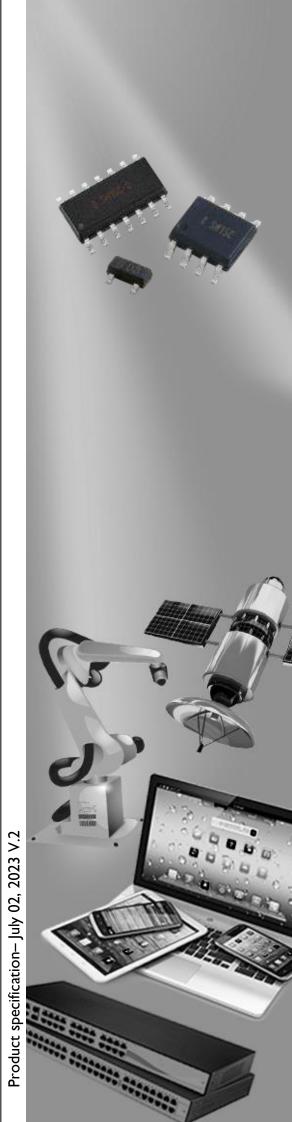


DATA SHEET

PROTECTION DEVICES
INDUSTRIAL / CONSUMER
UAD8A05L02

RoHS compliant & Halogen free





Electrostatic Discharged Protection Devices (ESD) Data Sheet

Description

The UAD8A05L02 is designed to protect sensitive electronic from damage or latch-up due to ESD. It is designed to replace multilayer varistors (MLVs) in portable applications such as cell phone, note-book computers and other portable electronics. It features large cross-sectional area junctions for conducting high transient currents. The device may be used to meet the immunity requirements of IEC61000-4-2, level 4.

Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- DFN1006-3L surface mount package
- Working voltage: 5V
- Low leakage current
- Low operating and clamping voltages
- Lead Free/RoHS compliant
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: 5U

Applications

- USB 3.0/USB 2.0
- MHL/MIPI/MDDI
- HDMI, Video Port, eSATA
- Set Top Boxes, Game Consoles
- Smart Phones
- External Storage
- Ultrabooks, Notebooks
- Tablets, eReaders

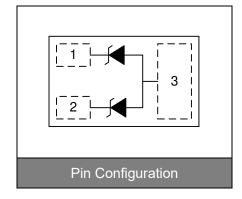
Maximum Ratings

Rating	Symbol	Value	Unit	
ESD voltage (Contact discharge)	V	±8	kV	
ESD voltage (Air discharge)	V_{ESD}	±15		
Storage & operating temperature range	T _{STG} ,T _J	-55~+150	°C	



Contact: ±8kV Air: ±15kV





Electrical Characteristics (T_J=25°C)

Parameter	Symbol	Condition	Min.	Тур.	Max.	Unit
Reverse stand-off voltage	V _{RWM}				5	V
Reverse breakdown voltage	V_{BR}	I _{BR} =1mA	6		8.5	V
Reverse leakage current	I _R	V _R =5V			0.5	μA
Clamping voltage (tp=8/20µs)	Vc	I _{PP} =1A		11		V
Clamping voltage (tp=8/20µs)	V _C	I _{PP} =2A		14		V
Peak pulse current (tp=8/20µs)	I _{PP}				3	Α
Off state junction capacitance	СJ	0Vdc,f=1MHz Pin1/2 to Pin3		0.75		pF
		0Vdc,f=1MHz Pin1 to Pin2		0.5		pF

