➢ General Description

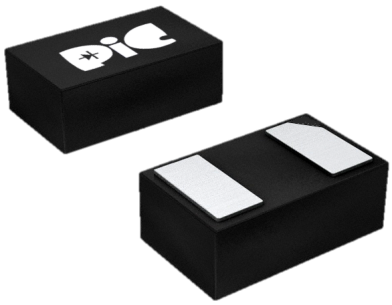
The PAE0561EU1 is designed with latest Punch-Through process TVS technology to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

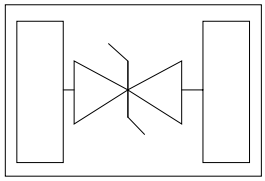
This series has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD (electrostatic discharge), and EFT (electrical fast transients).

➢ Feature

- ●Peak Power Dissipation − 60 W (8 x 20 us Waveform)
- ●Stand-off Voltage: 5.0 V
- ●Low capacitance for high-speed interfaces
- ●Replacement for MLV (0402)
- ●Protects I/O、VCC Port
- ●Low Clamping Voltage
- ●Low Leakage Current：5nA
- ●Low Capacitance
- ●Response Time is < 1 ns
- ●Meets MSL 1 Requirements
- ●ROHS compliant

➢ 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)
- ●IEC61000-4-4 (EFT) 40A (5/50ns)
- ●IEC61000-4-5 (Lightning) 8A (8/20μs)

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P_{PPP}	60	Watts
Peak pulse current (tp=8/20μs waveform)	I_{PP}	6	A
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	℃

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.

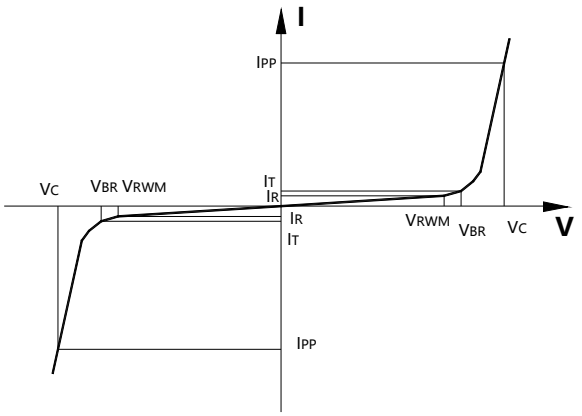
1. Non-repetitive current pulse, per Figure 1.

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

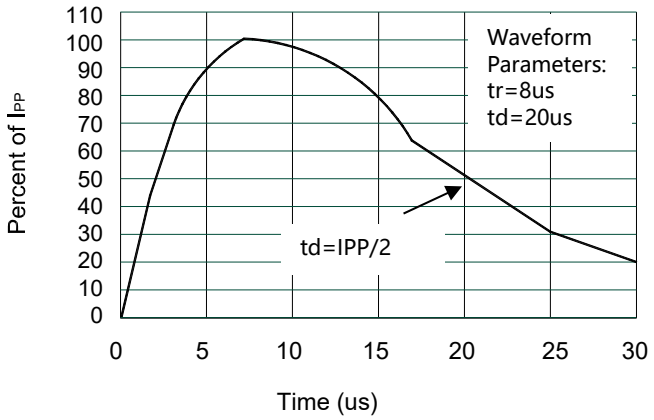
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V_{RWM}	Reverse Working Voltage				5	V
V_{BR}	Reverse Breakdown Voltage	IT = 1mA,	5.5	6.4		V
I_R	Reverse Leakage Current	V_{RWM} = 5V,		0.005	0.1	μA
V_C	Clamping Voltage	I_{PP} = 1A, tp =8/20μs,		7	10	V
		I_{PP} = 6A, tp =8/20μs,		8.1	10	V
I_{PP}	Peak Pulse Current	tp =8/20μs			6	A
C_J	Junction Capacitance	V_R = 1.5V, f = 1MHz,		13		pF

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

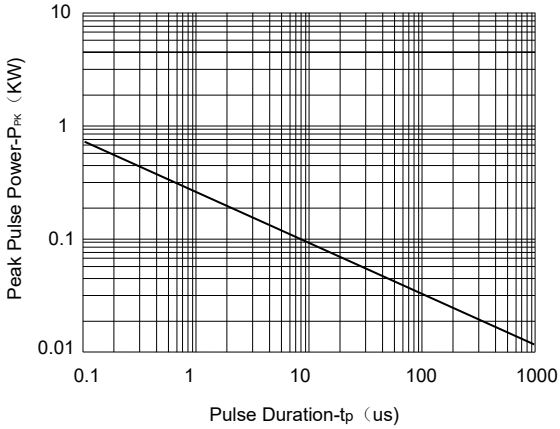
Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
V_{BR}	Breakdown Voltage @ I_T
V_C	Clamping Voltage @ I_{PP}
I_T	Test Current
I_{RM}	Leakage current at V_{RWM}
I_{PP}	Peak pulse current
C_O	Off-state Capacitance
C_J	Junction Capacitance



