

1. Description

The AE0511PBA0 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time.

The AE0511PBA0 suited for use in cellular phones, portable device, digital cameras, power supplies and many other portable applications.



2. Features

- IEC 61000-4-2 (ESD)
 - ±30kV Contact Discharge
 - ±30kV Air Discharge
- IEC 61000-4-5 (Lightning)
 - 20A (8/20us)
- IEC 61000-4-4 EFT Protection
 - 40A (5/50ns)
- Halogen free and RoHS compliant
- Protects one directional I/O line
- Transient protection for high-speed data lines
- Low clamping voltage
- Low leakage current

3. Mechanical Data

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants
- Notebooks / Desktops / Servers
- Portable Instrumentation
- Peripherals & Pagers

4. Ordering Information

Part Number	Package	Marking	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
AE0511PBA0	DFN1006-2L	YB	Halogen free	Tape & Reel	10,000 PCS	UL 94V-0	7 inches

Table-1 Ordering information

5. Pin Configuration and Functions

Pin	Name	Description	Outline	Circuit Diagram
1	IO	Connect to IO		
2	GND	Connect to GND		

Table-2 Pin configuration

6. Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	P _{pk}	-	320	W
Peak pulse current (tp=8/20us)@25°C	I _{PP}	-	19	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}	-	±30	kV
Junction temperature	T _J	-	125	°C
Operating temperature	T _{OP}	-40	125	°C
Storage temperature	T _{STG}	-55	150	°C
Lead temperature	T _L	-	260	°C

Table-3 Absolute Maximum rating

7. Electrical Characteristics

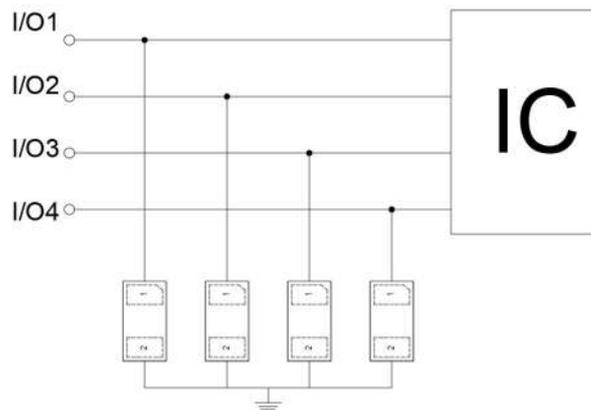
At TA = 25°C unless otherwise noted

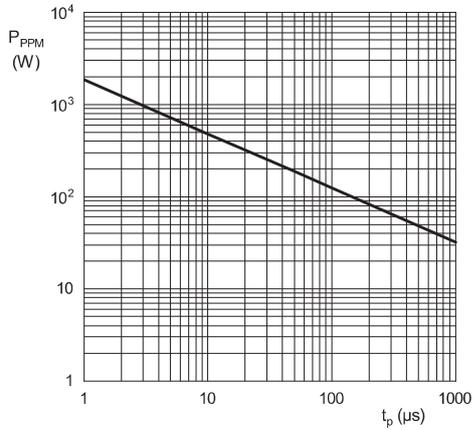
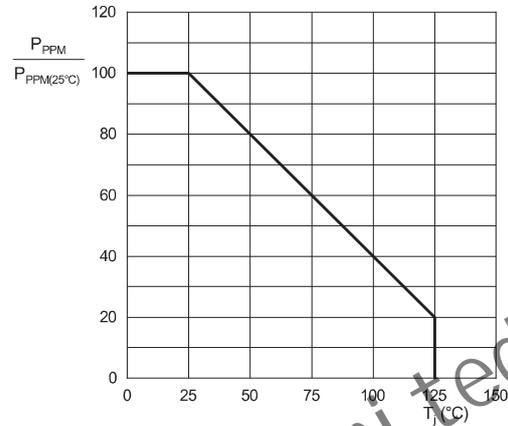
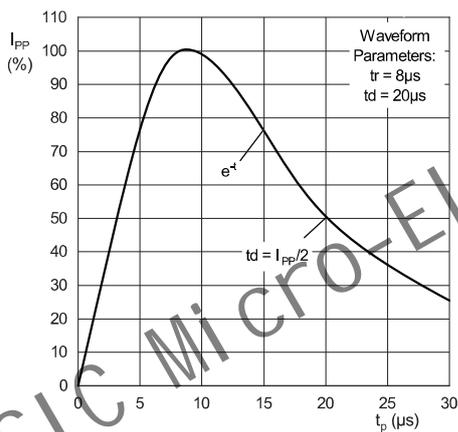
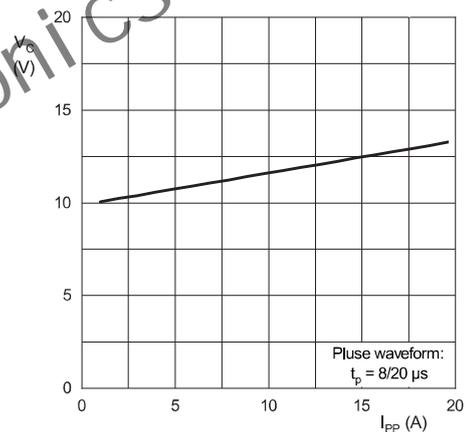
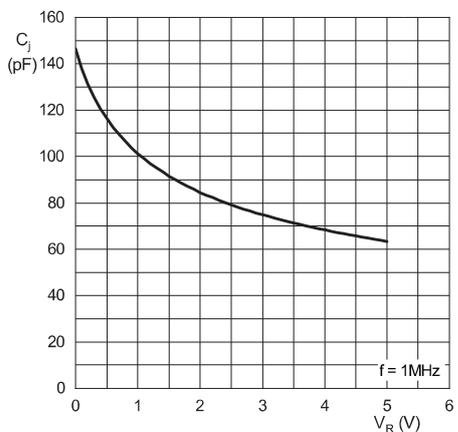
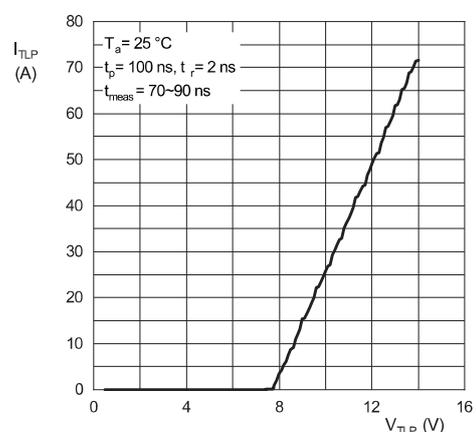
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM}=5V$			1	μA
Clamping Voltage	V_C	$I_{PP}=1A; t_p=8/20\mu s$		10.0		V
Clamping Voltage	V_C	$I_{PP}=19A; t_p=8/20\mu s$		15.0		V
Junction Capacitance	C_J	$V_R=0V; f=1MHz$		135		pF

