

➤ General Description

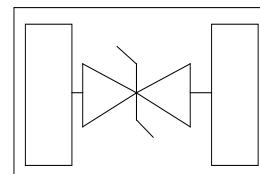
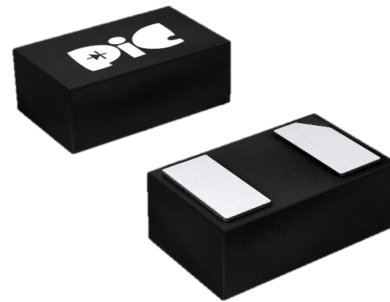
The PAE0521EU1 is designed with latest Punch - Through process TVS technology to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium. Also because of its low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed, VGA, DVI, SDI and other high speed line applications.

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 – 50 W (8 x 20 us Waveform)
- Stand-off Voltage: 5.0 V
- Low capacitance for high-speed interfaces
- No insertion loss to 1.0GHz
- Replacement for MLV (0402)
- Protects I/O Port
- Low Clamping Voltage
- Low Leakage
- Low Capacitance
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- ROHS compliant

➤ DFN-1006



➤ Application

- High Speed Line :USB1.0/2.0, VGA, DVI, SDI,
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

➤ Protection solution to meet

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20µs waveform)	P _{PPP}	50	Watts
Peak pulse current (tp=8/20µs waveform)	I _{PP}	3	A
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

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.

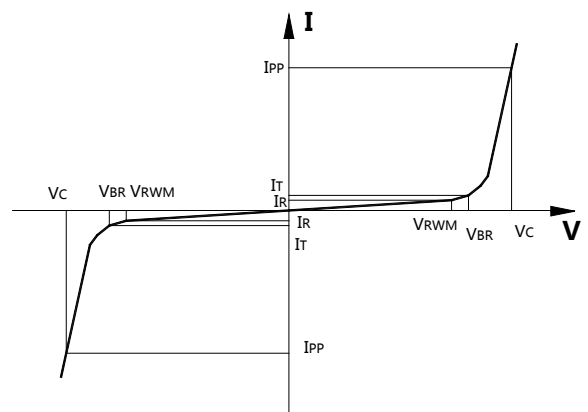
1. Non-repetitive current pulse, per Figure 1.

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

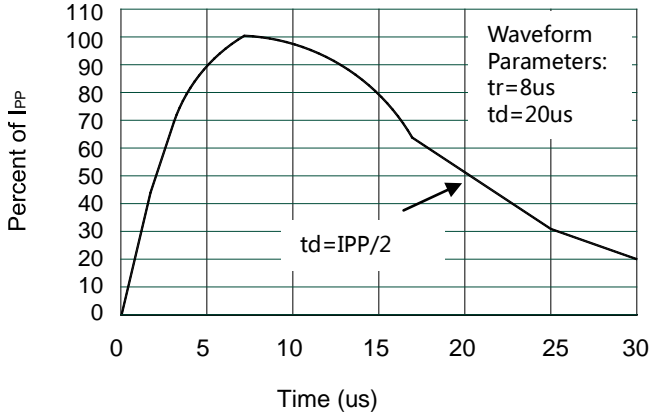
Device	V _{RWM}	I _R @ V _{RWM}	V _{BR} @1 mA		V _C @3 A		Capacitance	
		(uA)	(V)		(V)		@ V _R = 0 V, 1 MHz (pF)	
	(V)	Max	Min	Max	Typ	Max	Typ	Max
PAE0521EU1	5.0	1	5.6	7.8	10.6	15	7.0	12

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

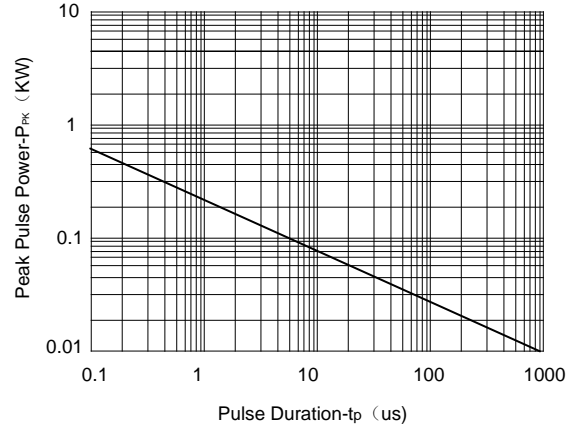
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



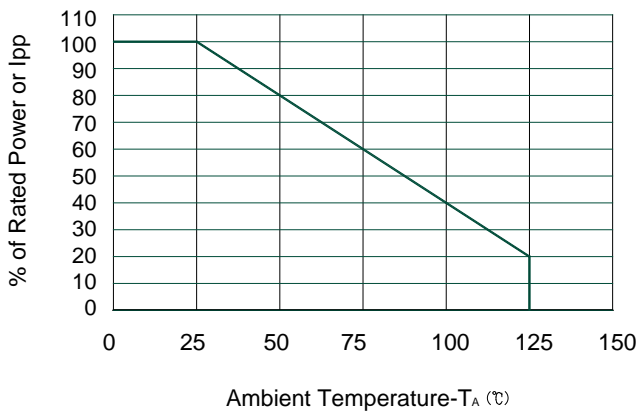
➤ Typical Characteristics



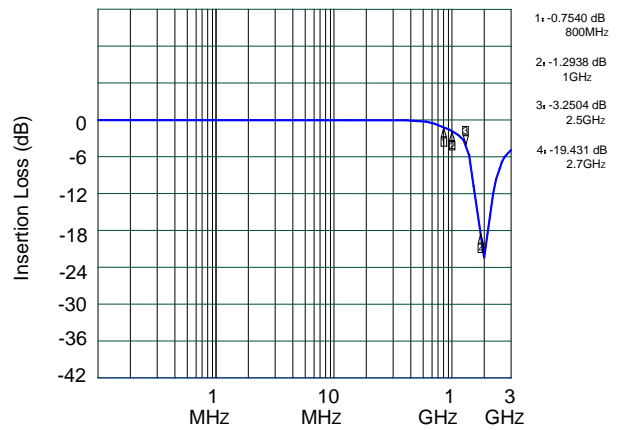
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



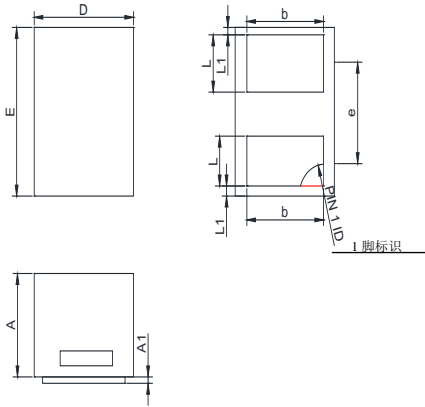
Power Derating Curve



Insertion Loss S21

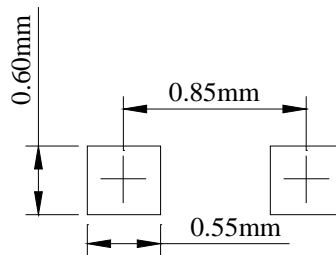
➤ Package Information (DFN1006)

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.40	0.50
A1	0.00	0.05
D	0.55	0.65
E	0.95	1.05
b	0.40	0.60
e	0.65TYP	
L	0.15	0.35
L1	0.05REF	

Recommended Pad outline



➤ Ordering Information

Part Number	Description	Quantity
PAE0521EU1	DFN1006 Reel	10000 pcs

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