



TVS/ESD Arrays

RLSD32Axx1LV Series

TVS/ESD Arrays - RLSD32Axx1LV Series

Features

- 350 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Working voltages: 3.3V、5V、8V、12V、15V、18V、24V、36V
- Low Leakage Current
- Low operating and clamping voltages
- Lead Free/RoHS compliant
- Solid-state silicon avalanche technology
- Provides ESD protection to IEC61000-4-2(ESD):
 - ±15kV (air discharge)
 - ±8kV (contact discharge)



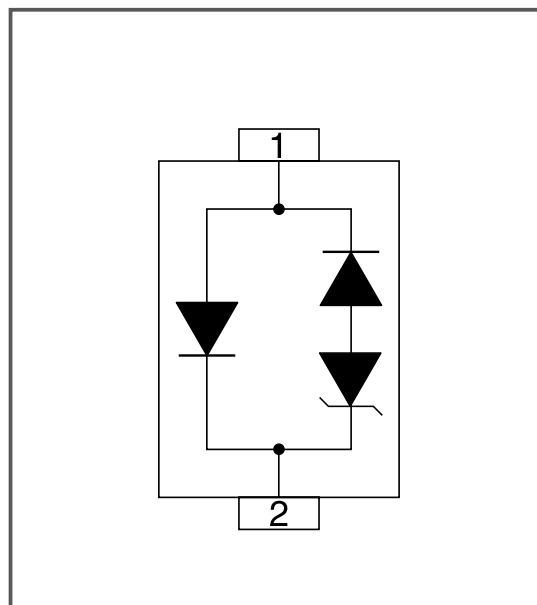
Mechanical Characteristics

- SOD-323 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel per EIA 481
- Quantity Per Reel : 3,000pcs
- Lead Finish: Matte tin
- RoHS Compliant

Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

Pinout and Functional Block Diagram



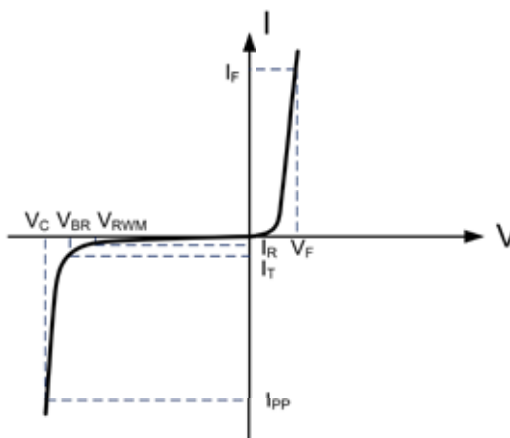
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Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PK}	350	Watts
ESD Voltage (Contact)	V_{ESD}	± 8	Kv
ESD Voltage (Air)	V_{ESD}	± 15	Kv
Lead Soldering Temperature	T_L	260 (10 sec.)	$^{\circ}C$
Operating Temperature	T_J	-55 to +125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

Electrical Parameters ($T=25^{\circ}C$)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics Per Lin (@ 25 $^{\circ}C$ Unless Otherwise Specified)

Type Number	Reverse Stand-Off Voltage	Minimum Breakdown Voltage	Peak Pulse Voltage @8/20 μs	Peak Pulse Current @8/20 μs	Reverse Leakage @ V_{RWM}	Typical Capacitance
	V_{RWM}	$V_{BR}@1mA$	$V_C@1A$	I_{PP}	$I_R@V_{RWM}$	DC=0V $C_J@1MHz$
	V	V	V	A	μA	pF
RLSD32A031LV	3.3	4	7.5	15	40	1.5
RLSD32A051LV	5	6	9.8	14	5	1.5
RLSD32A081LV	8	8.5	13.4	12	1	1.5
RLSD32A121LV	12	13.3	19	7	1	1.5
RLSD32A151LV	15	16.7	24	5	1	1.5
RLSD32A181LV	18	19	29	4	1	1.5
RLSD32A241LV	24	26.7	43	2	1	1.5
RLSD32A361LV	36	40	60	1	1	1.5

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Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

