Innovative Service Around the Globe YAGEO

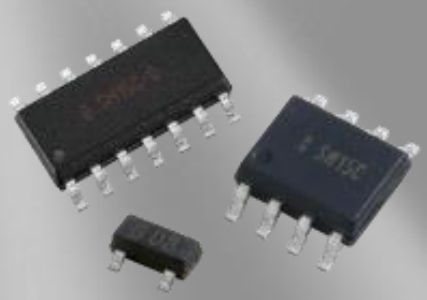
DATA SHEET

ELECTROSTATIC DISCHARGE PROTECTION DEVICES

INDUSTRIAL / CONSUMER

UAD8C12L01

RoHS compliant & Halogen free



Product specification– July 04, 2023 V.2

Electrostatic Discharged Protection Devices (ESD) Data Sheet

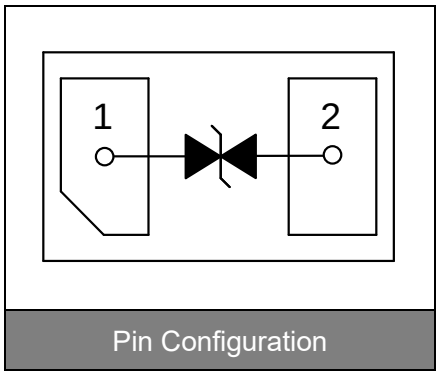
Description

The UAD8C12L01 of Transient Voltage Suppressors is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computer, and PDAs.
It offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs. It is designed to protect sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD), lightning, electrical fast transients (EFT), and cable discharge events (CDE).

Contact : ±20kV
Air : ±20kV

Features

- IEC61000-4-2 ESD 20KV Air, 20KV contact compliance
- SOD882 surface mount package
- Working voltage: 12V
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270℃
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: B12



Pin Configuration

Applications

- MP3 players
- Touch Panels
- Personal digital assistants (PDA)
- Serial ATA protection
- Wireless system devices
- Handhelds and notebooks
- Digital cameras
- Portable Devices

Maximum Ratings

Rating	Symbol	Value	Unit
ESD voltage (Contact discharge)	V_{ESD}	±20	kV
ESD voltage (Air discharge)		±20	
Storage & operating temperature range	T_{STG} ,T_J	-55~+150	℃

Electrical Characteristics (T_J=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				12	V
Reverse breakdown voltage	V_{BR}	I_{BR}=1mA	13.7			V
Reverse leakage current	I_R	V_R=12V			0.5	μA
Clamping voltage (tp=8/20μs)	V_C	I_{PP}=3A		18		V
Peak pulse current (tp=8/20μs)	I_{PP}				3	A
ESD Clamping voltage (TLP)	V_C	I_{PP}=8A		16.4		V
ESD Clamping voltage (TLP)	V_C	I_{PP}=16A		18		V
ESD Dynamic Turn-on Resistance	$R_{dynamic}$			0.25		Ω
Off state junction capacitance	C_J	0Vdc,f=1MHz		3.5	5.0	pF

