➢ General Description

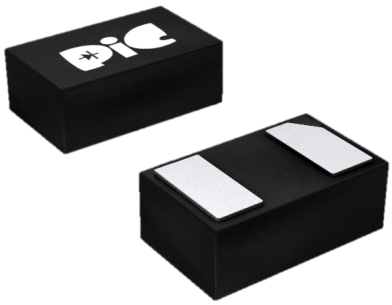
The PAE0221EU is designed with latest TVS technology to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

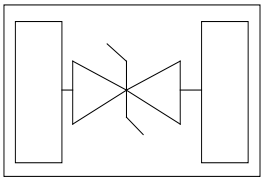
It has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

➢ Feature

- ●Peak Power Dissipation −230 W (8 x 20 us Waveform)
- ●Stand-off Voltage: 1.8 V
- ●Replacement for MLV (0402)
- ●Protects I/O or Power Port
- ●Low Clamping Voltage
- ●Low Leakage
- ●Response Time is < 1 ns
- ●Meets MSL 1 Requirements
- ●ROHS compliant
- ●Solid-state Punch-Through TVS Process technology

➢ DFN-1006





➢ Application

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

➢ Protection solution to meet

- ●IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ●IEC61000-4-5 (Lightning) 25A (8/20μs)

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P_{PPP}	230	Watts
ESD Rating per IEC61000-4-2： Contact Air		30 30	KV
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature Range	T_J	-55 ~ 150	℃
Storage Temperature Range	T_{STG}	-55 ~ 150	℃
Lead Solder Temperature − Maximum (10 Second Duration)	T_L	260	℃

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.

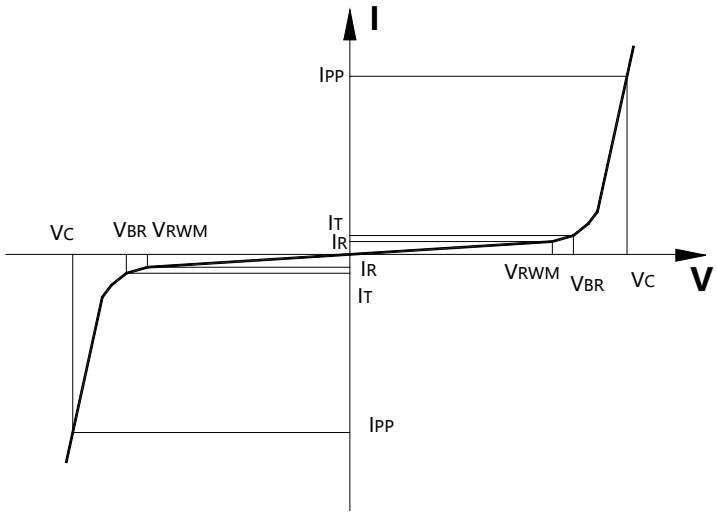
1. Non-repetitive current pulse, per Figure 1.

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

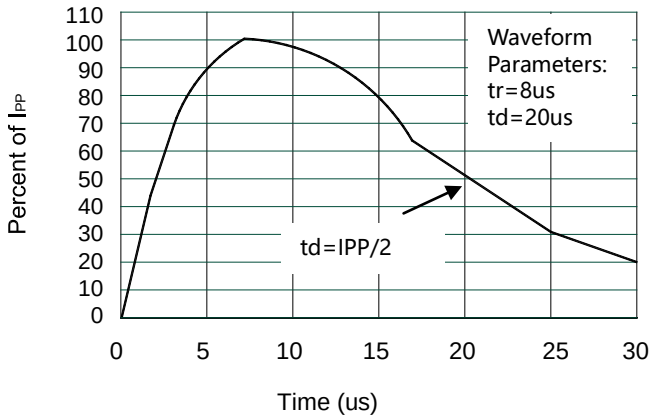
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V_{RWM}	Reverse Working Voltage				1.8	V
V_{BR}	Reverse Breakdown Voltage	IT = 1mA,		3.4		V
I_R	Reverse Leakage Current	V_{RWM} = 1.8V,			1	μA
V_C	Clamping Voltage	I_{PP} = 1A, tp =8/20μs,		3.5	4	V
		I_{PP} = 25A, tp =8/20μs,		8	10	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz,		45		pF