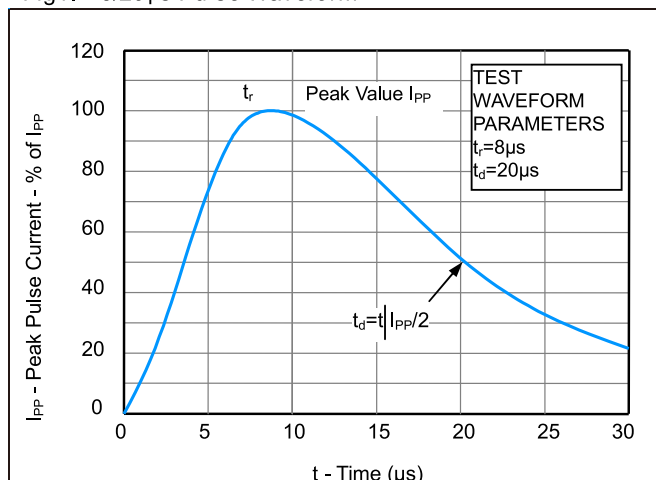


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

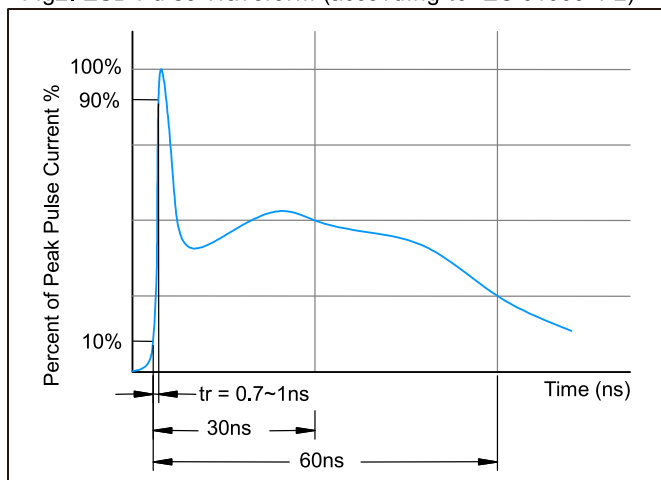


Fig3. Power Derating Curve

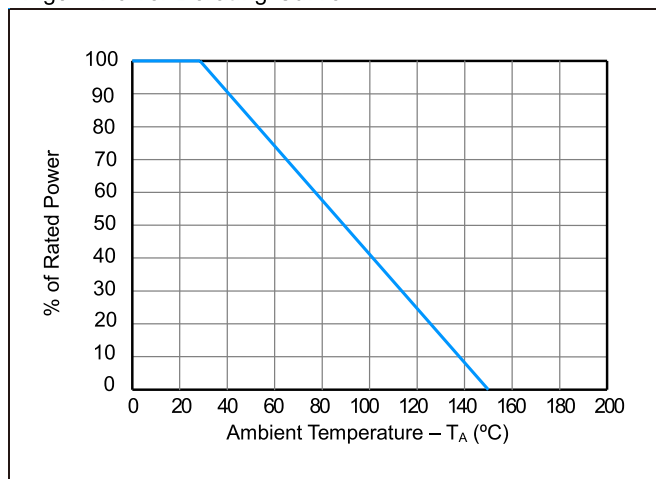
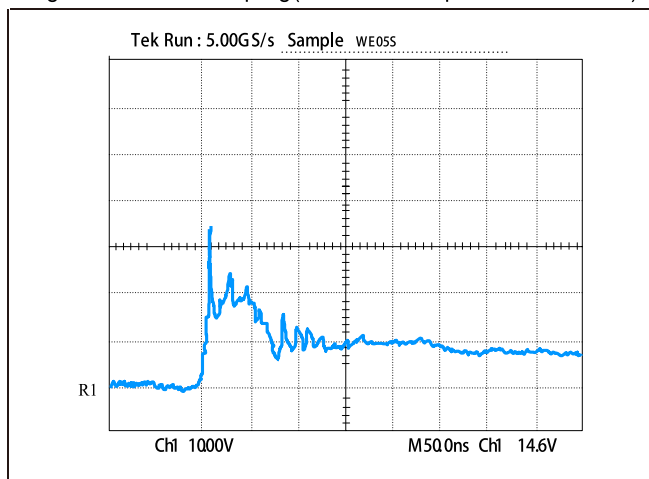
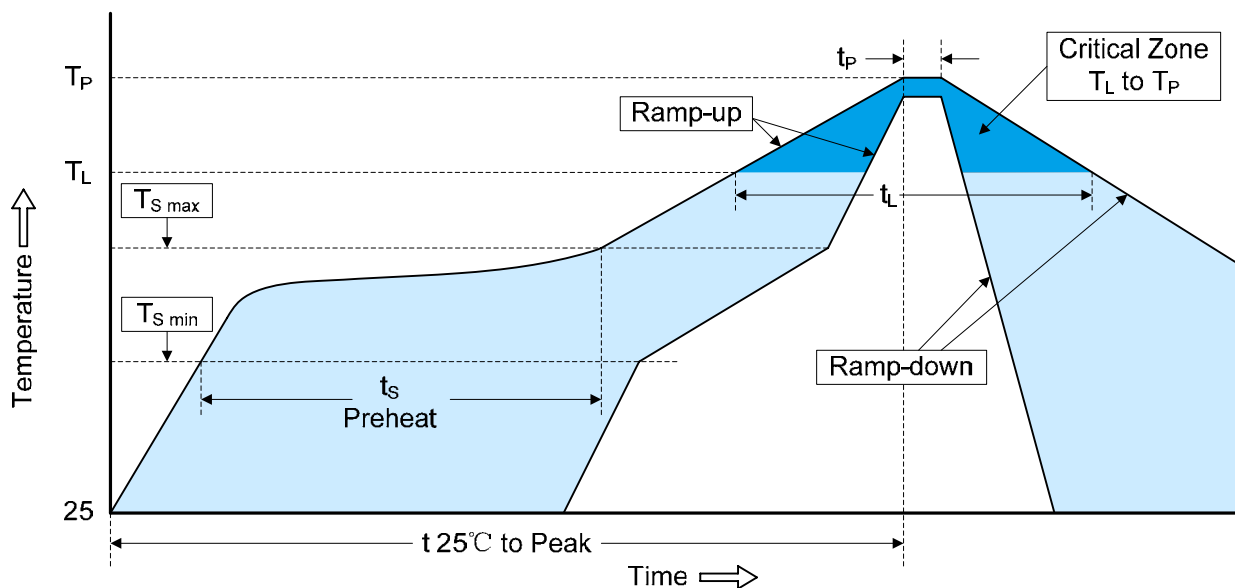


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



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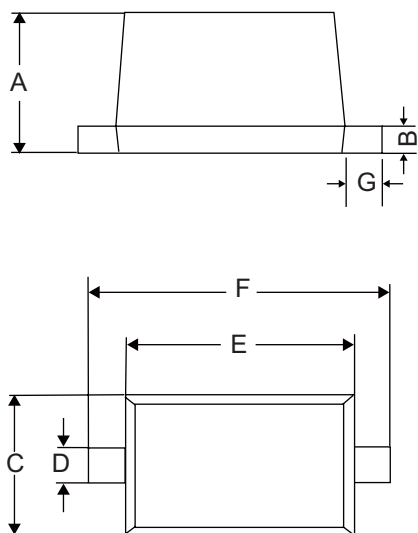
Recommended Soldering Conditions



Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S \min}$)	150°C
-Temperature Max ($T_{S \max}$)	200°C
-Time (min to max) (t_s)	60-180 seconds
$T_{S \max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	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.

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Package dimension SOD-323



Dimensions				
Symbol	Inches		Millimeters	
	Min	Max	Min	Max
A	0.031	0.040	0.8	1.0
B	0.004	0.010	0.10	0.25
C	0.045	0.054	1.2	1.4
D	0.012	0.016	0.3	0.4
E	0.060	0.071	1.5	1.8
F	0.090	0.107	2.3	2.7
G	0.006	0.010	0.15	0.25

Part Number Code

R	L	S	D	3	2	A	0	5	1	L	V
↓		↓		↓		↓	↓		↓	↓	
LOGO		Package SOD-323		Straight foot overhanging		V _{RWM} :5V	Protects 1 Lines		V= Unidirectional C= Bidirectional		Low capacitance

Ordering Information

Part Number	Package	Min. Order Qty.
RLSD32Axx1LV	SOD-323	3000pcs

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