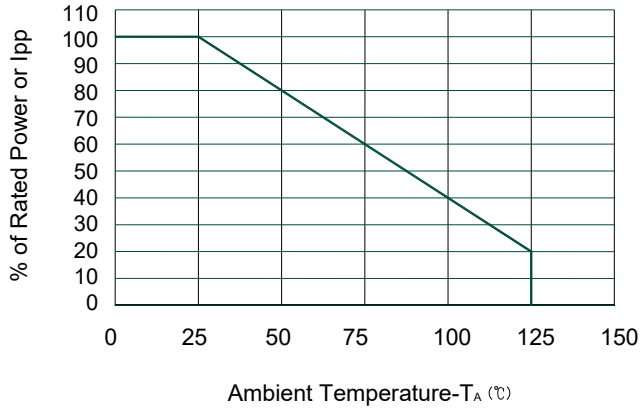
➢ Typical Characteristics



Pulse Waveform



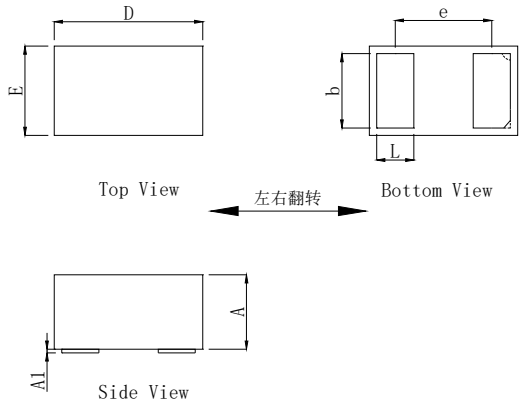
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve

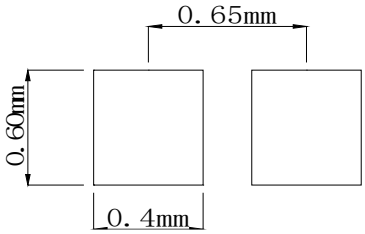
➢ Package Information (DFN1006)

Case Material: Molded Plastic. UL Flammability

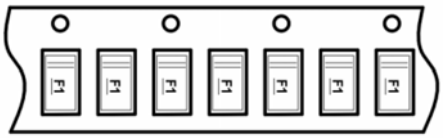


DIM	Millimeters	
	Min	Max
A	0.37	0.55
A1	0.00	0.05
D	0.95	1.05
E	0.48	0.65
b	0.35	0.55
e	0.65TYP	
L	0.15	0.35

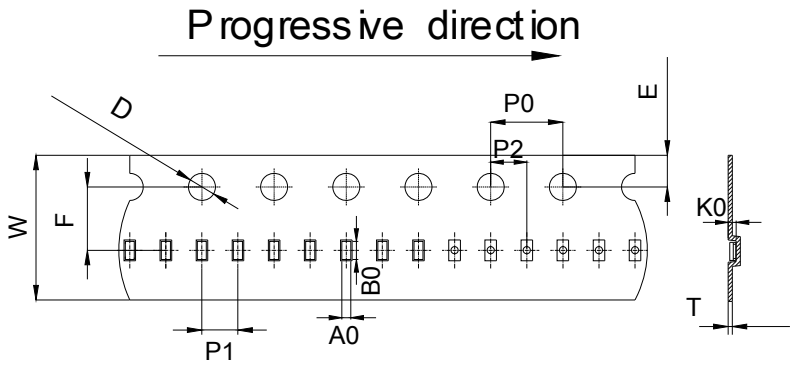
Recommended Pad outline



Device Orientation in Tape



DFN1006 Reel Dim



PACKAGE	W	E	F	P0	D	P2	P1	T	A0	B0	K0
DFN1006	8mm ±0.1	1.75mm ±0.1	3.5mm ±0.05	4mm ±0.1	1.5mm ±0.1	2mm ±0.05	2mm ±0.1	0.23mm ±0.02	0.67mm ±0.05	1.2mm ±0.05	0.55mm ±0.05

➢ Ordering Information

Part Number	Description	Quantity
PAE0561EU1	DFN1006 Reel	10000 pcs

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- Though Paceleader make effort to improve product quality and reliability, Product can malfunction and fail due to their inherent electrical sensitivity and vulnerability to physical stress, it is the responsibility of the customer, when utilizing Paceleader products, to comply with the standards of safety in making a safe design for entire system and to avoid situation in which a malfunction or failure., In developing a new designs, customer should ensure that the device which shown in this documents are used within specified operating ranges.

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