

# TVS/ESD Arrays

RLSD92Axx1V Series

## TVS/ESD Arrays - RLSD92Axx1V Series

### Features

- 100 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )
- Working voltages: 3.3V、5V、8V、12V、15V
- 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)



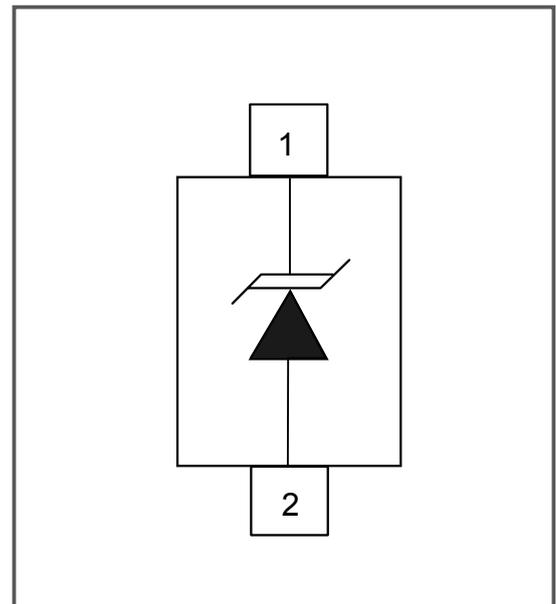
### Mechanical Characteristics

- SOD-923 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel per EIA 481
- Quantity Per Reel : 8,000pcs
- 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



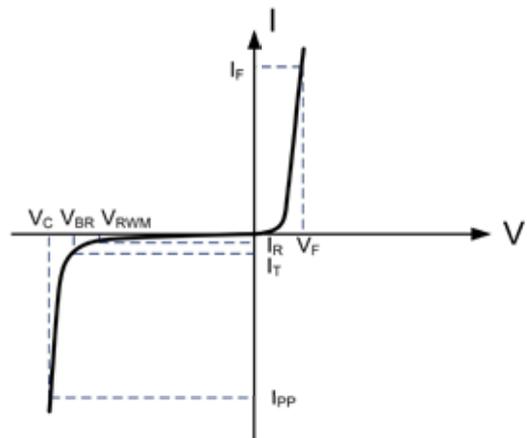
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### Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20µs)	Ppk	100	Watts
ESD Voltage (Contact)	VESD	±8	Kv
ESD Voltage (Air)	VESD	±15	Kv
Lead Soldering Temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating Temperature	T <sub>J</sub>	-55 to +125	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

### Electrical Parameters (T=25°C)

Symbol	Parameter
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Maximum Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>



### Electrical Characteristics Per Lin (@ 25°C Unless Otherwise Specified)

Type Number	Reverse Stand-Off Voltage	Minimum Breakdown Voltage	Peak Pulse Voltage @8/20µS	Peak Pulse Current @8/20µS	Reverse Leakage @V <sub>RWM</sub>	Typical Capacitance
	V <sub>RWM</sub>	V <sub>BR@1mA</sub>	V <sub>C@1A</sub>	I <sub>PP</sub>	I <sub>R@V<sub>RWM</sub></sub>	DC=0V C <sub>J@ 1 MHz</sub>
	V	V	V	A	µA	pF
RLSD92A031V	3.3	4	10	5	2.5	80
RLSD92A051V	5	6	12	5	1	65
RLSD92A081V	8	8.5	15	5	1	50
RLSD92A121V	12	13.3	23	5	1	30
RLSD92A151V	15	16.6	30	1	1	20

