Innovative Service Around the Globe YAGEO

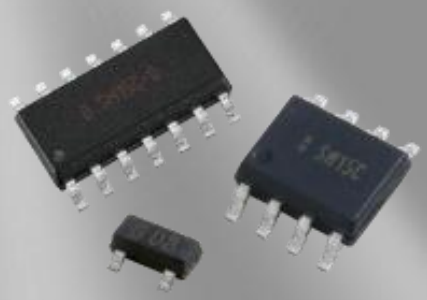
DATA SHEET

ELECTROSTATIC DISCHARGE PROTECTION DEVICES

INDUSTRIAL / CONSUMER

UAD52C05L01 series

RoHS compliant & Halogen free



Product specification– April 23, 2019 V.0

Electrostatic Discharged Protection Devices (ESD) Data Sheet

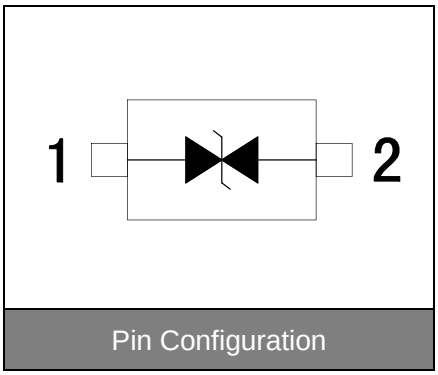
Description

The UAD52C05L01-NLOR is designed to protect voltage sensitive Components from ESD and transient voltage events. Excellent clamping capability,low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, portable devices, digital cameras, power supplies and many other portable applications.
It is designed to protect sensitive semiconductor components from damage or upset due to electrostatic discharge(ESD), electrical fast transients(EFT), and cable discharge events(CDE).

Contact : ±8kV
Air : ±15kV

Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOD-523 surface mount package
- Working voltage: 5V
- Low leakage current
- Lead Free/RoHS compliant
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: LB



Pin Configuration

Applications

- Cellular handsets & Accessories
- Cordless phones
- Personal digital assistants (PDAs)
- Notebooks & Handhelds
- Portable instrumentation
- Digital cameras
- Peripherals
- MP3 players

Maximum Ratings

Rating	Symbol	Value	Unit
Peak pulse current (tp=8/20μs)	I_{PP}	2	A
ESD voltage (Contact discharge)	V_{ESD}	±8	kV
ESD voltage (Air discharge)		±15	
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}				5.0	V
Reverse breakdown voltage	V_{BR}	I_{BR}=1.0mA	6.0			V
Reverse leakage current	I_R	V_R=5.0V			1.0	μA
Clamping voltage (tp=8/20μs)	V_C	I_{PP}=2.0A		10		V
Off state junction capacitance	C_J	0Vdc,f=1MHz		2.5	3.0	pF