Typical Characteristics Curves

Figure 1. Pulse Waveforms

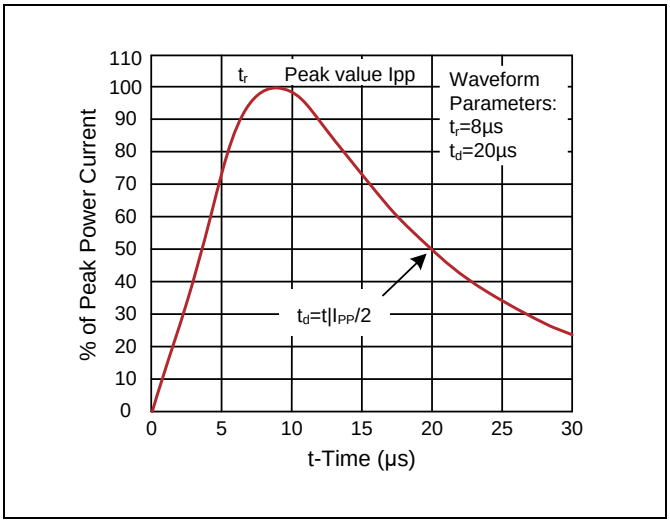


Figure 2. Clamping Voltage vs. Peak Pulse Current

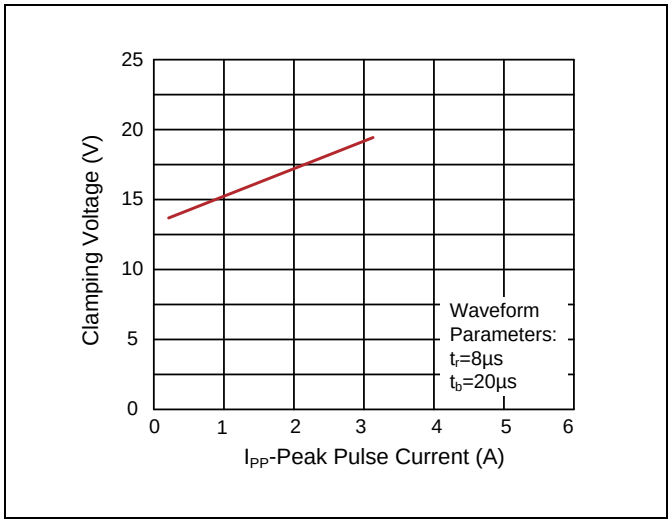


Figure 3. Capacitance vs. Reverse Voltage

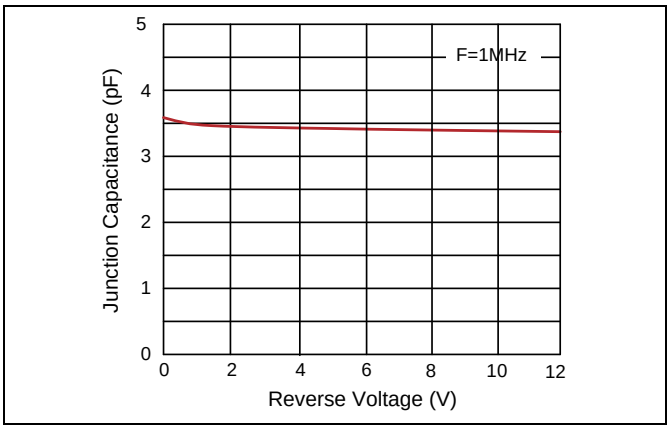


Figure 4. Power Derating Curve

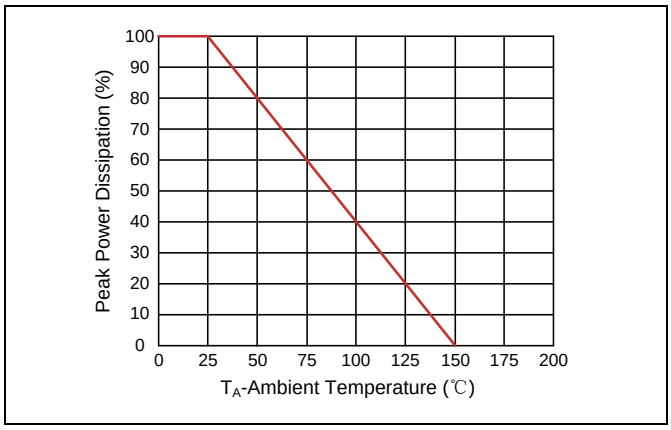


Figure 5. ESD Clamping (8kV Contact IEC61000-4-2)

