



# TVS/ESD Arrays

RLSD52Axx1V Series

## TVS/ESD Arrays - RLSD52Axx1V Series

### Features

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



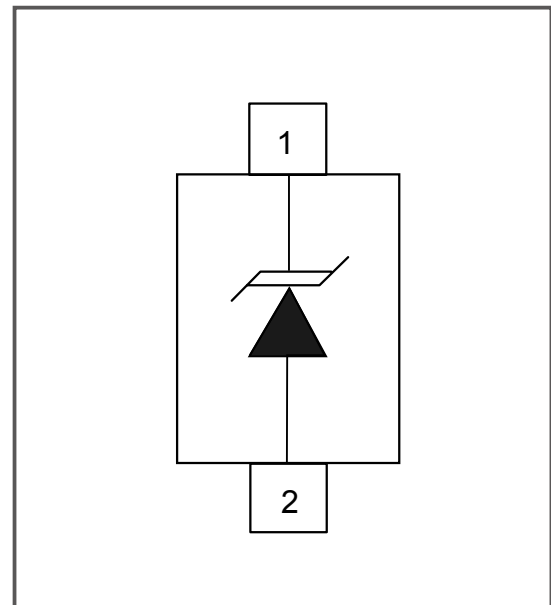
### Mechanical Characteristics

- SOD-523 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



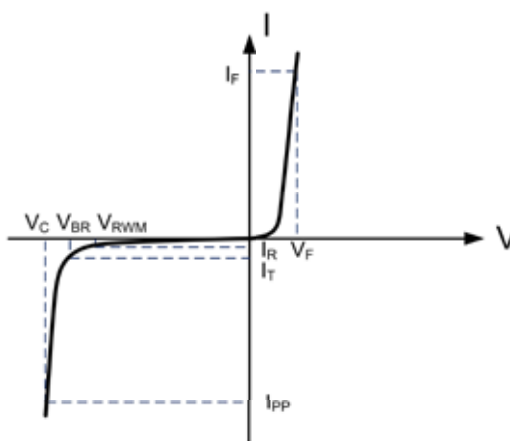
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### Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	PPK	100	Watts
ESD Voltage (Contact)	V <sub>ESD</sub>	±8	Kv
ESD Voltage (Air)	V <sub>ESD</sub>	±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
RLSD52A031V	3.3	4	6.5	14	200	200
RLSD52A051V	5	6	9	12	5	110
RLSD52A081V	8	8.5	13	10	5	70
RLSD52A121V	12	13.3	16.5	6	1	60
RLSD52A151V	15	16.6	21	5	1	50
RLSD52A241V	24	26.7	34.7	3	1	25
RLSD52A361V	36	40	62	2	1	25

