Innovative Service Around the Globe YAGEO

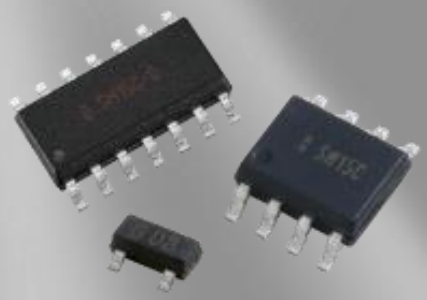
DATA SHEET

ELECTROSTATIC DISCHARGE PROTECTION DEVICES

INDUSTRIAL / CONSUMER

UAD92A03L01

RoHS compliant & Halogen free



Product specification– April 11, 2023 V.0

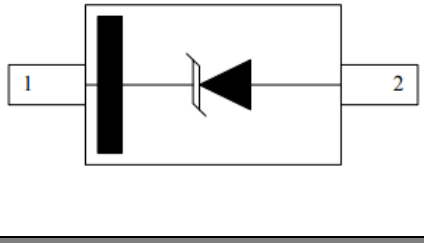
Electrostatic Discharged Protection Devices (ESD) Data Sheet

Features

- Transient protection for high-speed data lines
  IEC61000-4-2 ESD : 25KV（Air）
  20KV（contact）
  IEC 61000-4-4 (EFT) 40A (5/50 ns)
  Cable Discharge Event (CDE)
- SOD-923 package
- Package optimized for high-speed lines
- Protects one data, control or power line
- Low capacitance: 0.5pF (Typical)
- Low leakage current: 0.1μA @ V_{RWM} (Typical)
- Low clamping voltage
- Each I/O pin can withstand over 1000 ESD strikes for ±8kV contact discharge
- Flammability Rating: UL 94V-0
- Marking：C

Applications

- Serial ATA
- PCI Express
- Desktops, Servers and Notebooks
- Cellular Phones
- MDDI Ports
- USB2.0/3.0 Power and Data Line Protection
- Display Ports
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interfaces (DVI)



Pin Configuration

Maximum Ratings

Rating	Symbol	Value	Unit
Peak pulse power (tp=8/20μs waveform)	P_{PP}	50	W
ESD voltage (Contact discharge)	V_{ESD}	±20	kV
ESD voltage (Air discharge)		±25	
Operating Temperature	T_J	-55~+125	℃
Storage Temperature	T_{stg}	-55~+150	℃

Electrical Characteristics (T_J=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				3.3	V
Reverse breakdown voltage	V_{BR}	I_{BR}=1mA	6.0			V
Reverse leakage current	I_R	V_R=3.3V		0.1	1.0	μA
Clamping voltage (tp=8/20μs)	V_C	I_{PP}=1A			10.0	V
Peak pulse current (tp=8/20μs)	I_{PP}				4.0	A
Off state junction capacitance	C_J	0Vdc,f=1MHz		0.85		pF