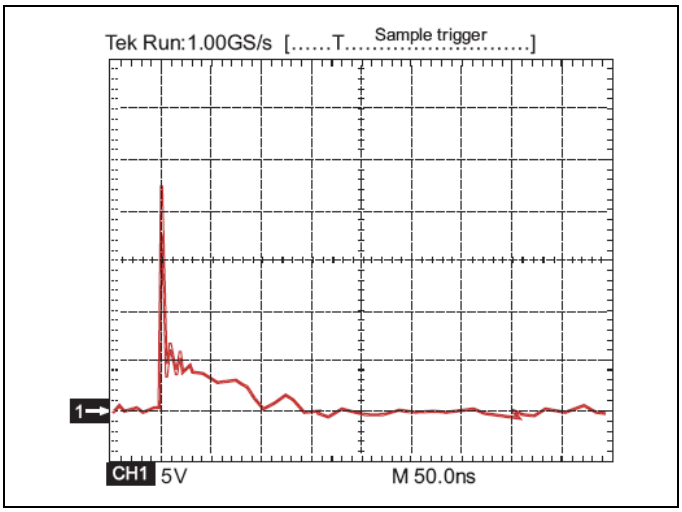
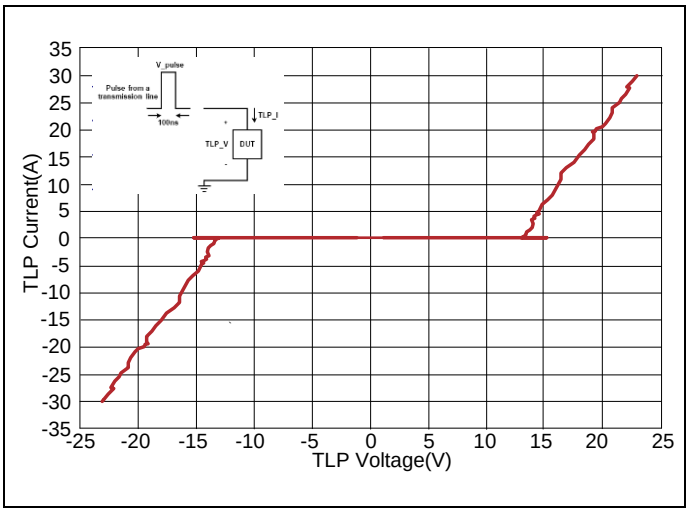
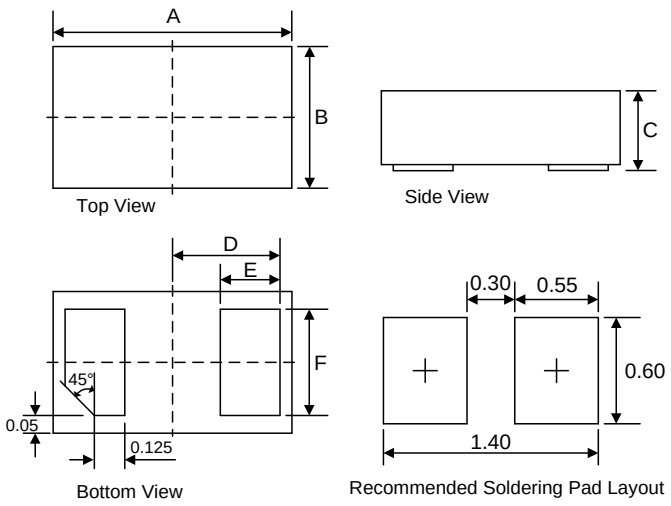


Figure6 .Transmission Line Pulsing(TLP)Measurement



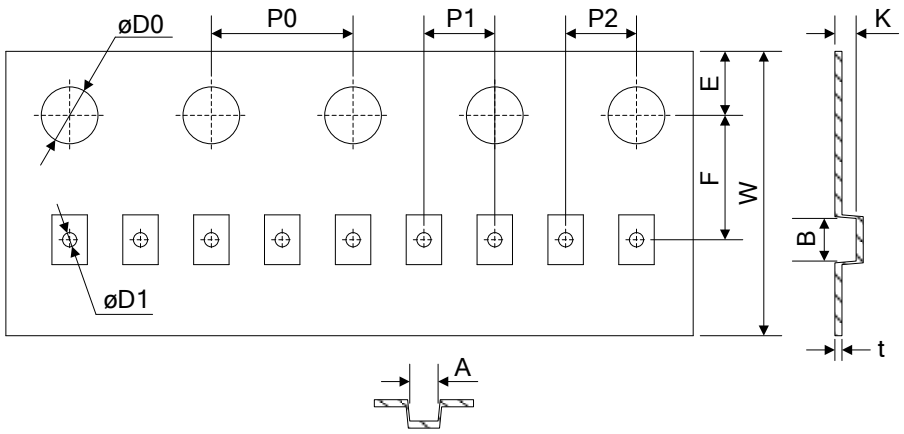
Dimensions (SOD882)



Symbol	Dimension (mm)			
	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

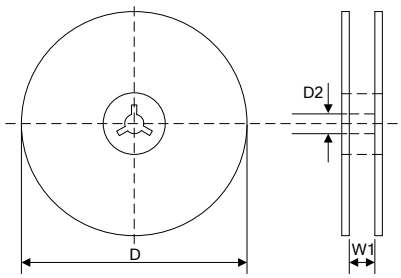
Packaging

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	Φ328.0±2.0
D2	Φ14.4
W1	10.0
Quantity: 10000PCS	

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