

## ➤ General Description

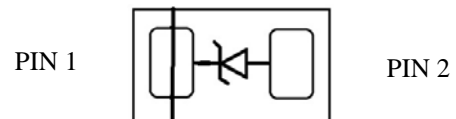
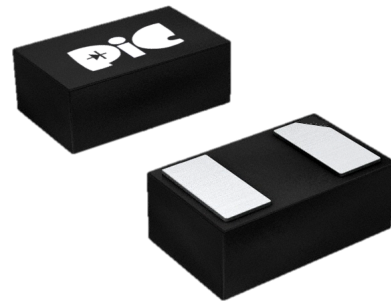
The PAE0551EU is designed with latest technology to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, 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

- Single-channel ESD protection
- Peak Power Dissipation – 45W (8 x 20 us Waveform)
- Replacement for MLV (0402.0603)
- Protects I/O Port
- Ultralow capacitance 0.3pf, 0.4pf
- Low Clamping Voltage
- Low Leakage
- Response Time is < 1 ns
- Stand-off Voltage: 5.0V
- RoHS Compliant
- Meets MSL 1 Requirements
- Reliable silicon device avalanche breakdown Structure

## ➤ DFN-1006



## ➤ Application

- USB(2.0/3.0/3.1)
- Cell phone handsets and accessories
- Personal Digital Assistants (PDAs)
- Portable Instrumentation
- Digital Cameras

## ➤ Protection solution to meet

- IEC61000-4-2 (ESD) ±30 kV (contact), ±30kV (air)
- IEC61000-4-4 (EFT) 40A (5/50ns)

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

Parameter	Symbol	Value	Unit
ESD Rating per IEC61000-4-2:	Contact	30	KV
	Air	30	
Lead Soldering Temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating Temperature Range	T <sub>J</sub>	-55 ~ 125	°C
Storage Temperature Range	T <sub>STG</sub>	-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.

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

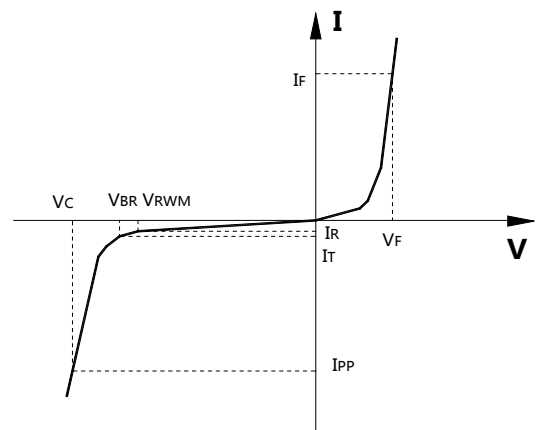
Device	V <sub>RWM</sub>	I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>BR</sub> @ 1 mA	V <sub>C</sub>	P <sub>PPP</sub> <sup>§</sup>	I <sub>PP</sub> <sup>§</sup>	Capacitance <sup>§</sup>	
		(uA)		(Volts)	@ 1 A	(W)	(A)	(pF)	
		Typ	Max	Min	Max (V)	Max(W)	MAX	Typ	Max
PAE0551EU	5.0	0.01	1	6	9.8	45	4	0.4	0.6

Note:

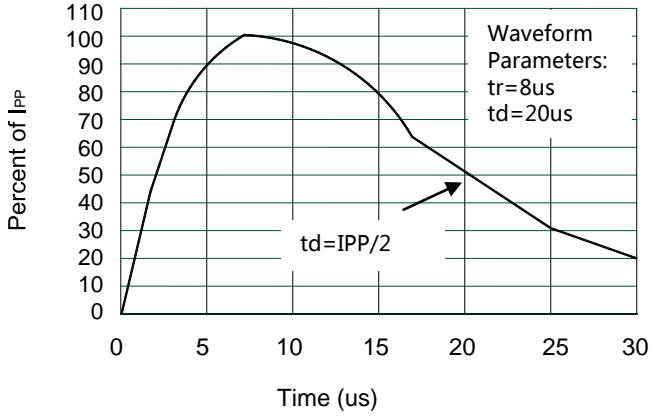
1. Junction capacitance is measured in V<sub>R</sub>=0V, F=1MHz