Typical Characteristics Curves

Figure 1. Pulse Waveform

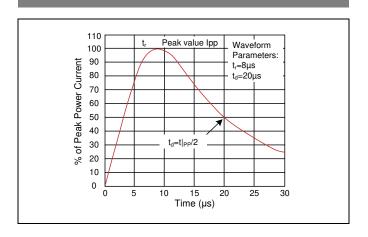


Figure 2. Clamping Voltage vs. Peak Pulse Current

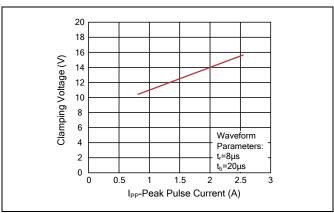


Figure 3. Capacitance vs. Reverse Voltage

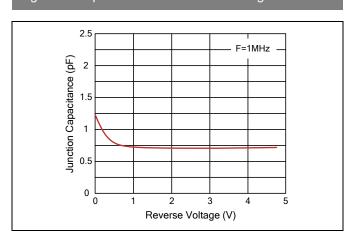
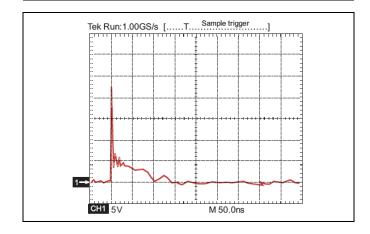
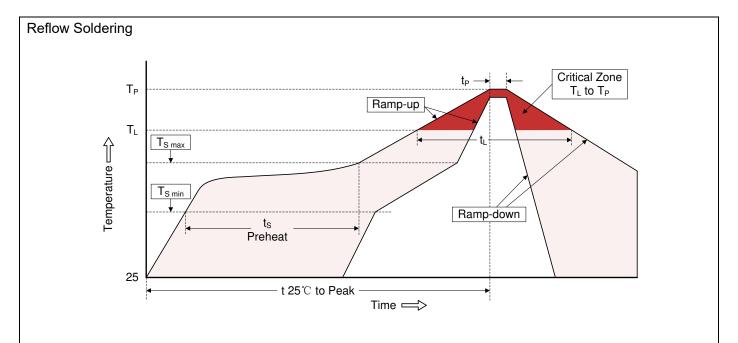


Figure 4. ESD Clamping (8kV Contact IEC61000-4-2)



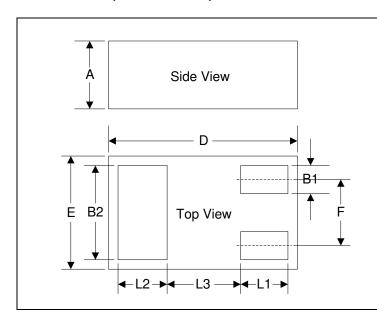
Recommended Soldering Conditions



Recommended Conditions

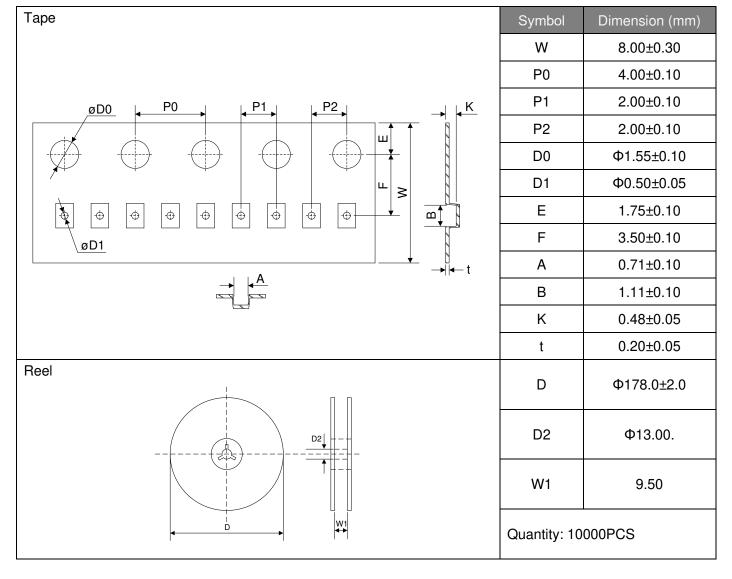
Profile Feature	Pb-Free Assembly		
Average ramp-up rate (T _L to T _P)	3°C/second max.		
Preheat	150°C		
-Temperature Min (T _{S min}) -Temperature Max (T _{S max})	200℃		
-Time (min to max) (ts)	60-180 seconds		
T _{S max} to T _L -Ramp-up Rate	3°C/second max.		
Time maintained above:	04795		
-Temperature (T _L) -Time (t _L)	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 (DFN1006-3L)



	Dimension (mm)				
Symbol	Millim	eters	Inches		
	Min.	Max.	Min.	Max.	
Α	0.33	0.39	0.013	0.015	
B1	0.10	0.20	0.004	0.008	
B2	0.45	0.55	0.018	0.022	
D	0.85	1.15	0.033	0.045	
E	0.45	0.75	0.018	0.030	
F	0.35Typ.		0.014Typ.		
L1	0.20	0.30	0.20	0.30	
L2	0.21	0.31	0.21	0.31	
L3	0.39Тур.		0.015Typ.		

Packaging



Electrostatic Discharge Protection Devices UAD8A05L02

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Circuit Protection Components

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