## TVS/ESD Arrays - RLSD92Axx1V Series

### Typical Characteristics

Fig1. 8/20 $\mu$ s Pulse Waveform

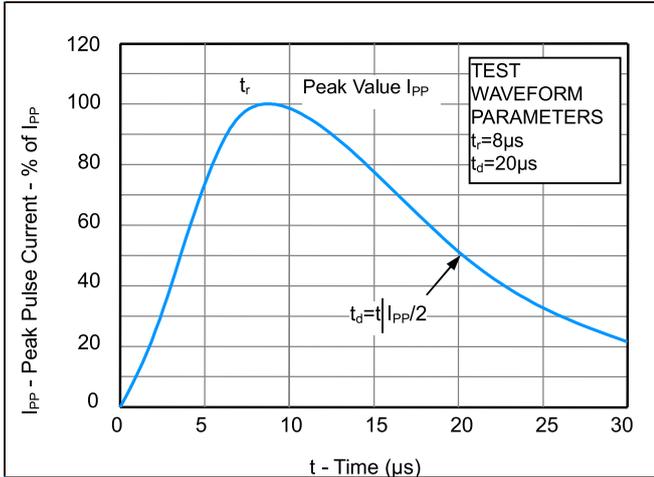


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

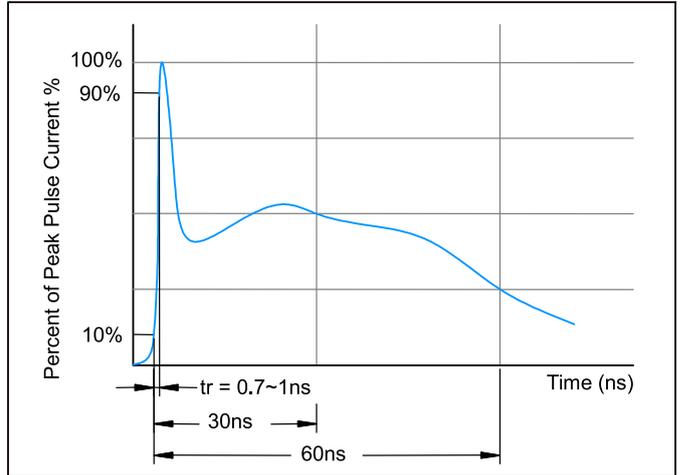


Fig3. Power Derating Curve

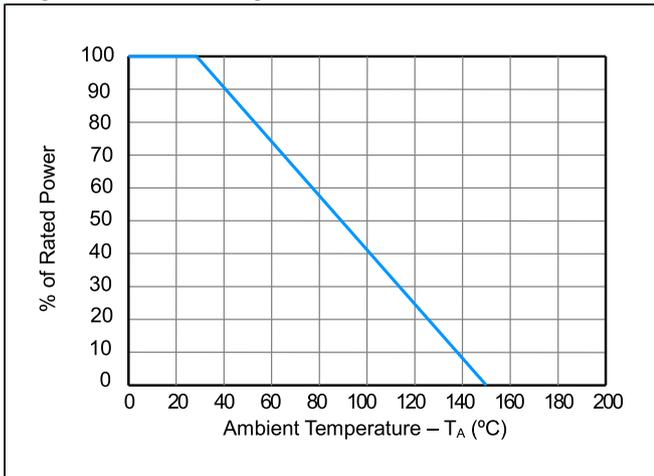
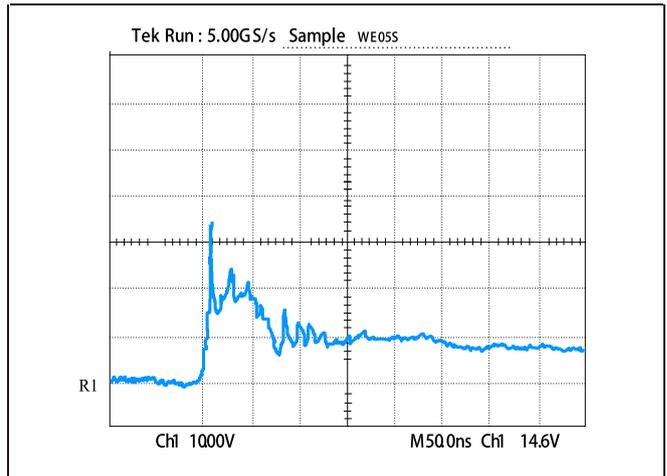
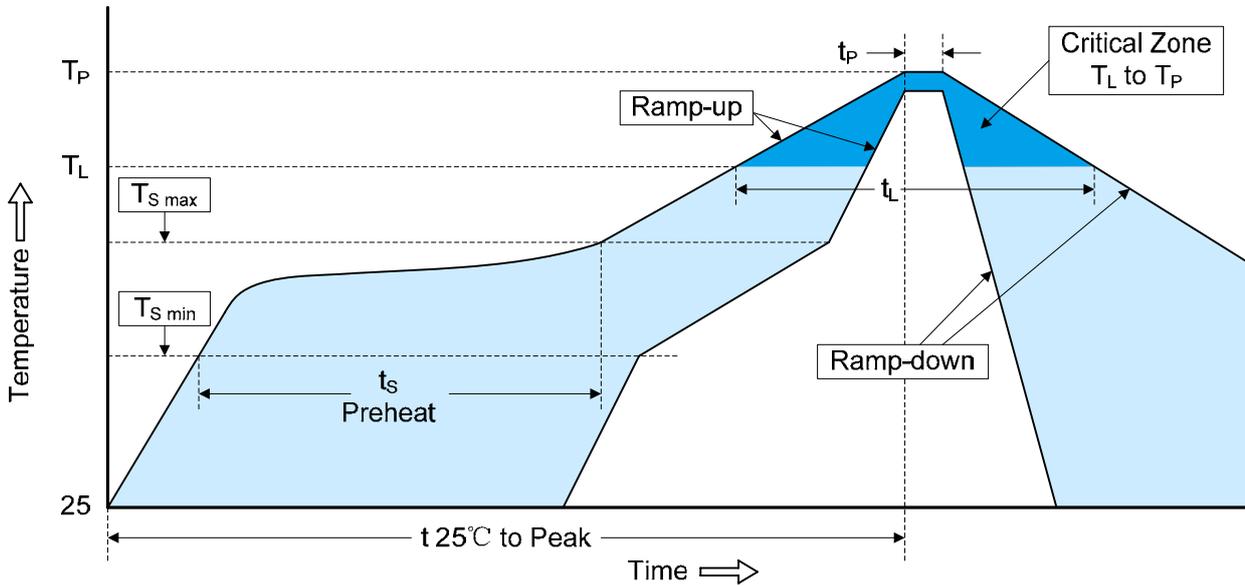


