

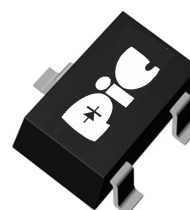
➤ General Description

The PAE0564ULAN is an ultra low capacitance Electrostatic Discharge (ESD) protection diode in a SOT-23 (TO236AB) small SMD plastic package designed to protect one high speed data line from the damage caused by ESD and other transients.

➤ Feature

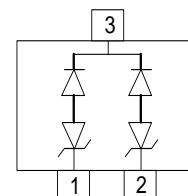
- Unidirectional ESD protection of two line.
- Max. peak pulse power : $P_{pp} = 340W$ at $t_p = 8/20 \mu s$
- ESD protection $> 23KV$
- Low leakage current
- Low clamping voltage
- Device Meets MSL 1 Requirements
- ROHS compliant

➤ SOT-23



➤ Application

- Computers and peripherals
- Communication system
- 10/100/1000 Ethernet
- Local Area Network (LAN) equipment.
- High speed data line
- 100% Tin Matte finish (Lead-Free Product)



➤ Protection solution to meet

- IEC61000-4-2 (ESD) $\pm 25kV$ (air), $\pm 25kV$ (contact)
- IEC61000-4-5, level 1

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PPP}	340	Watts
ESD Rating per IEC61000-4-2:		25	KV
Contact			
Air		25	
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 125	°C
Storage Temperature Range	T _{STG}	-55 ~ 125	°C

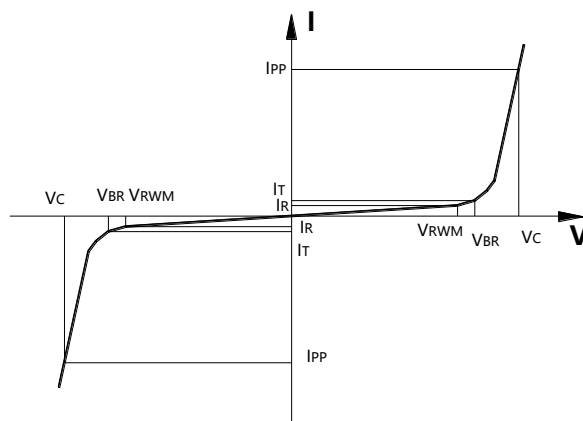
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur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

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

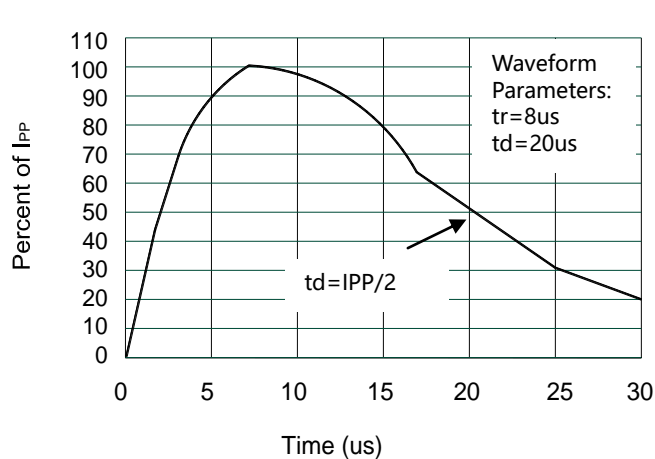
Symbol	Parameter	Conditions	Min	Max	Units
V _{RWM}	Reverse Working Voltage	---	---	5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA	6.4		V
I _R	Reverse Leakage Current	V _R = V _{RWM}		5	μA
V _C	Clamping Voltage	I _{PP} = 1A, tp = 8/20μs,		9.8	V
		I _{PP} = 17A, tp = 8/20μs,		20	V
C _J	Junction Capacitance	V _R = 0V, f = 1MHz,		1.2	pF
I _{PP}	Max. peak pulse current	8/20μs		17	A

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

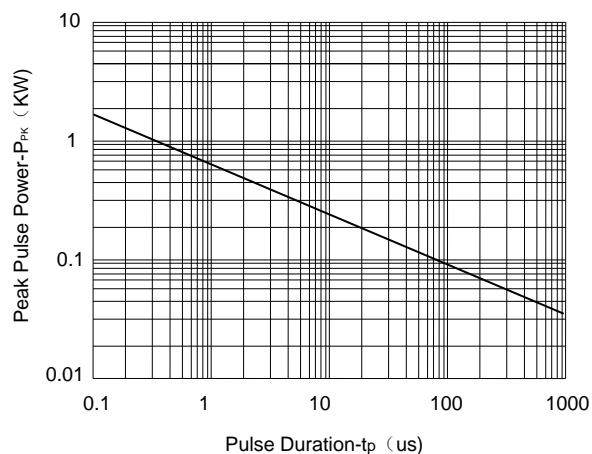
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



