

# DATA SHEET

**ELECTROSTATIC DISCHARGE  
PROTECTION DEVICES**

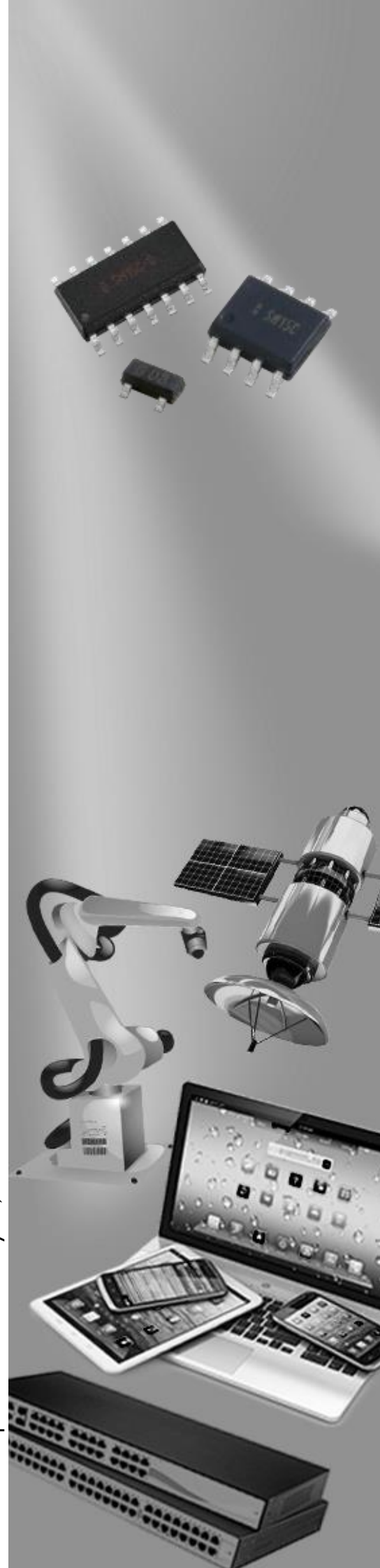
**INDUSTRIAL / CONSUMER**

UAD8C36L01

RoHS compliant & Halogen free



Product specification— February 22, 2023 V.0



## Electrostatic Discharged Protection Devices (ESD) Data Sheet

## Features

- DFN1006package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low leakage current
- Low clamping voltages
- Transient protection for each line according to IEC 61000-4-2(ESD):  $\pm 15\text{KV}$ (contact discharge)  
 $\pm 15\text{KV}$ (air discharge)
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and reel
- ROHS/WEEE Compliant
- Marking: TD

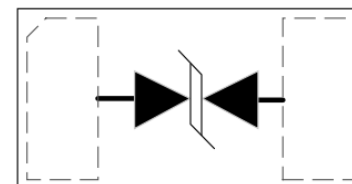


Contact :  $\pm 15\text{kV}$   
Air :  $\pm 15\text{kV}$



## Applications

- Handsets and Accessories
- Digital cameras
- Personal digital assistant (PDA)
- Notebooks, desktops, and servers
- Portable Instrumentation



Pin Configuration

## Maximum Ratings

Rating	Symbol	Value	Unit
Peak pulse power ( $t_p=8/20\mu\text{s}$ waveform)	$P_{PP}$	85	W
ESD voltage (Contact discharge)	$V_{ESD}$	$\pm 15$	kV
ESD voltage (Air discharge)		$\pm 15$	
Operating temperature range	$T_J$	$-55\sim+125$	$^{\circ}\text{C}$
Storage temperature range	$T_{stg}$	$-55\sim+125$	$^{\circ}\text{C}$