Typical Characteristics Curves

Figure 1. Voltage Sweeping of I/O to GND

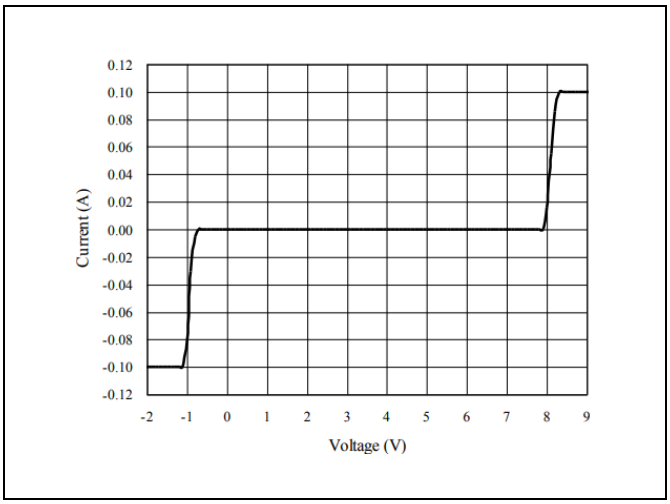


Figure 2. Insertion Loss S21 of I/O to GND

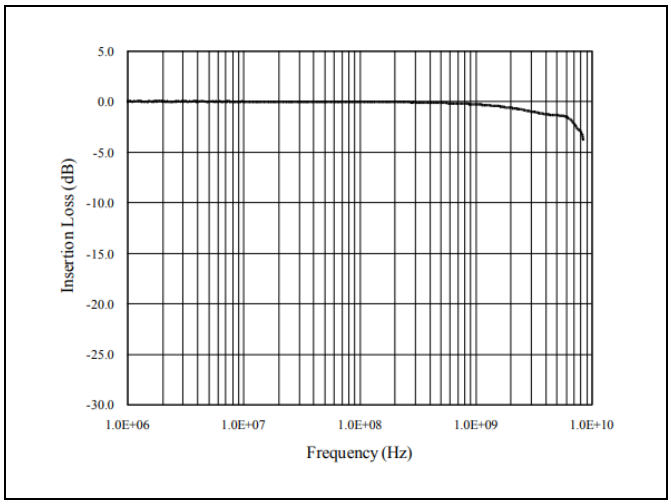


Figure 3. Capacitance vs. Reverse Voltage

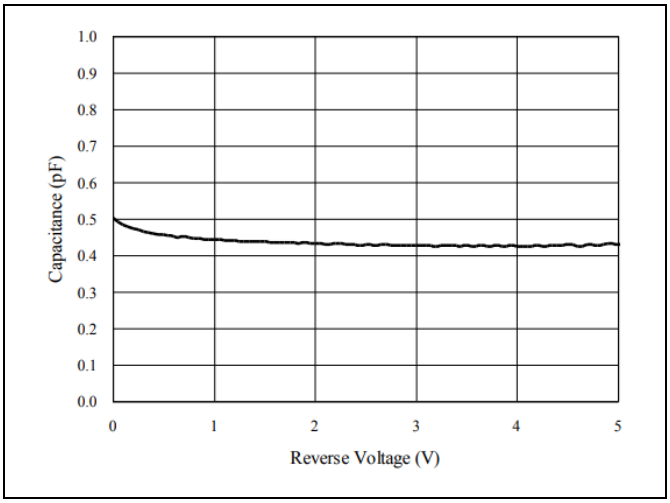
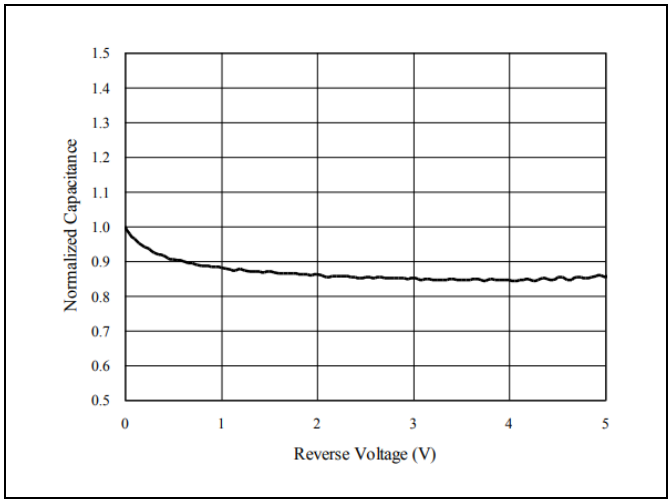
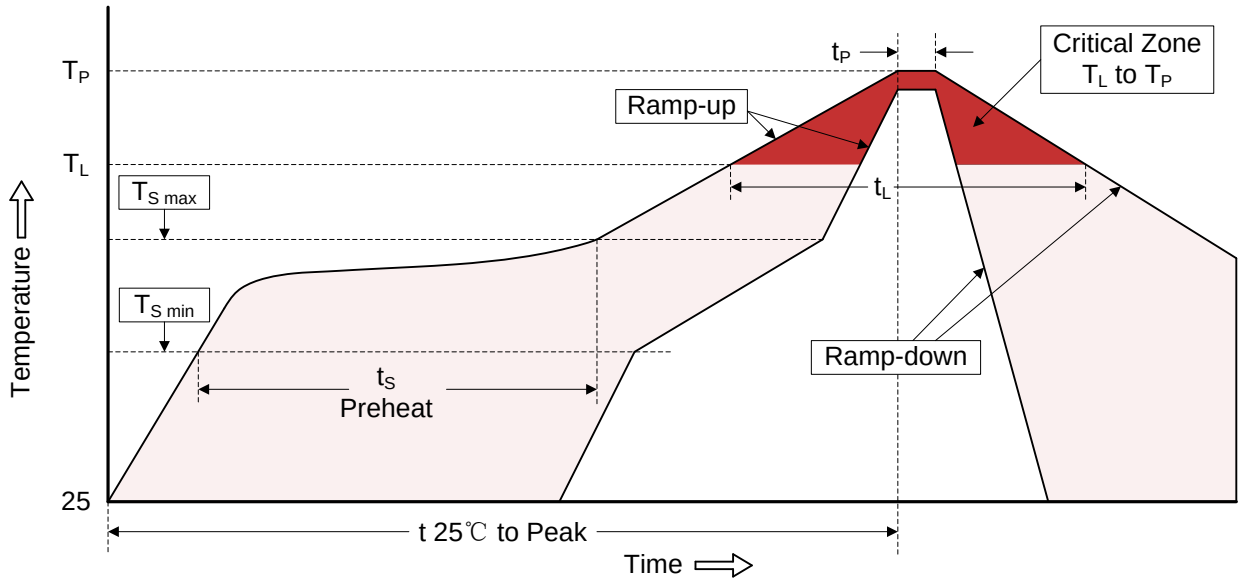