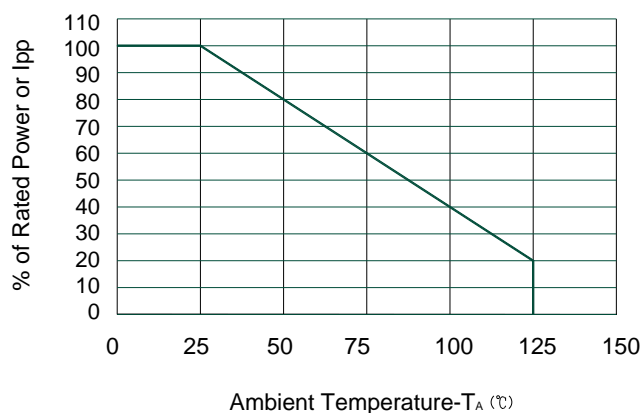
➤ Typical Characteristics



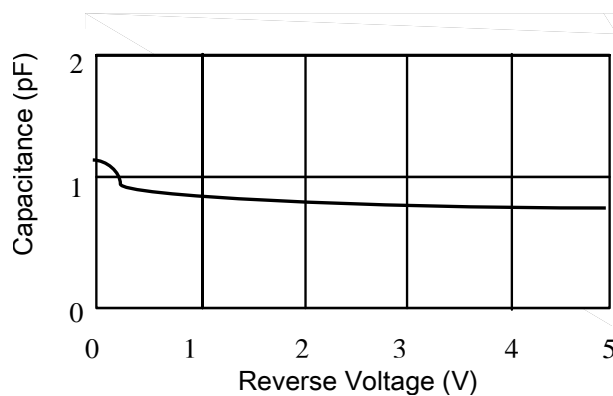
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



Typical Junction Capacitance

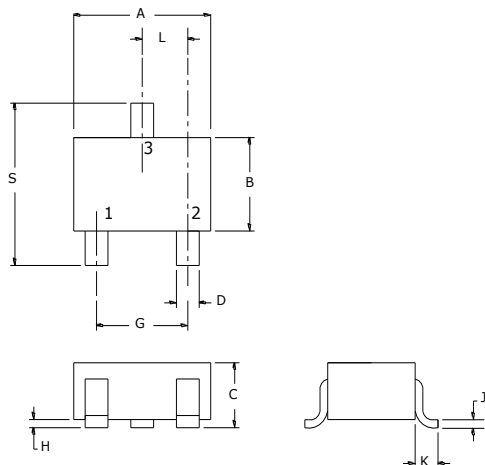
➤ Ordering Information

Part Number	Description	Quantity
PAE0564ULAN	SOT-23 Reel	3000 pcs

➤ Package Information (SOT-23)

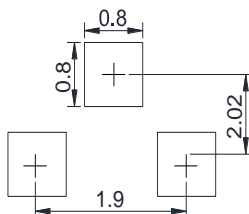
Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic. UL Flammability

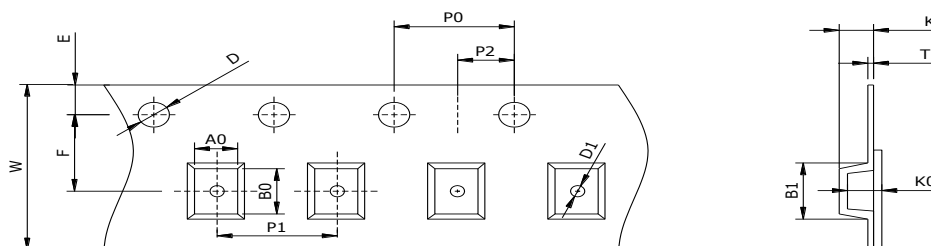


Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	2.80	3.00	0.110	0.118
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.30	0.50	0.011	0.020
G	1.8	2.0	0.071	0.078
H	0.0	0.100	0	0.004
J	0.080	0.15	0.003	0.006
K	0.550REF		0.022REF	
L	0.95TYP		0.037TYP	
S	2.25	2.550	0.089	0.100

Recommended Pad outline



SOT23 Reel Dim



Package	Chip Size	Pocket Size B0×A0×K0(mm)	Tape Width	Reel Diameter	Quantity Per Reel	P0	P1
SOT23	3.0×2.50×1.10	3.10×2.70×1.20	8mm	178mm(7")	3000	4mm	4mm
D0	D1	E	F	K	T	W	
1.5mm	1.0mm	1.75mm	3.5mm	1.15mm	0.2mm	8mm	

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