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### Typical Characteristics

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

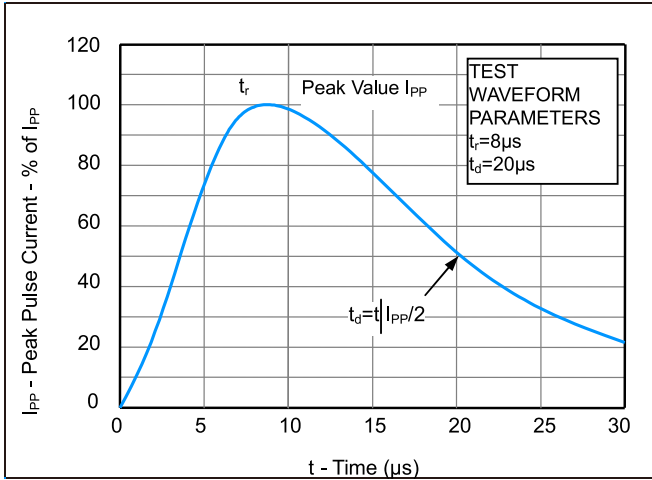


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

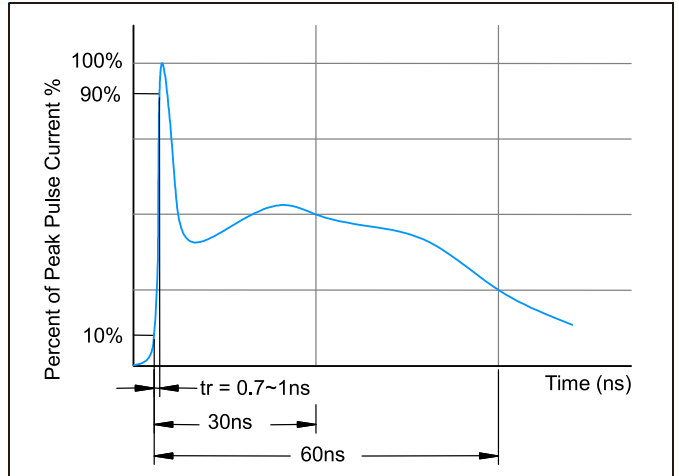


Fig3. Power Derating Curve

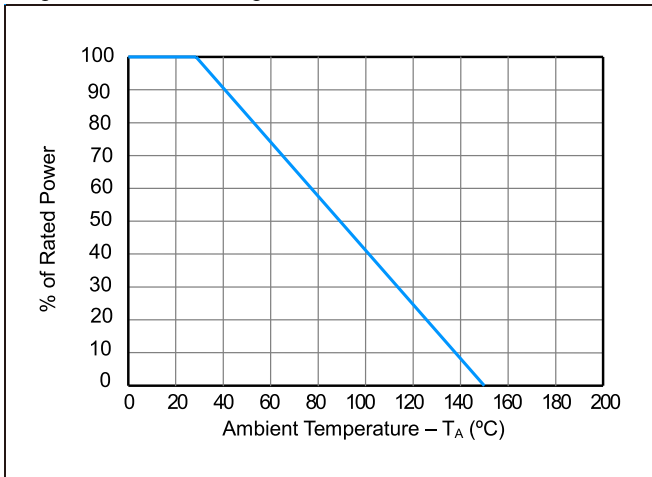
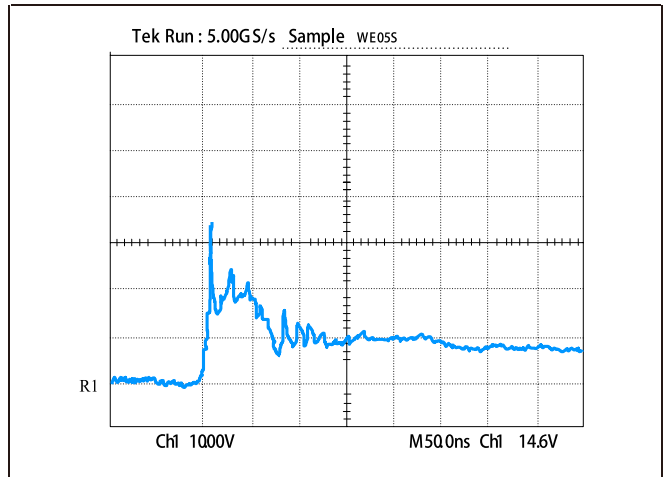
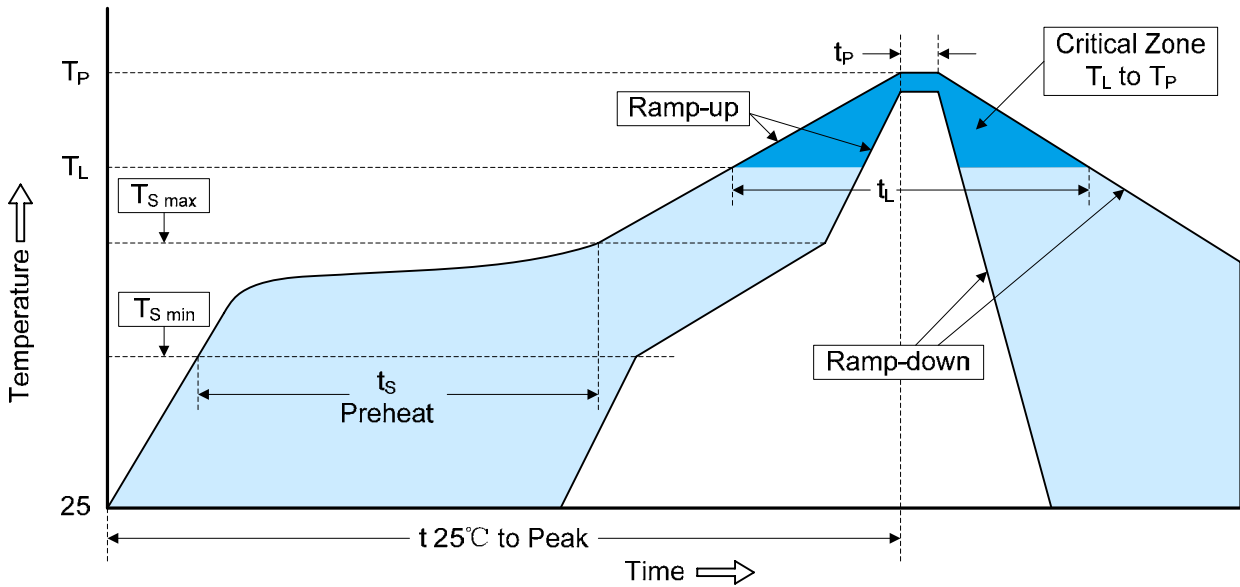


