

➤ General Description

The PAExxCR Series are low capacitance bidirectional TVS Diodes designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

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

➤ Feature

- Peak Power Dissipation 350 W (8/20μs)
- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 12A (8/20μs)
- Protects one I/O line (bidirectional)
- Low clamping voltage
- Working voltages : 3V, 5V, 8V, 12V, 15V,
18V , 20V , 24V
- Response Time is < 1 ns
- Meets MSL 1 Requirements

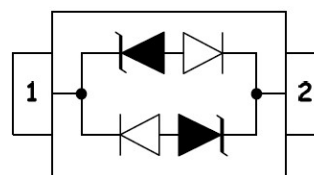
➤ SOD-323



➤ Mechanical Characteristics

- Package: SOD-323
- Flammability Rating: UL 94V-0
- High temperature soldering
guaranteed: 260°C / 10s
- Packaging: Tape and Reel

Circuit Diagram



➤ Application

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

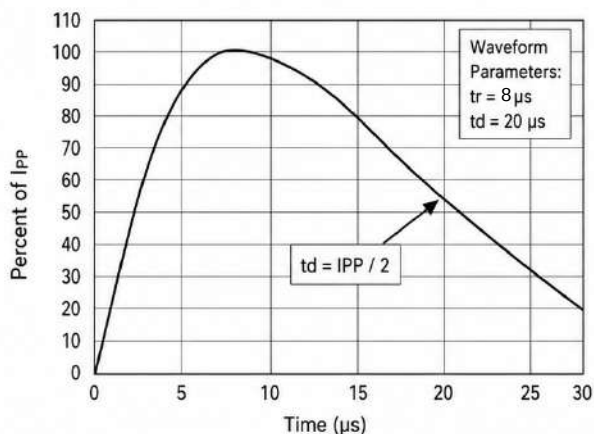
➤ Absolute Maximum Ratings (TA=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air)	VESD	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 8	
Peak Pulse Power(tp=8/20us waveform)	P _{PPP}	350	W
Operating Temperature	T _{OPT}	-55 to +150	°C
Storage Temperature	T _{STG}	-55 to +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	°C

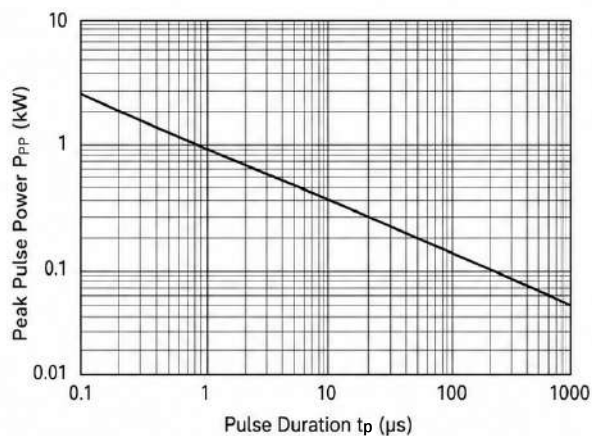
➤ Electrical Characteristics (TA=25°C Unless otherwise specified)

PART NUMBER	DEVICE MARKING	VRWM (V)	VB@1mA (V)	VC@1A (V)	VC@Ipp (V)		VC@Ipp (V)		IR (μA)	CT (pF)
		Max	Min	Max	Max	Ipp (A)	Max	Ipp (A)	Max	Typ.
PAE3V0CR	CC	3.0	4.0	7.0	13.9	8	20.0	20	5	0.8
PAE5V0CR	AC	5.0	6.0	9.8	18.3	8	20.0	18	1	0.8
PAE8V0CR	BC	8.0	8.5	13.4	18.5	8	24.0	18	1	0.8
PAE12VCR	DC	12.0	13.3	19.0	24.0	6	28.6	12	1	0.8
PAE15VCR	EC	15.0	16.7	24.0	29.0	5	31.8	10	1	0.8
PAE18VCR	FC	18.0	20.0	35.0	45.0	5	53.0	7	1	0.8
PAE20VCR	GC	20.0	22.0	38.0	45.0	4	55.0	7	1	0.8
PAE24VCR	HC	24.0	26.7	43.0	45.0	3	56.0	6	1	0.8

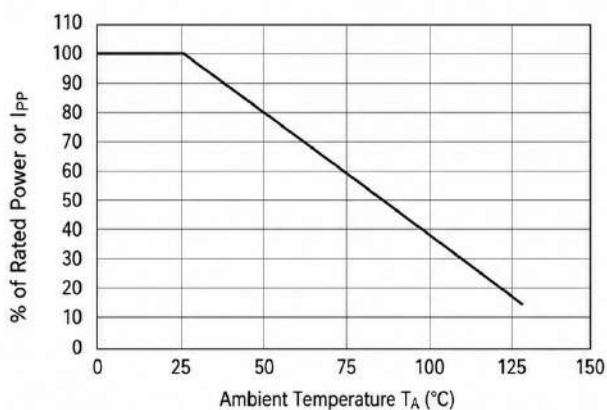
➤ Typical Characteristics



Pulse Waveform

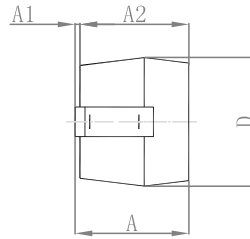
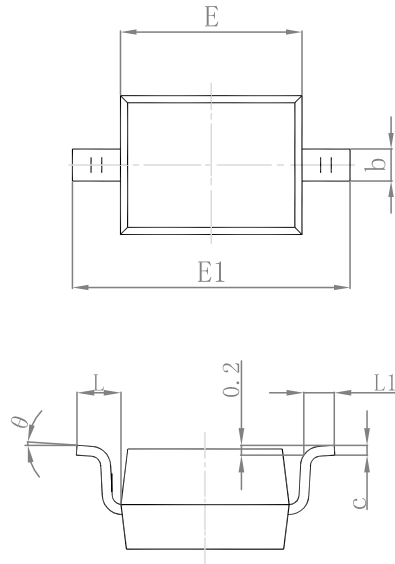


Non-Repetitive Peak Pulse Power vs. Pulse Time



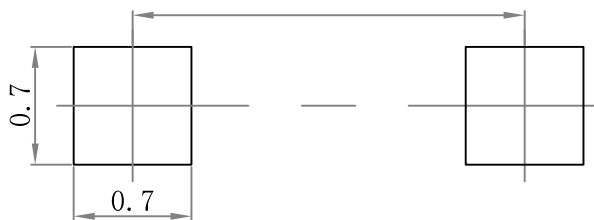
Ambient Temperature T_A $^{\circ}C$

➤ Package Information (SOD-323)



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

➤ Ordering Information

Part Number	Description	Quantity
PAE3V0CR~PAE24VCR	SOD-323Reel	3000 pcs

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