Figure 4. Normalized Capacitance vs. Reverse Voltage



Recommended Soldering Conditions

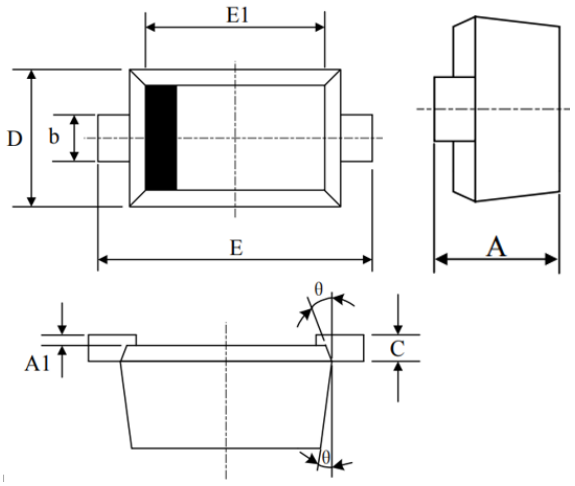
Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\,min}$) -Temperature Max ($T_{S\,max}$) -Time (min to max) (ts)	 150℃ 200℃ 60-180 seconds
$T_{S\,max}$ to T_L -Ramp-up Rate	3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

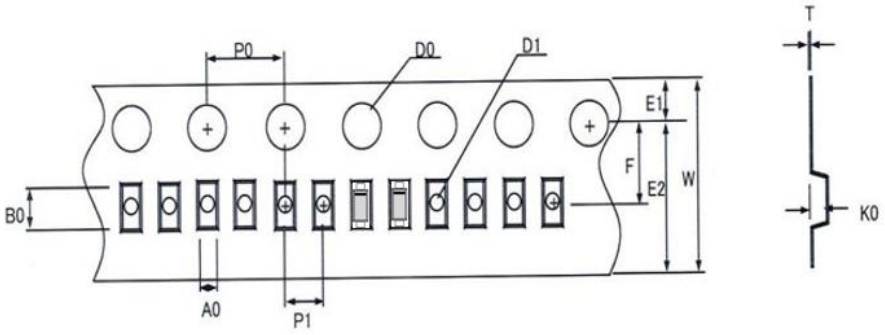
Dimensions (SOD-923)



Symbol	Dimension (mm)			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.35	0.43	0.014	0.017
A1	0.00	0.50	0.000	0.020
b	0.17	0.27	0.007	0.011
C	--	0.15	0.000	0.006
D	0.55	0.65	0.022	0.026
E	0.90	1.10	0.035	0.043
E1	0.75	0.85	0.030	0.033

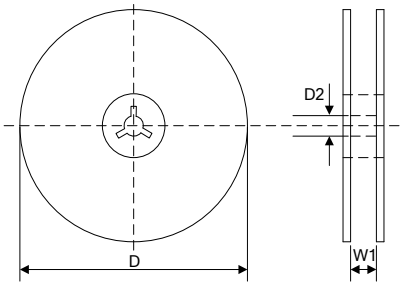
Packaging

Tape



Symbol	Dimension (mm)
A0	0.67±0.05
B0	1.12±0.05
W	8.0±0.2
D0	1.55±0.05
D1	0.50±0.05
E1	1.75±0.10
E2	Min.:6.25
F	3.50±0.10
P0	4.0±0.05
P1	2.0±0.05
K0	0.52±0.05
T	0.20±0.02

Reel



D	Φ178.0±2.0
D2	Φ13.00.
W1	9.50
Quantity: 10000PCS	

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