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)



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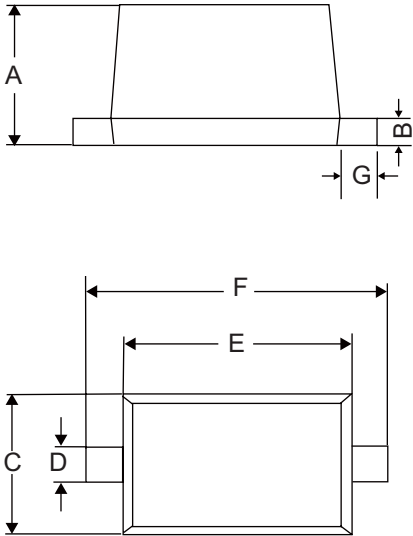
### Recommended Soldering Conditions



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.

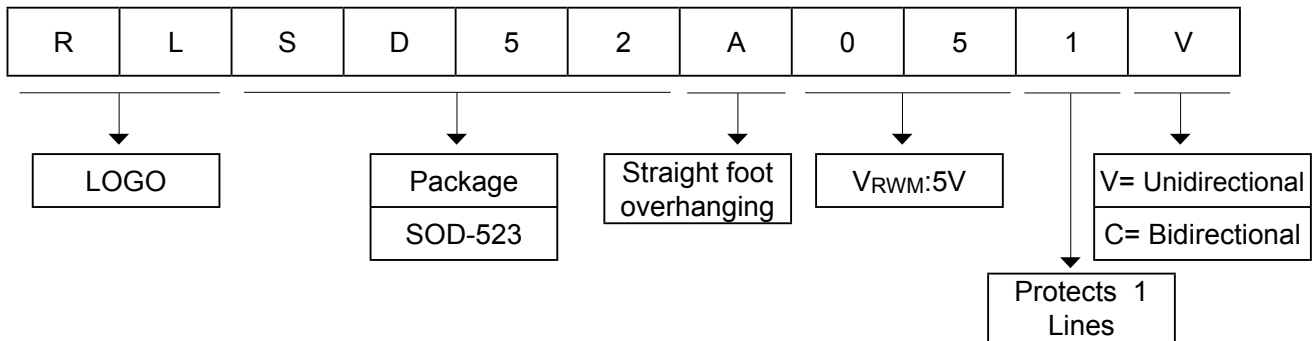
## TVS/ESD Arrays - RLSD52Axx1V Series

### Package dimension SOD-523



Symbol	Dimensions					
	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.020	0.024	0.028	0.50	0.60	0.70
B	0.003	0.006	0.008	0.07	0.14	0.20
C	0.028	0.031	0.035	0.70	0.80	0.90
D	0.010	0.012	0.014	0.25	0.30	0.35
E	0.043	0.047	0.051	1.10	1.20	1.30
F	0.059	0.063	0.067	1.50	1.60	1.70
G	0.006	0.008	0.010	0.15	0.20	0.25

### Part Number Code



### Ordering Information

Part Number	Package	Min. Order Qty.
RLSD52Axx1V	SOD-523	3000pcs

## RuiLongYuan Electronics Co., Ltd.

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