Typical Characteristics Curves

Figure 1. Pulse Waveform

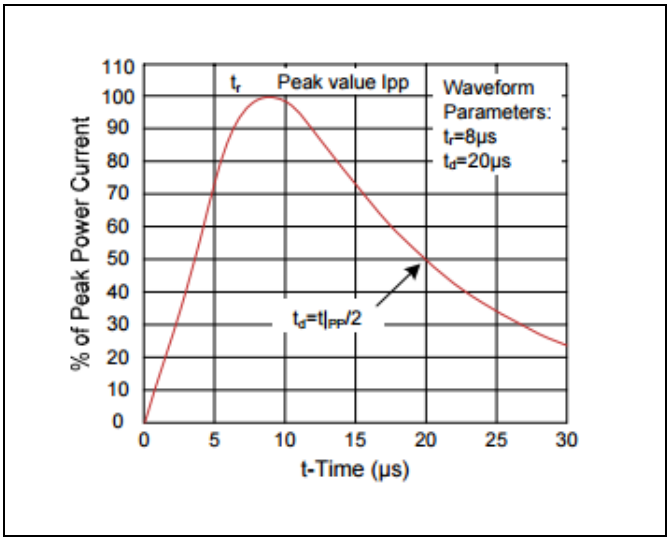


Figure 2. Clamping Voltage vs. Peak Pulse Current

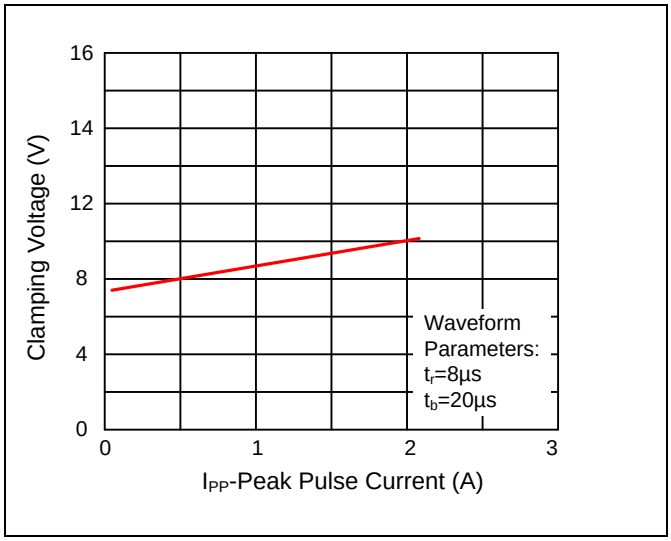


Figure 3. Capacitance vs. Reverse Voltage

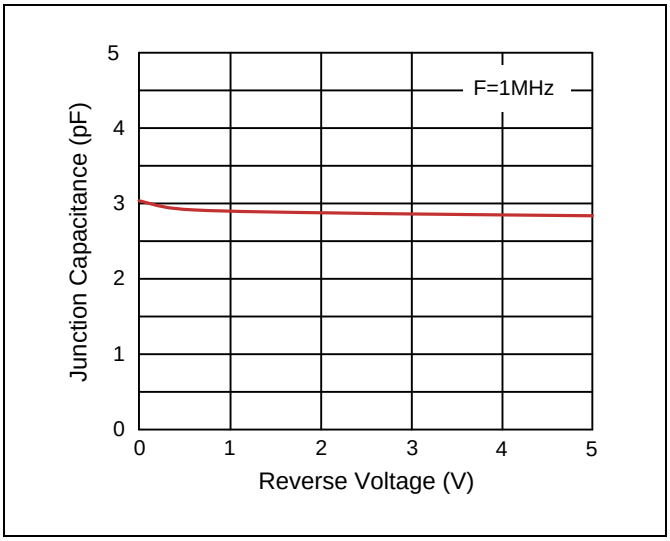
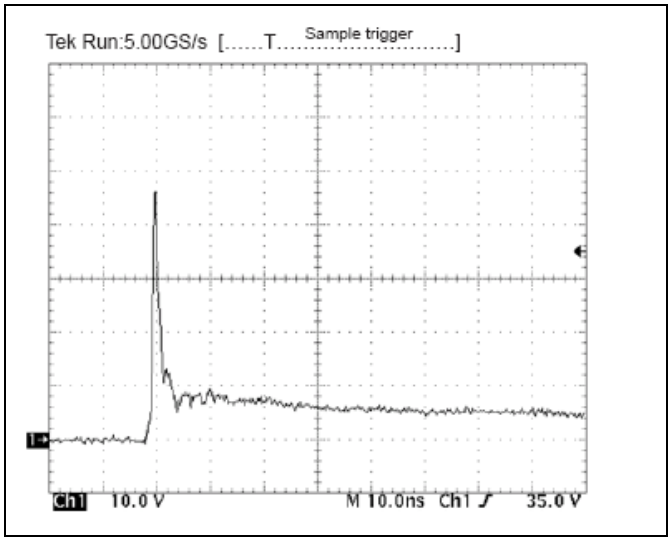
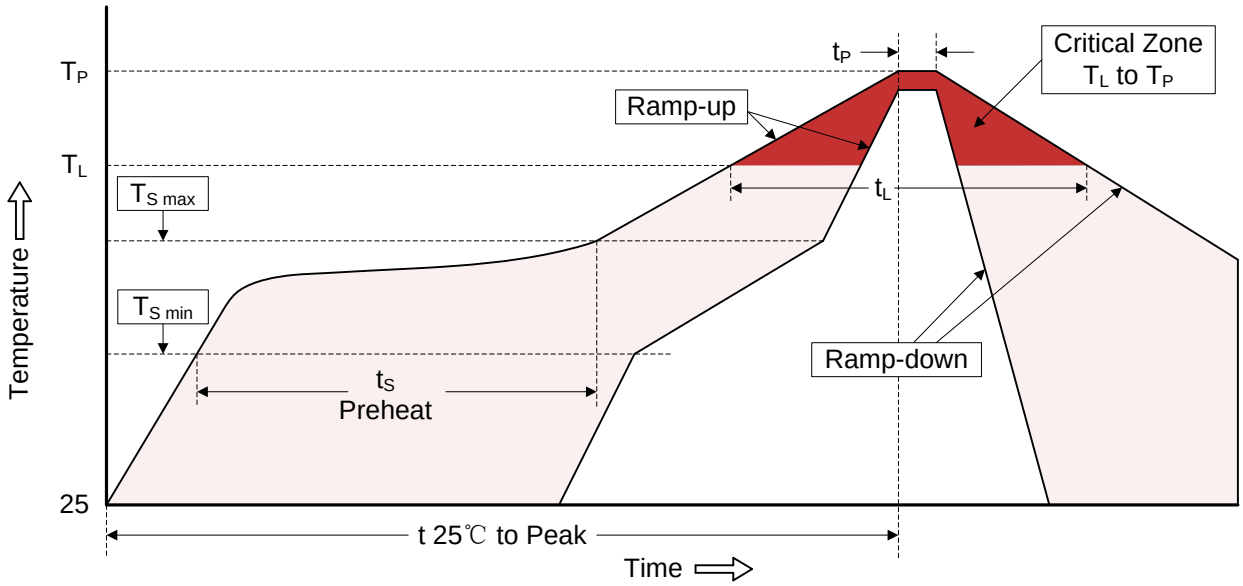


