

1.Description

The AE3311PBA0 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time. The AE3311PBA0 suited for use in cellular phones, portable device, digital cameras, power supplies and many other portable applications.



2.Features

- IEC 61000-4-2 (ESD)
 - $\pm 30\text{kV}$ Contact Discharge
 - $\pm 30\text{kV}$ Air Discharge
- IEC 61000-4-5 (Lightning)
 - 8A (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
AE3311PBA0	DFN1006-2L	3B	Halogen free	Tape & Reel	10,000 PCS	UL 94V-0	7 inches

Table-1 Ordering information

5.Pin Configuration and Functions

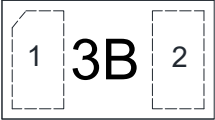
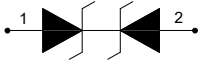
Pin	Name	Description	Outline	Circuit Diagram
1	IO1	Connect to IO		
2	IO2	Connect to IO		

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}	-	80	W
Peak pulse current (tp=8/20us)@25°C	I _{PP}	-	8	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

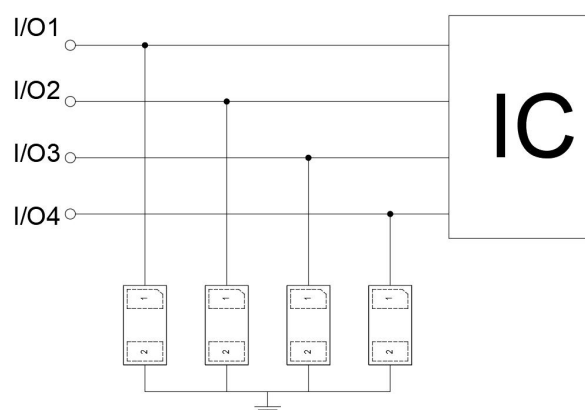
At TA = 25°C unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	3.6			V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$			1	μA
Clamping Voltage	V_C	$I_{PP}=1A$; $t_p=8/20\mu s$		7		V
Clamping Voltage	V_C	$I_{PP}=8A$; $t_p=8/20\mu s$		10		V
Junction Capacitance	C_J	$V_R=0V$; $f=1MHz$		20		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

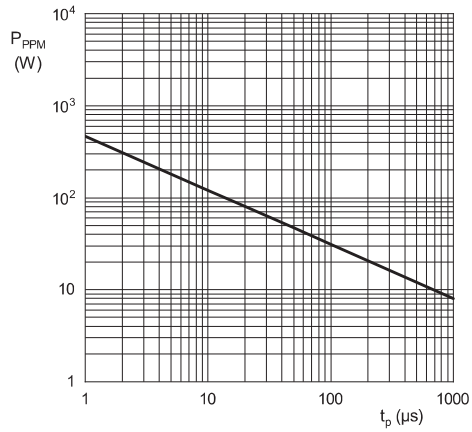


Figure 2 Peak pulse power derating curve

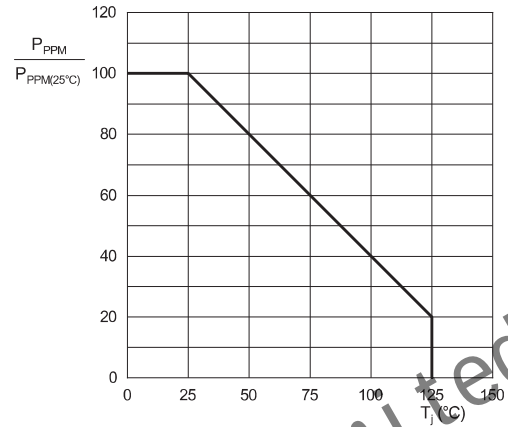


Figure 3 Pulse waveform

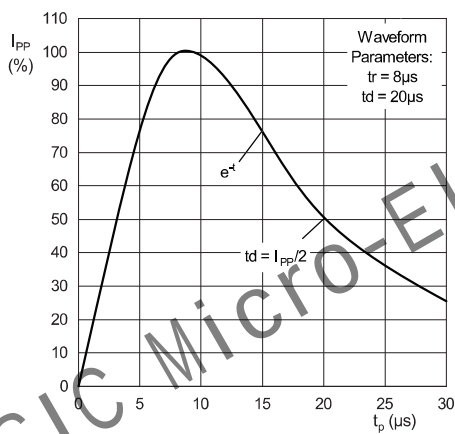
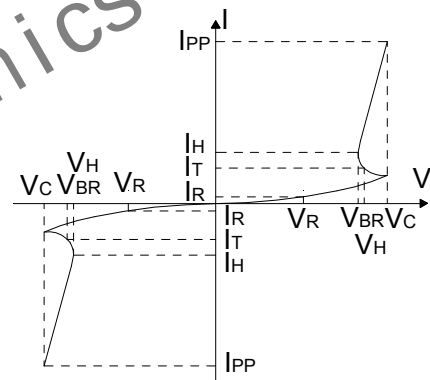
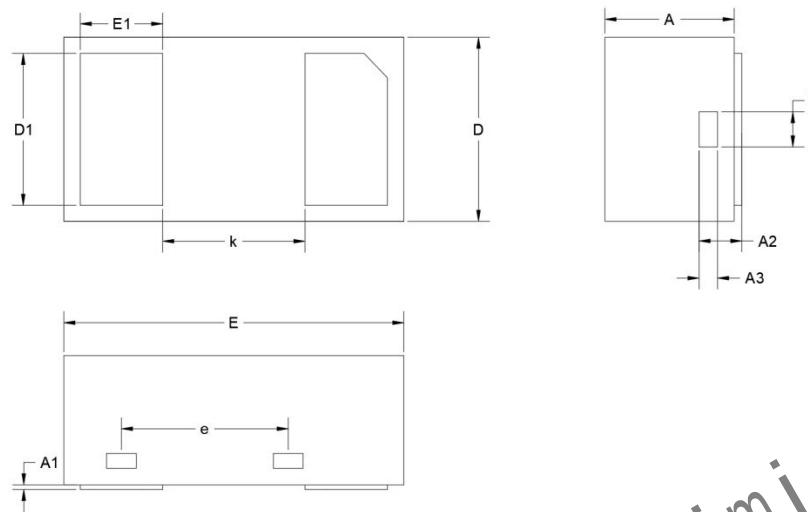


Figure 4 Parameters



10.Dimension

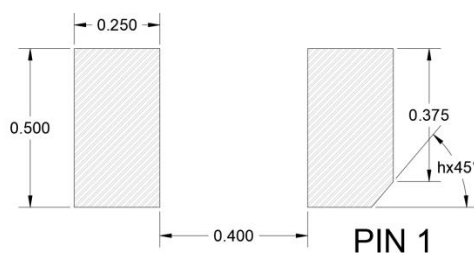


Units in millimeters

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

DISCLAIMER

ASIC PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with ASIC products. You are solely responsible for

- (1) selecting the appropriate ASIC products for your application,
- (2) designing, validating and testing your application
- (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. ASIC grants you permission to use these resources only for development of an application that uses the ASIC products described in the resource. Other reproduction and display of these resources are prohibited. No license is granted to any other ASIC intellectual property right or to any third party intellectual property right. ASIC disclaims responsibility for, and you will fully indemnify ASIC and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources. ASIC's products are provided subject to ASIC's Terms of Sale or other applicable terms available either on www.asicm.co or provided in conjunction with such ASIC products. ASIC's provision of these resources does not expand or otherwise alter ASIC's applicable warranties or warranty disclaimers for ASIC products

ASIC Micro-Electronics Limited