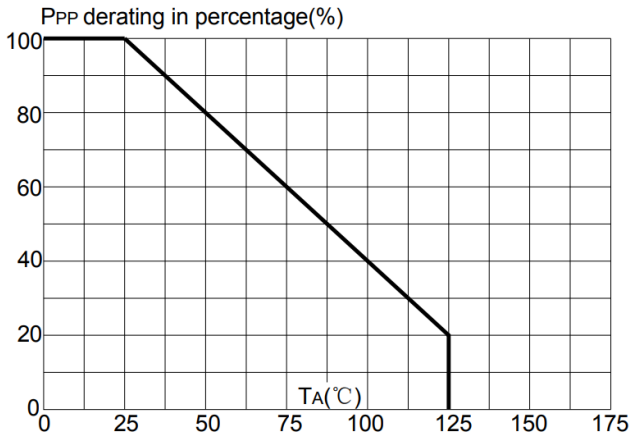
TA=25°C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_{RWM}	Reverse Working Peak Voltage	-			12.0	V
V_F	Forward Voltage	I_F=10mA			2	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	13.5	15.3	16.5	V
I_R	Reverse Current	V_{RWM} = 12V			0.2	μA
V_C	Clamping Voltage	I_{PP}=1A, tP =8/20μs			18	V
V_C	Clamping Voltage	I_{PP}=10A, tP =8/20μs			24	V
C_D	Diode Capacitance	V_R = 0V, f = 1MHz		46	50	pF

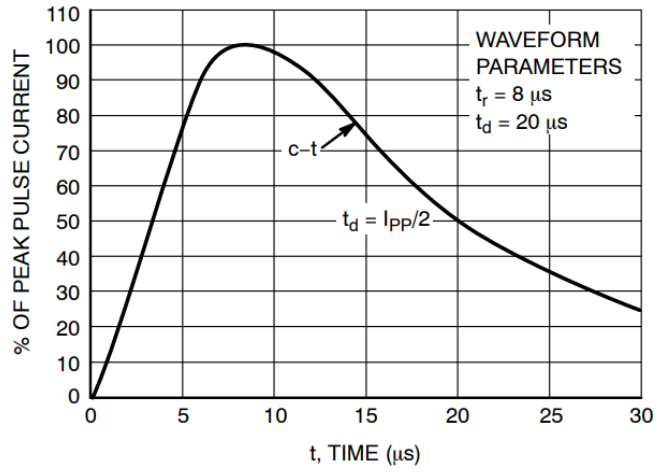
Characteristic Curves



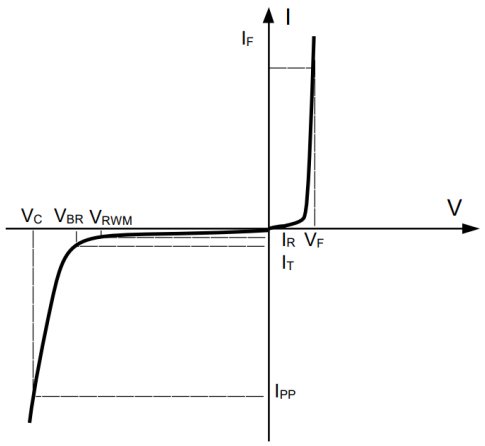
IEC61000−4−2 Pulse Waveform



Power Derating Curve

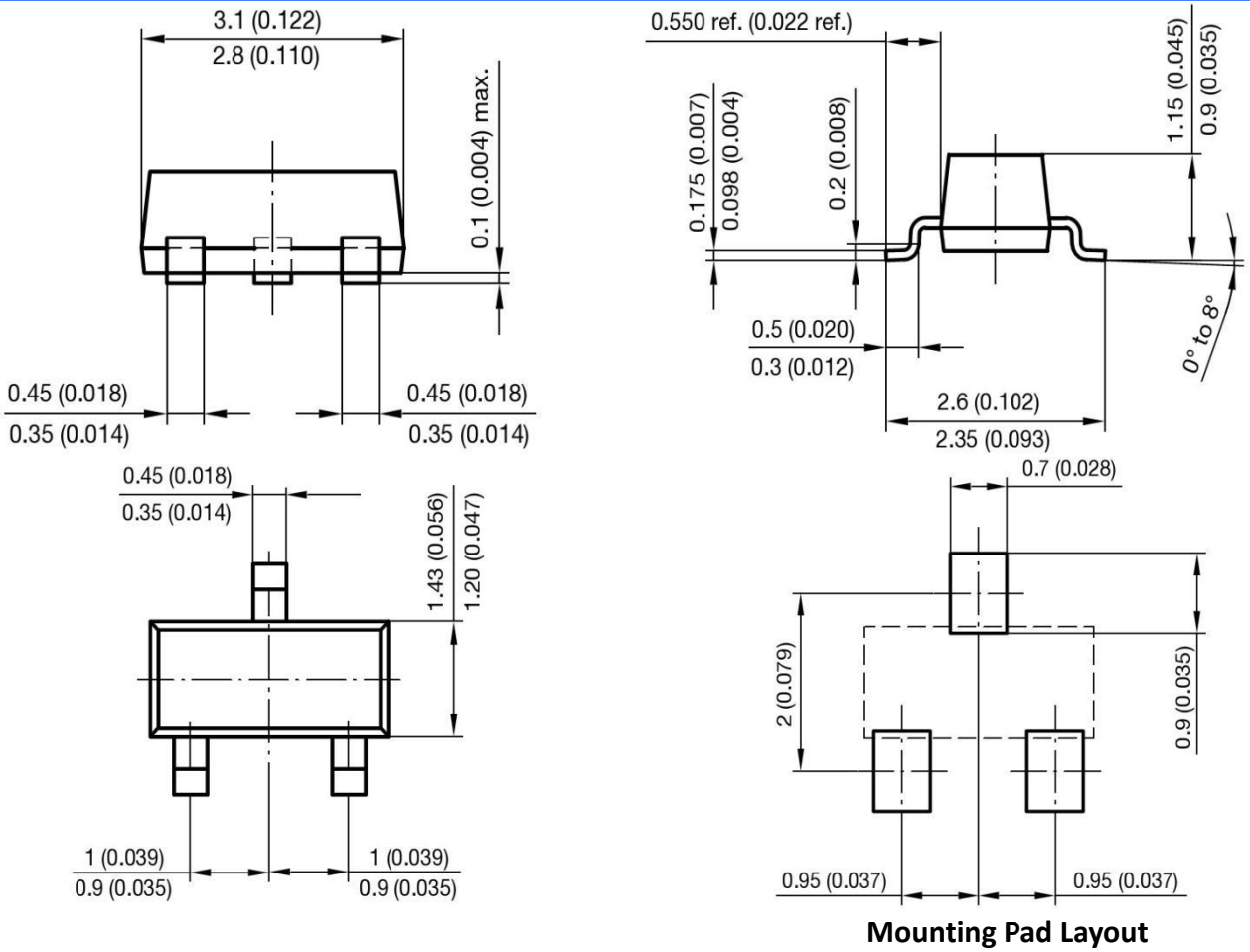


8/20µs Pulse Waveform



V-I Characteristics for Unidirectional Diode

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.