

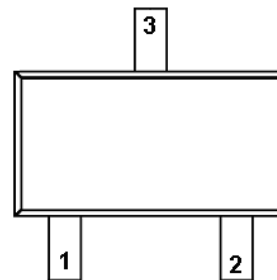
➤ General Description

PAE11220B are designed by unidirectional TVS diode, to protect high speed data interfaces. This product has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients). The TVS diode prevents over-voltage on the power line, protecting any downstream components. This device is optimized for ESD protection of portable electronics. They may be used to meet the ESD immunity requirements of IEC 61000-4-2, Level 4 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ contact discharge).

➤ Feature

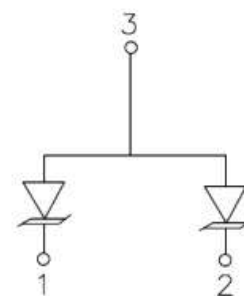
- Transient protection for high-speed data lines to
IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
- Small package saves board space
- Protects up to four I/O lines & power line
- Low leakage current and clamping voltage
- Low operating voltage: 12V
- Solid-state silicon-avalanche technology

➤ SOT-523



➤ Application

- Monitors and Flat Panel Displays Cellular
- Handsets and Accessories Cordless Phone
- PDA
- Notebooks and Handhelds
- Portable Instrumentation Digital
- Cameras



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

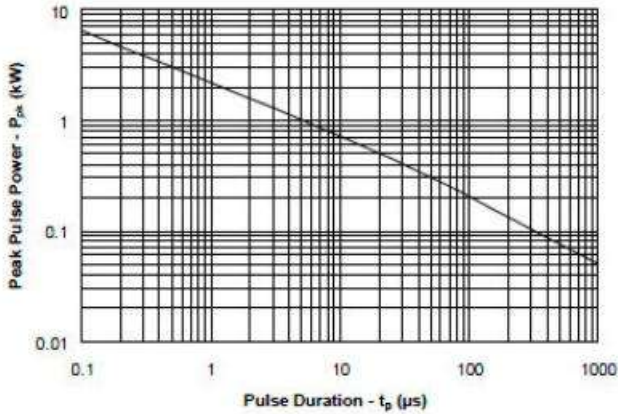
Parameter	Symbol	Typical	Unit
Peak Pulse Power (t _p = 8/20 μs)	P _{pk}	250	W
Maximum Peak Pulse Current (t _p = 8/20 μs)	I _{PP}	8	A
ESD per IEC 61000 – 4 – 2 (Air)	V _{PP}	±15	KV
ESD per IEC 61000 – 4 – 2 (Contact)	V _{PP}	±8	KV
Operating Junction Temperature	T _J	-55 ~ 125	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C
Lead Soldering Temperature	T _L	260 (10sec)	°C

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

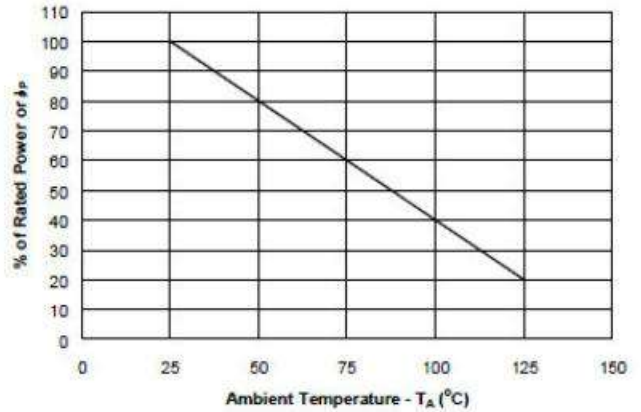
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Reverse Stand – Off Voltage	V _{RWM}	Pin 1 to 2 or Pin 2 to 1			12	V
Reverse Breakdown Voltage	V _{BR}	I _i = 1mA Pin 1 to 2 or Pin 2 to 1	13.3			V
Reverse Leakage Current	I _R	V _{RWM} = 12V , T=25°C Pin 1 to 2 or Pin 2 to 1			1.0	μA
Clamping Voltage	V _C	I _{PP} = 1A , t _p = 8/20 μs Pin 1 to 2 or 2 to 1			19	V
Clamping Voltage	V _C	I _{PP} = 8A , t _p = 8/20 μs Pin 1 to 2 or 2 to 1			25	V
Junction Capacitance	C _j	V _R = 0V , f = 1MHz		16	20	pF

➤ Typical Characteristics

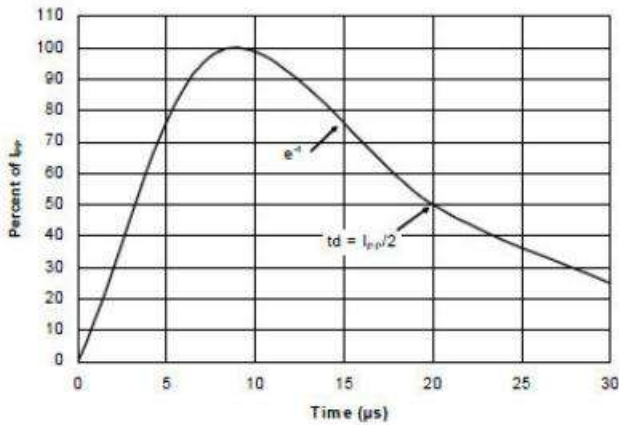
Non-Repetitive Peak Pulse Power vs. Pulse Time



