

1. Description

The AE0511UAA0 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time. The AE0511UAA0 suited for use in cellular phones, portableddevice, digital cameras, power supplies and many other portable applications.



2. Features

- IEC 61000-4-2 (ESD)
 - ±12kV Contact Discharge
 - ±15kV Air Discharge
- IEC 61000-4-5 (Lightning)
 - 6A (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
AE0511UAA0	DFN0603-2L	H	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}	-	45	W
Peak pulse current (tp=8/20us)@25°C	I _{PP}	-	6	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}	-	±15	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}	-	±12	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

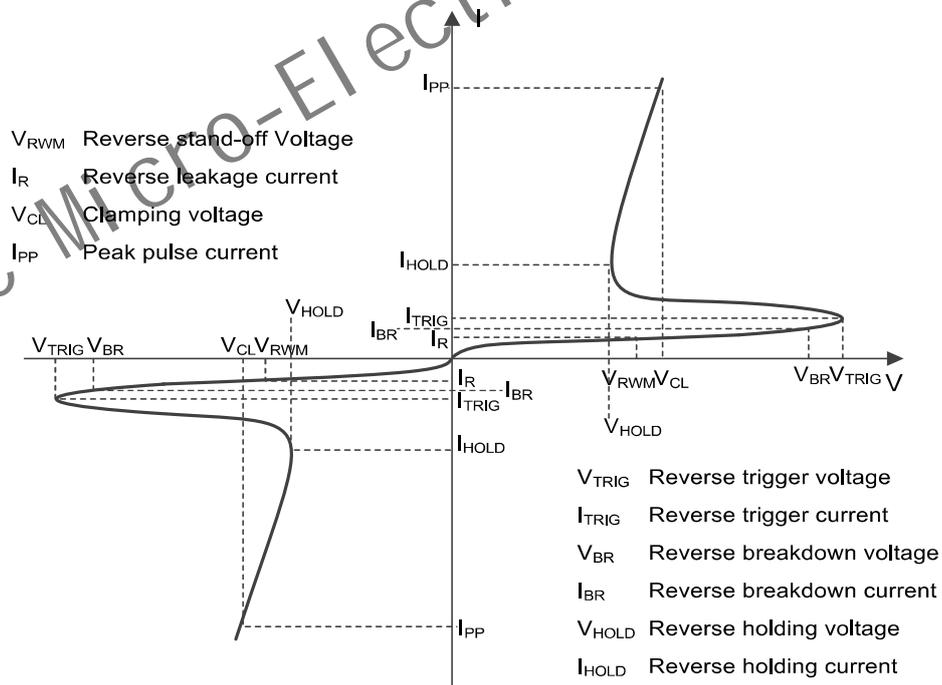
At TA = 25°C unless otherwise noted

Parameters	Symbol	conditions	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				5	V
Reverse Leakage Current	I_R	$V_{RWM}=5V$			0.1	μA
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	5.5			V
Clamping voltage ¹⁾	V_{CL}	$I_{PP}=3A; t_p=8/20\mu s$		6.5		V
		$I_{PP}=6A; t_p=8/20\mu s$		7.5		V
Junction capacitance	C_J	$V_{RWM}=0V, f=1MHz$		0.15		pF