Table-4 Electrical Characteristics

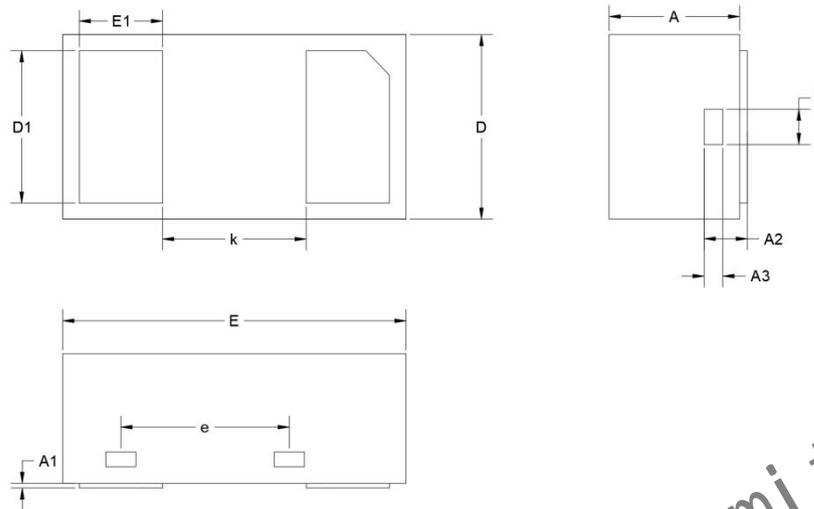
8. Typical Application

Typical Interface Application



9. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)
Figure 1. Pulse rating curve

Figure 2 Peak pulse power derating curve

Figure 3 Pulse waveform

Figure 4 Clamping Voltage vs Peak pulse current

Figure 5 Capacitance vs Reverse voltage

Figure 6 TLP I-V Curve


10.Dimension

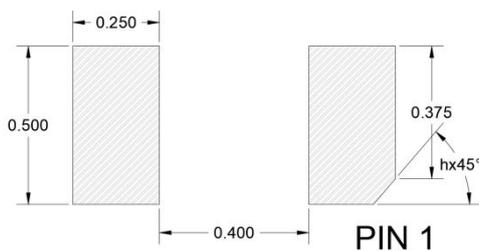


Units in millimeters

Symbol	Min.	Nom.	Max.
A	0.350	0.450	0.550
A1	0.000	0.020	0.050
A2	0.077	0.127	0.207
A3	0.013	0.063	0.113
b	0.070	0.120	0.200
D	0.500	0.600	0.700
D1	0.400	0.500	0.600
E	0.900	1.000	1.100
E1	0.150	0.250	0.350
e	0.310	0.410	0.560
k	0.300	0.400	0.500

Table-5 product dimensions

11.Recommended Land Pattern


Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference only

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