## Electrical Characteristics (T<sub>A</sub>=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V <sub>RWM</sub>				36	V
Reverse breakdown voltage	V <sub>BR</sub>	I <sub>BR</sub> =1mA	40			V
Holding Voltage	V <sub>H</sub>	I <sub>H</sub> =80mA	4.0			V
Reverse leakage current	I <sub>R</sub>	V <sub>R</sub> =36V			1	μA
Clamping voltage (tp=8/20μs)	V <sub>C</sub>	I <sub>PP</sub> =6A			12	V
Peak pulse current (tp=8/20μs)	I <sub>PP</sub>				6	A
Off state junction capacitance	C <sub>J</sub>	0Vdc,f=1MHz		0.4		pF

## Electrical Parameters (T<sub>A</sub>=25°C unless otherwise noted)

V<sub>RWM</sub> ..... Reverse Working Voltage Max

I<sub>R</sub> ..... Maximum Reverse Leakage Current @ V<sub>RWM</sub>

V<sub>T</sub> ..... Trigger VOLTage

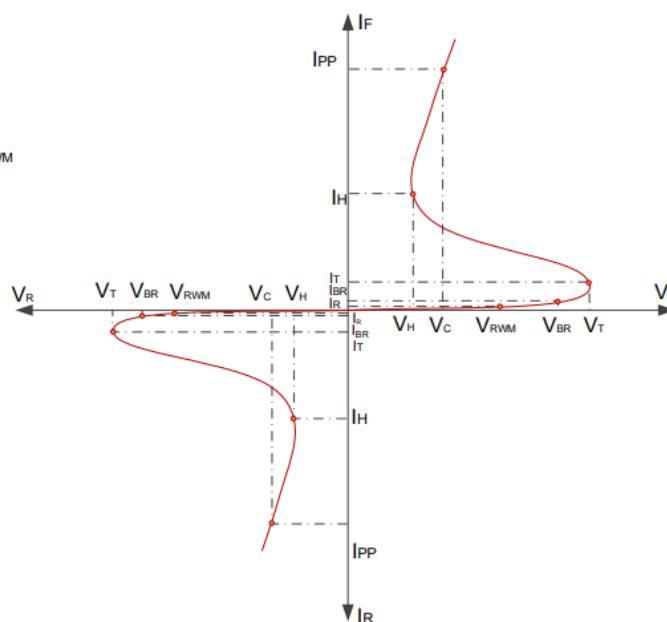
V<sub>H</sub> ..... Holding Voltage

I<sub>H</sub> ..... Holding Current

V<sub>BR</sub> ..... Reverse Breakdown Voltage

I<sub>PP</sub> ..... Maximum Reverse Peak Pulse Current

V<sub>C</sub> ..... Clamping Voltage @ I<sub>PP</sub>



## Typical Characteristics Curves

Figure 1. Peak Pulse Power vs. Pulse Time

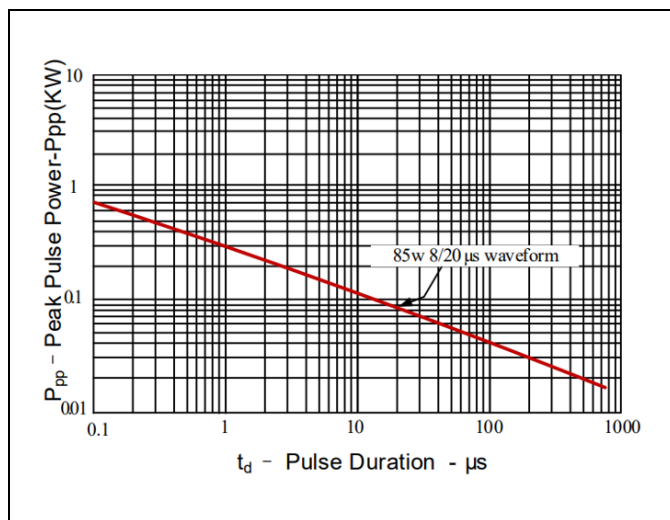


Figure 2. Power Derating Curve

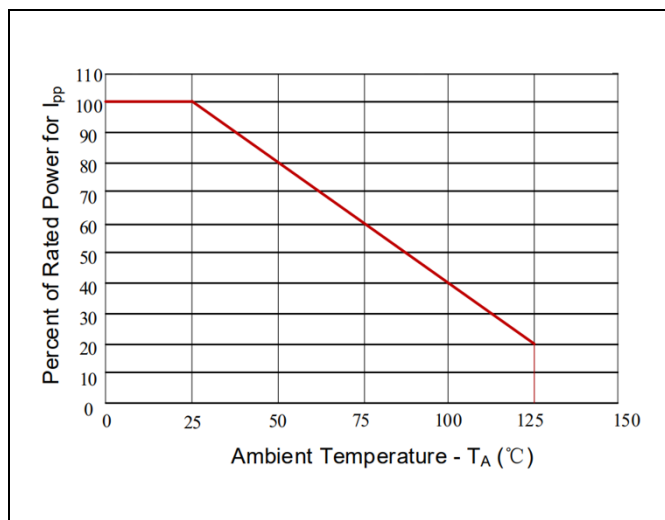


Figure 3. Pulse Waveform

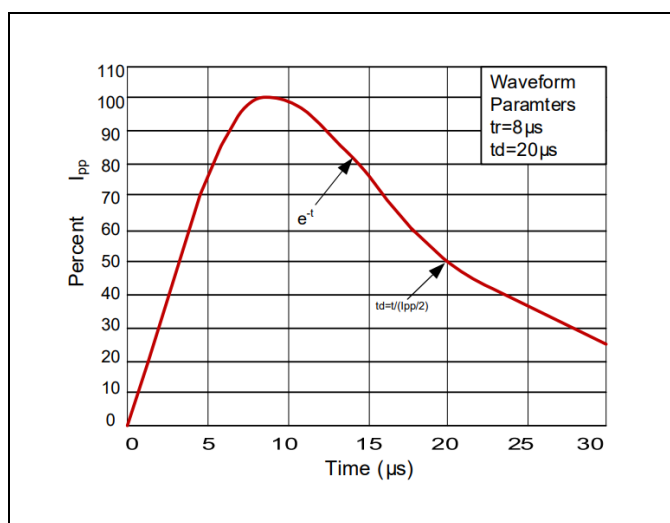
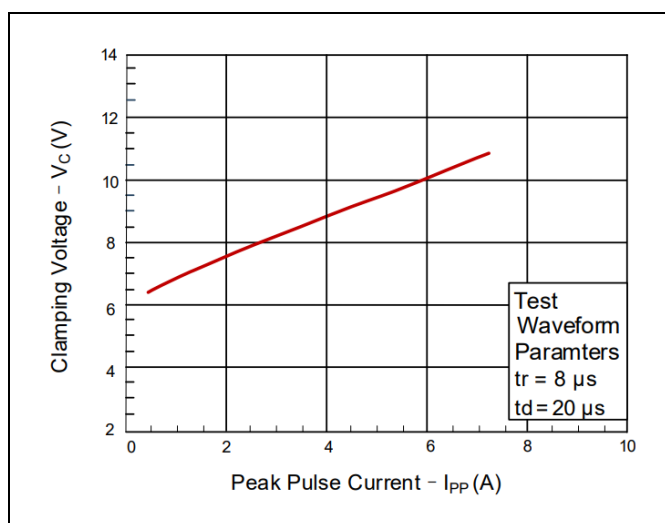
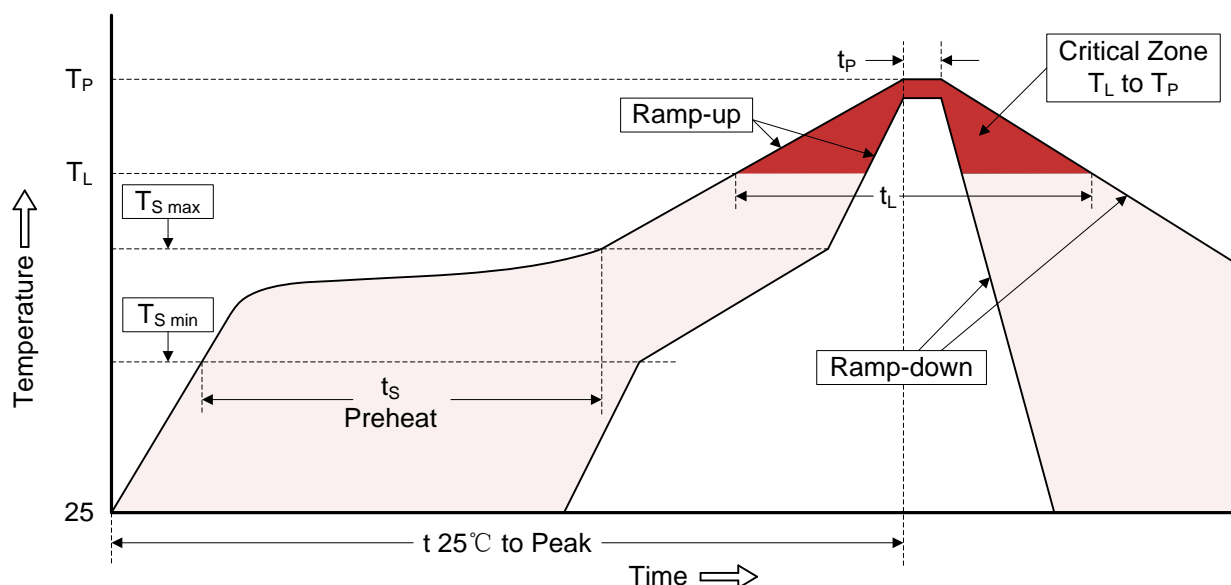


