

➤ General Description

The PAExVxT Series is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

This series has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

➤ Feature

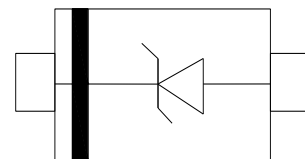
- Peak Power Dissipation – 200W (8 x 20 us Waveform)
- Replacement for MLV (0603)
- Protects power & I/O Port
- Low Clamping Voltage
- Low Leakage
- Response Time is < 1 ns
- Available in Multiple Voltages Ranging From 3V to 36V
- Device Meets MSL 1 Requirements
- Low Body Height: 1.68mm
- Solid-state silicon avalanche technology
- ROHS compliant

➤ SOD-523



➤ Application

- Cellular handsets and accessories
- Portable instrumentation
- Peripherals
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV



➤ Protection solution to meet

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)

➤ **Maximum Ratings (TA=25°C Unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20µs waveform)	P _{PPP}	200	Watts
ESD Rating per IEC61000-4-2:	Contact	8	KV
	Air	15	
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

*Other voltages may be available upon request.

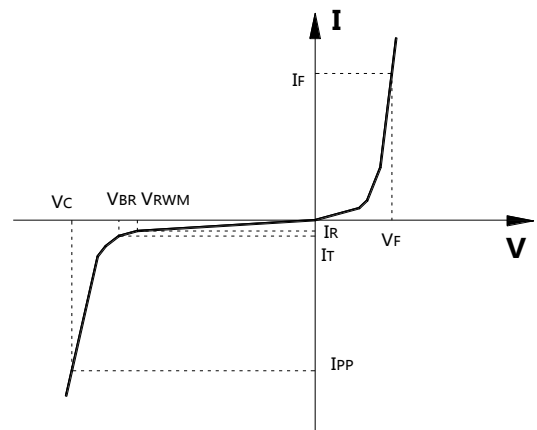
1. Non-repetitive current pulse, per Figure 1.

➤ **Electrical Characteristics (TA=25°C Unless otherwise specified)**

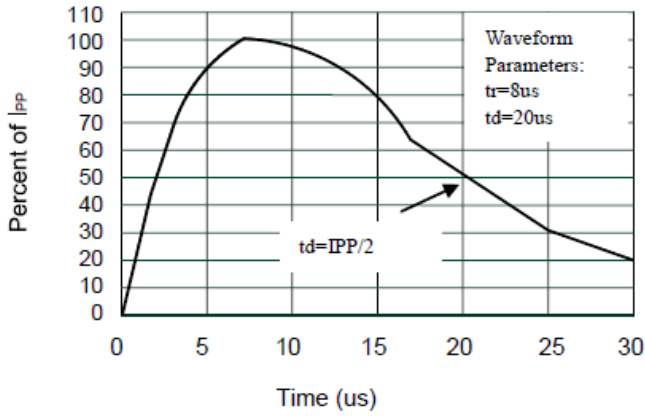
Device	Marking Code	V _{RWM} (V)	I _R @ V _{RWM} (µA)	V _{BR} @ 1 mA	V _C @ 1 A	Capacitance @ V _R = 0 V, 1 MHz (pF)	
				(Volts) Min		Typ	Max
PAE3V3T	ZE	3.00	20	4.00	7.50	40	55
PAE5V0T	ZF	5.00	2	6.00	9.80	36	45
PAE7V0T	ZH	7.00	2	9.00	9.20	70	85
PAE12VT	MA	12.0	2	13.1	17.8	35	45
PAE24VT	ZQ	24.0	2	26.7	43.0	30	45

Junction capacitance is measured in VR=0V,F=1MHz

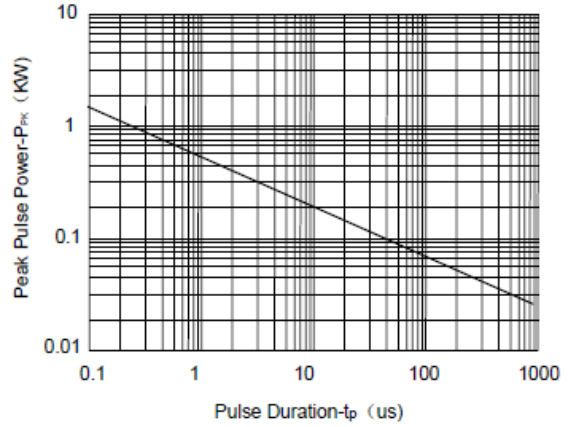
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



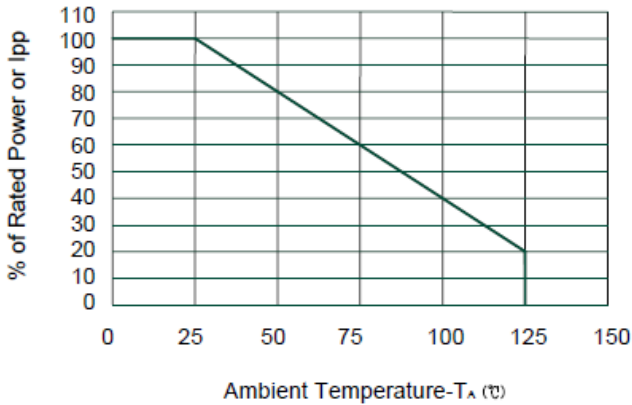
➤ Typical Characteristics



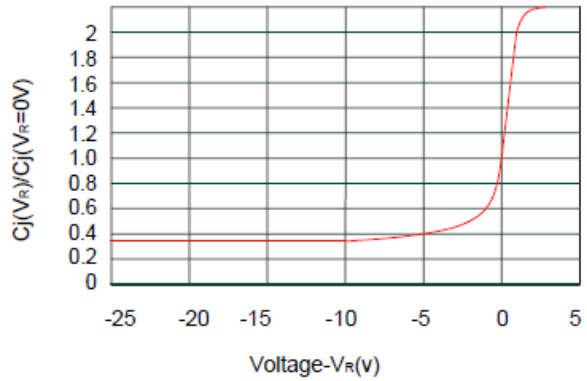
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



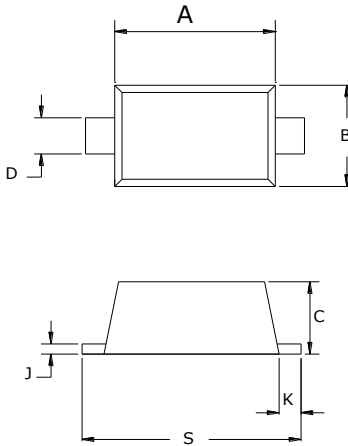
Power Derating Curve



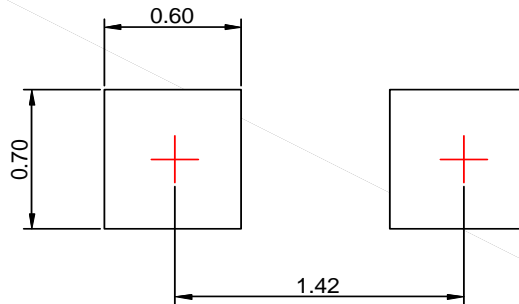
Junction Capacitance vs. Reverse Voltage

➤ Package Information (SOD-523)

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	1.10	1.30
B	0.75	0.85
C	0.51	0.70
D	0.25	0.35
J	0.08	0.15
K	0.15	0.25
S	1.50	1.70



Recommended Pad outline

➤ Ordering Information

Part Number	Description	Quantity
PAE3V3T~PAE24VT	SOD-523 Reel	3000 pcs

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