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

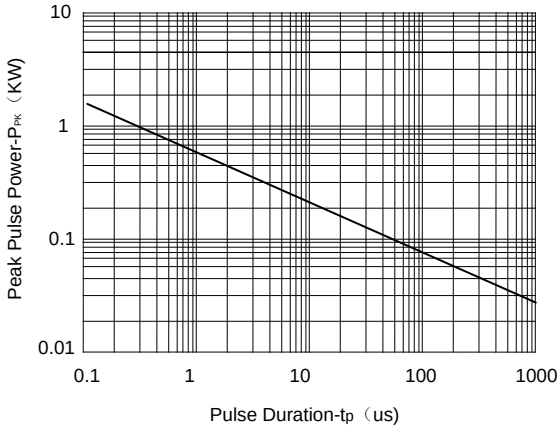
Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
V_{BR}	Breakdown Voltage @ I_T
V_C	Clamping Voltage @ I_{PP}
I_T	Test Current
I_{RM}	Leakage current at V_{RWM}
I_{PP}	Peak pulse current
C_O	Off-state Capacitance
C_J	Junction Capacitance



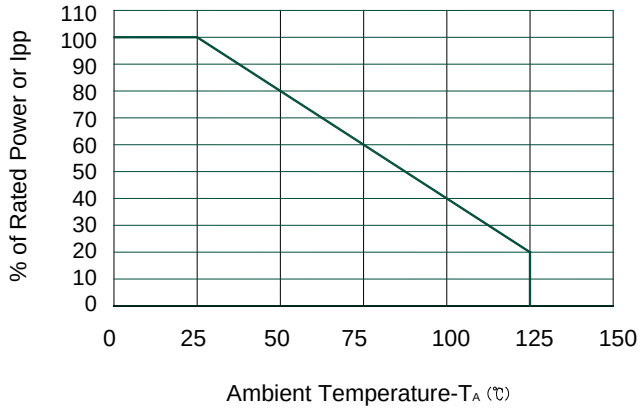
➢ Typical Characteristics



Pulse Waveform



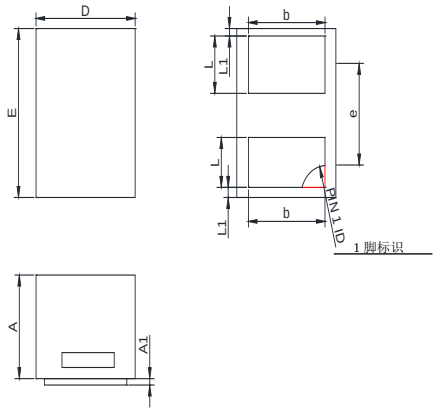
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve

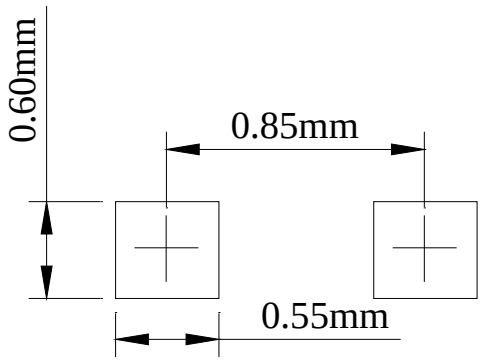
➢ Package Information (DFN1006)

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.37	0.55
A1	0.00	0.05
D	0.55	0.65
E	0.95	1.05
b	0.25	0.60
e	0.65TYP	
L	0.15	0.35
L1	0.05REF	

Recommended Pad outline



➢ Ordering Information

Part Number	Description	Quantity
PAE0221EU	DFN1006 Reel	10000 pcs

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