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



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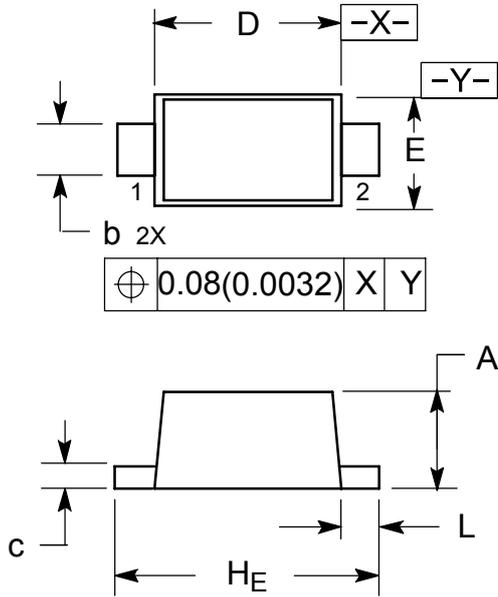
### Recommended Soldering Conditions



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

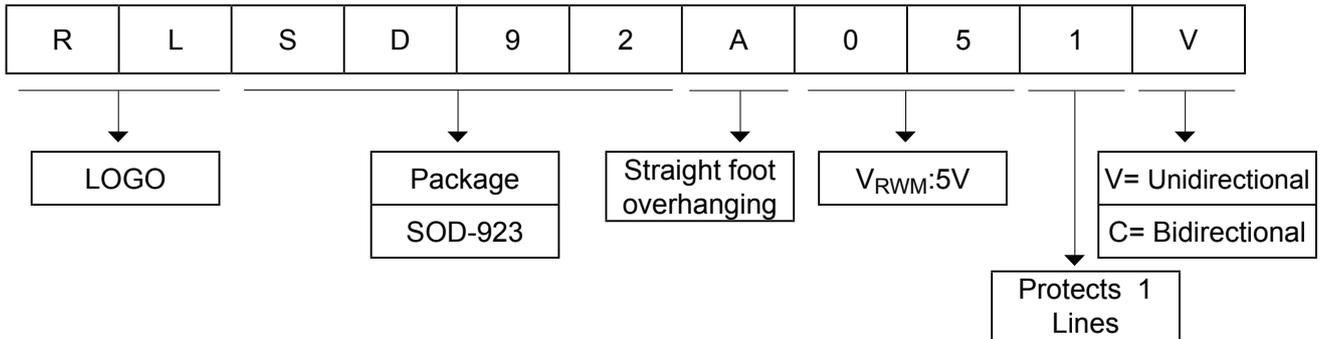
## TVS/ESD Arrays - RLSD92Axx1V Series

### Package dimension SOD-923



DIM	Dimensions					
	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.014	0.016	0.017	0.36	0.40	0.43
b	0.006	0.008	0.010	0.15	0.20	0.25
C	0.003	0.005	0.007	0.07	0.12	0.17
D	0.030	0.031	0.038	0.75	0.80	0.85
E	0.022	0.024	0.026	0.55	0.60	0.65
H <sub>E</sub>	0.037	0.039	0.041	0.95	1.00	1.05
L	0.002	0.004	0.006	0.05	0.10	0.15

### Part Number Code



### Ordering Information

Part Number	Package	Min. Order Qty.
RLSD923Axx1V	SOD-923	8000pcs

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