Figure 4. ESD Clamping(8kV Contact IEC61000-4-2)



Recommended Soldering Conditions

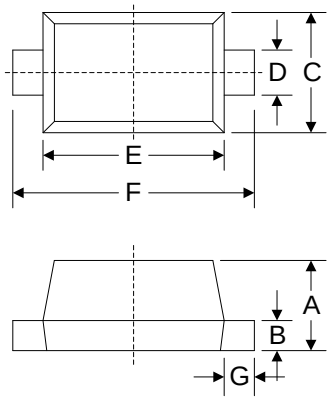
Reflow Soldering

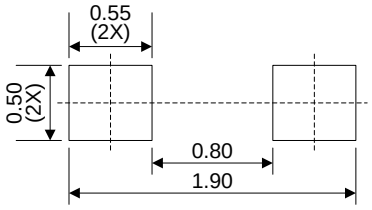


Recommended Conditions

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-523)



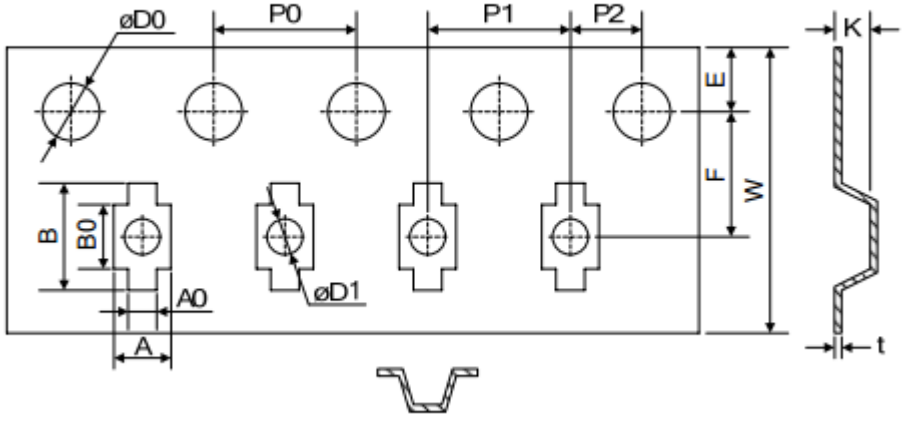


Recommended Soldering Pad Layout

Symbol	Dimension (mm)			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.50	0.70	0.020	0.028
B	0.07	0.20	0.003	0.008
C	0.70	0.90	0.028	0.035
D	0.25	0.35	0.010	0.014
E	1.10	1.30	0.043	0.051
F	1.50	1.70	0.059	0.067
G	0.15	0.25	0.006	0.010

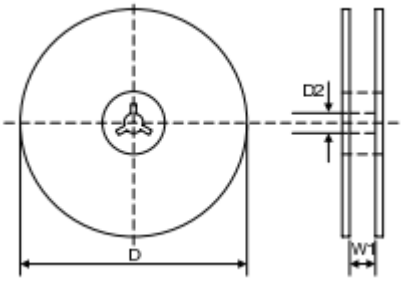
Packaging

Tape



Symbol	Dimension (mm)
W	8.00±0.30
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
D0	Φ1.55±0.10
D1	Φ0.50±0.05
E	1.75±0.10
F	3.50±0.10
A	1.00±0.10
A0	0.50±0.10
B	1.80±0.10
B0	1.30±0.10
K	0.65±0.10
t	0.20±0.05

Reel



D	Φ178.0±2.0
D2	Φ13.00.
W1	9.50

Quantity: 3000PCS