2. tp=8/20μs waveform

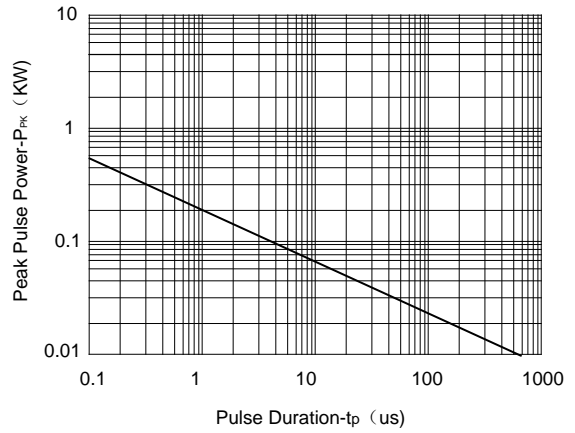
Symbol	Parameter
V <sub>RWM</sub>	Working Peak Reverse Voltage
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
I <sub>T</sub>	Test Current
I <sub>RM</sub>	Leakage current at V <sub>RWM</sub>
I <sub>PP</sub>	Peak pulse current
C <sub>O</sub>	Off-state Capacitance
C <sub>J</sub>	Junction Capacitance



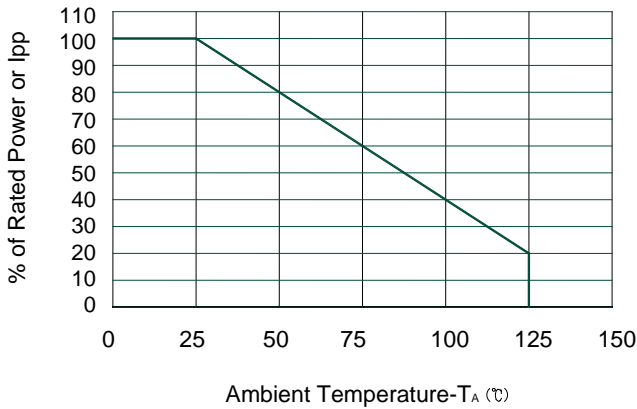
### ➤ Typical Characteristics



**Pulse Waveform**



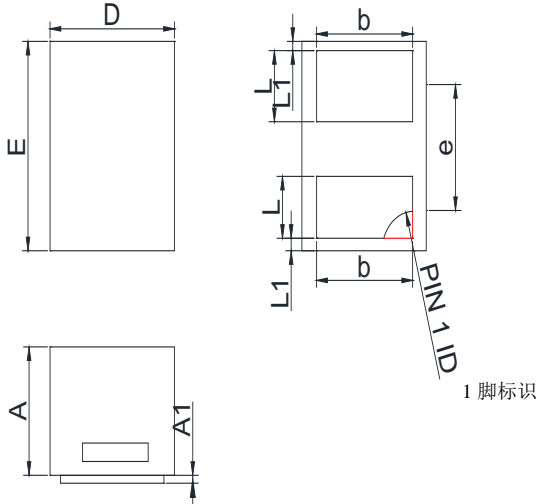
**Non-Repetitive Peak Pulse Power vs. Pulse Time**



**Power Derating Curve**

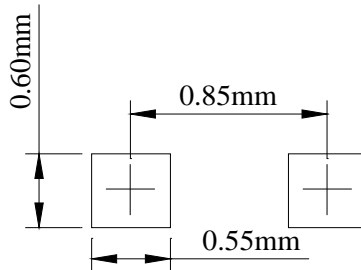
### ➤ Package Information (DFN1006)

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.37	0.50
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
PAE0551EU	DFN1006 Reel	10000 pcs

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