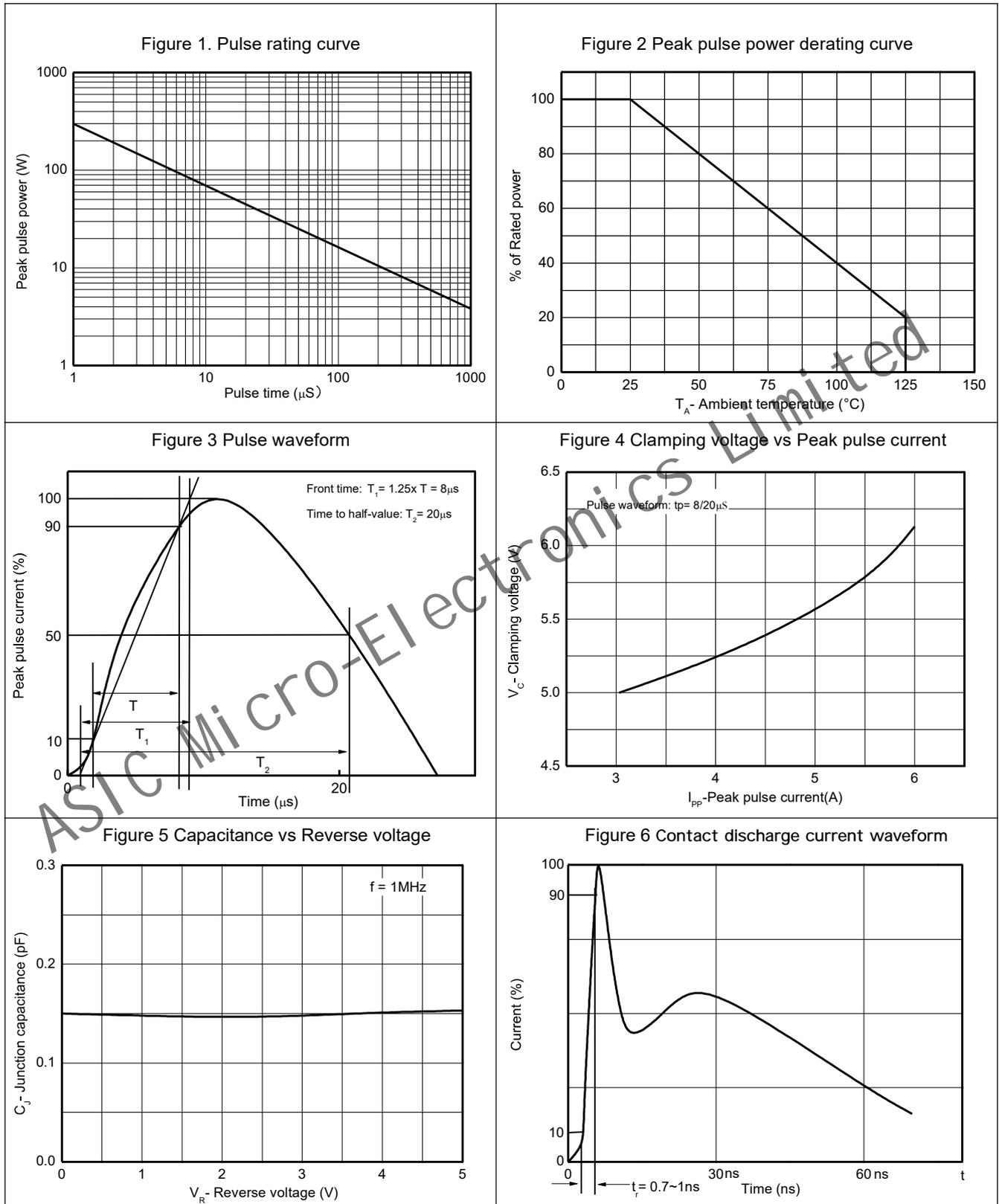
Table-4 Electrical Characteristics

Notes:

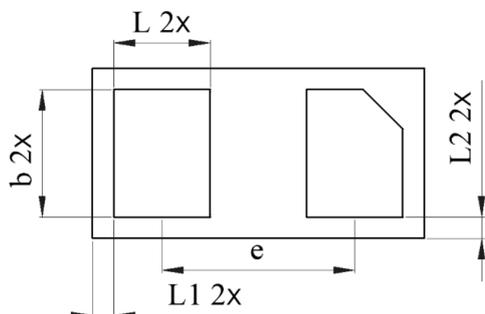
- 1) Non-repetitive current pulse, according to IEC61000-4-5.



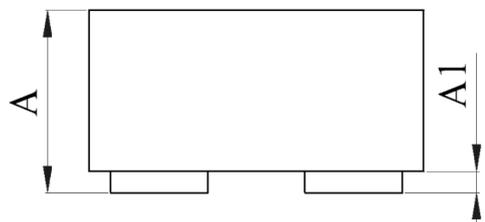
8. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)



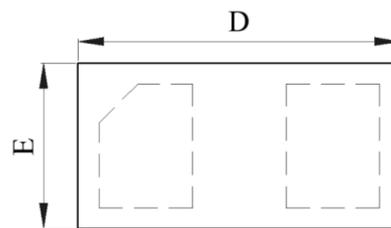
9.Dimension



Bottom View



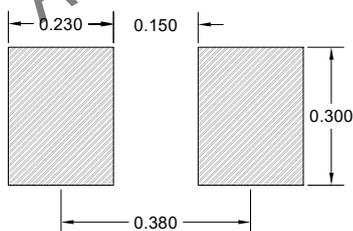
Side View



Top View

Symbol	Dimension In Millimeters			Dimension In Inches		
	Normal	Min	Max	Normal	Min	Max
A	--	0.280	0.340	--	0.011	0.013
A1	--	--	0.050	--	--	0.002
D	0.620	0.590	0.640	0.024	0.023	0.025
E	0.320	0.290	0.340	0.013	0.011	0.013
b	0.240	0.215	0.265	0.009	0.008	0.010
L	0.180	0.155	0.205	0.007	0.006	0.008
L1	0.040 REF			0.002 REF		
L2	0.040 REF			0.002 REF		
e	0.360 BSC			0.014 BSC		

10.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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