Figure 4. Clamping Voltage vs. IPP



## Recommended Soldering Conditions

### Reflow Soldering



### Recommended Condition

Profile Feature	Pb-Free Assembly
Average ramp-up rate ( $T_L$ to $T_P$ )	3°C/second max.
Preheat <ul style="list-style-type: none"> <li>-Temperature Min (<math>T_{S\ min}</math>)</li> <li>-Temperature Max (<math>T_{S\ max}</math>)</li> <li>-Time (min to max) (<math>t_s</math>)</li> </ul>	150°C 200°C 60-180 seconds
$T_{S\ max}$ to $T_L$ <ul style="list-style-type: none"> <li>-Ramp-up Rate</li> </ul>	3°C/second max.
Time maintained above: <ul style="list-style-type: none"> <li>-Temperature (<math>T_L</math>)</li> <li>-Time (<math>t_L</math>)</li> </ul>	217°C 60-150 seconds
Peak Temperature ( $T_P$ )	260°C
Time within 5°C of actual Peak Temperature ( $t_P$ )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

## Dimensions (SOD-882/DFN1006)

Symbol	Dimension			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.05	0.037	0.041
B	0.55	0.65	0.022	0.026
C	0.32	0.55	0.013	0.022
D	0.45		0.018	
E	0.20	0.30	0.008	0.012
F	0.45	0.55	0.018	0.022

## Packaging

Tape	Symbol	Dimension (mm)
	W	8.00±0.30
	P0	4.00±0.10
	P1	2.00±0.10
	P2	2.00±0.10
	D0	Φ1.55±0.10
	D1	Φ0.40±0.05
	E	1.75±0.10
	F	3.50±0.10
	A	0.75±0.10
	B	1.15±0.10
	K	0.60±0.05
	t	0.20±0.05
Reel	D	Φ178.0±2.0
	D2	Φ13.0
	W1	9.5
	Quantity: 10000PCS	

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