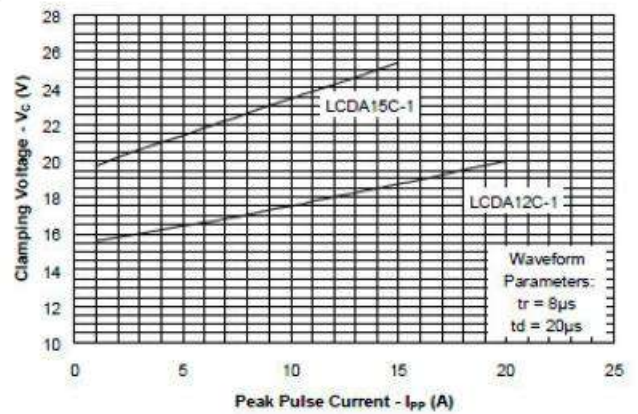
Power Derating Curve



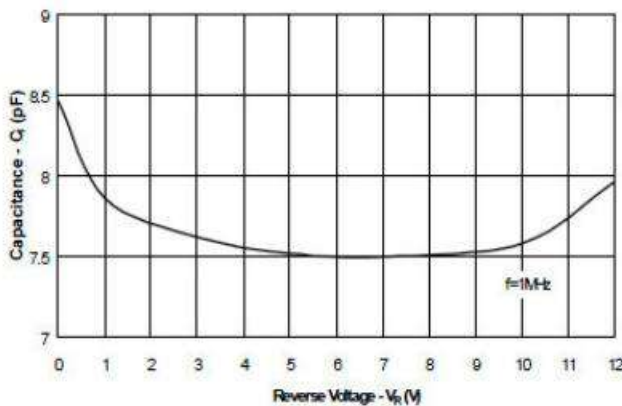
Pulse Waveform



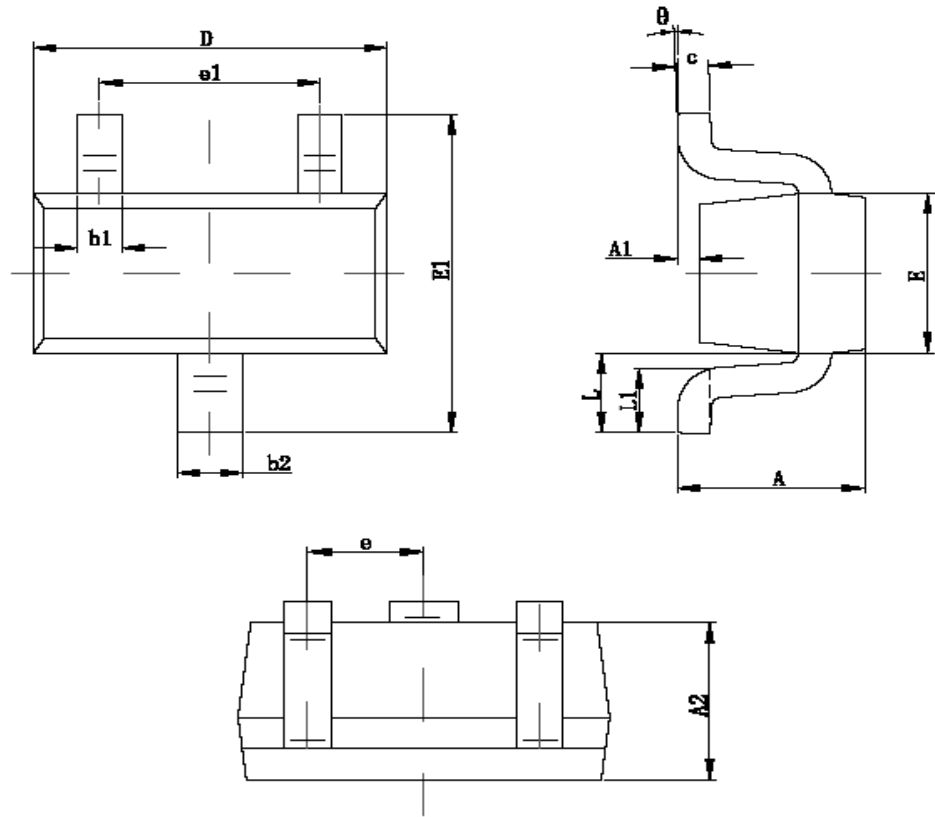
Clamping Voltage vs. Peak Pulse Current



Capacitance vs. Reverse Voltage



➤ Package Information (SOT-523)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.325	0.010	0.013
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.750	0.850	0.030	0.033
E1	1.450	1.750	0.057	0.069
e	0.500 TYP		0.020 TYP	
e1	0.900	1.100	0.035	0.043
L	0.550 REF		0.022 REF	
L1	0.280	0.440	0.011	0.017
θ	0°	4°	0°	4°

➤ Ordering Information

Part Number	Description	Quantity
PAE11220B	SOT-523 Reel	3000 pcs

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