



# TVS/ESD Arrays

RLST236A054LV Series

## TVS/ESD Arrays - RLST236A054LV Series

### Features

- Solid-state silicon-avalanche technology
- 300 Watts Peak Pulse Power per Line (tp=8/20µs)
- Low operating and clamping voltage
- Up to four I/O Lines of Protection
- Ultra low capacitance:1.6pF
- Low Leakage
- Low operating voltage:5V
- IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 24A (8/20µs)



### Mechanical Characteristics

- SOT-23-6L package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel per EIA 481
- Lead Finish: Matte tin
- RoHS Compliant

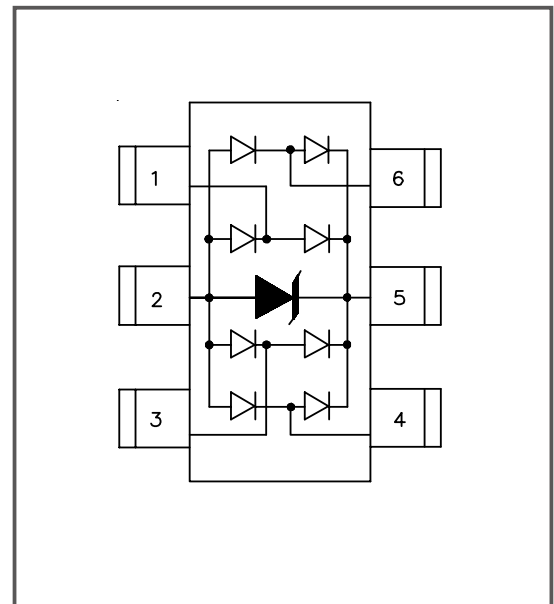
### Applications

- Video/Graphics Card
- Handheld & Portable Electronics
- PC/Notebook USB2.0/IEEE1394 ports
- 10/100/1000 Ethernet
- DVI interfaces
- Wireless data (WAN/LAN) systems

### Life Support Note

- Not Intended for Use in Life Support or Life Saving Applications
- The products shown herein are not designed for use in life sustaining or life saving applications unless otherwise expressly indicated

### Pinout and Functional Block Diagram



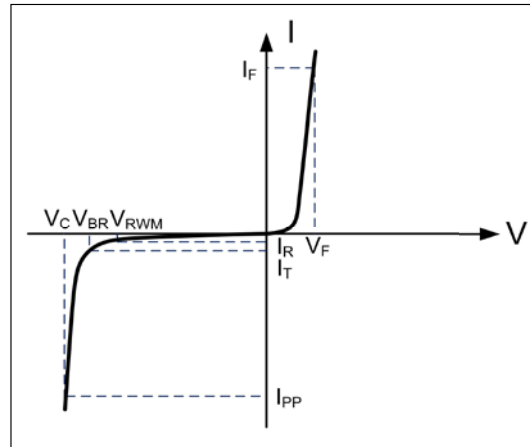
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### Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	Ppk	300	Watts
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	15	kV
ESD per IEC 61000-4-2 (Contact)		8	
Lead Soldering Temperature	T <sub>K</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)

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V <sub>RWM</sub>	-	-	-	5	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>t</sub> =1mA	6	7	-	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =5V, T=25°C Pin 5 to 2	-	-	5	μA
Clamping Voltage	V <sub>C</sub>	I <sub>pp</sub> =1A, t <sub>p</sub> = 8/20μs Any I/O pin to Ground	-	-	12	V
Junction Capacitance	C <sub>j</sub>	V <sub>R</sub> = 0V, f = 1MHz Any I/O pin to Ground	-	1.2	1.5	pF
		V <sub>R</sub> = 0V, f = 1MHz Between I/O pins	-	1.6	-	pF

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### Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

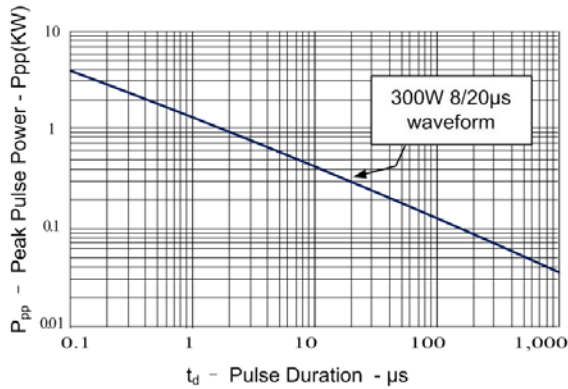


Figure 2: Power Derating Curve

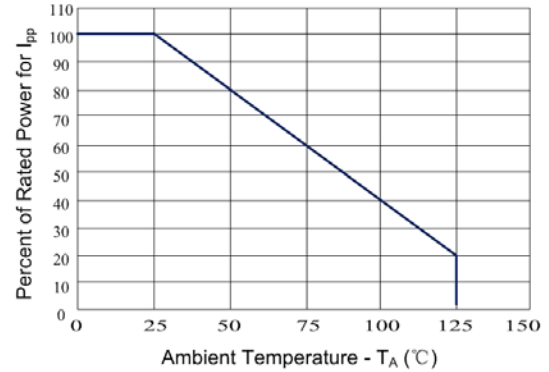


Figure 3: Pulse Waveform

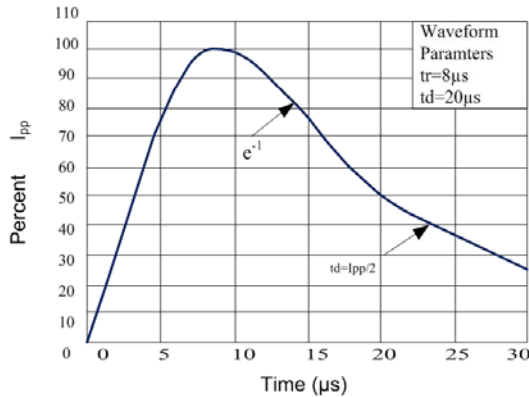


Figure 4: Clamping Voltage vs. Peak Pulse Current

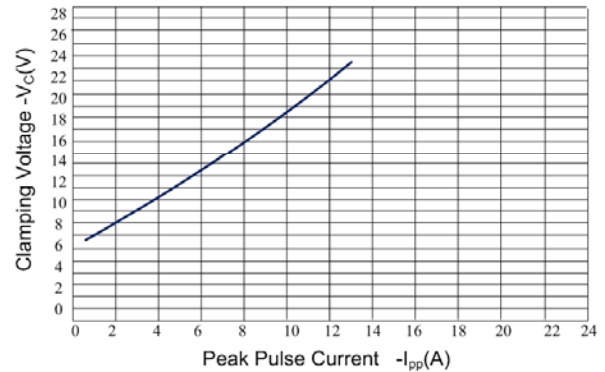


Figure 5: Capacitance vs. Reverse Voltage

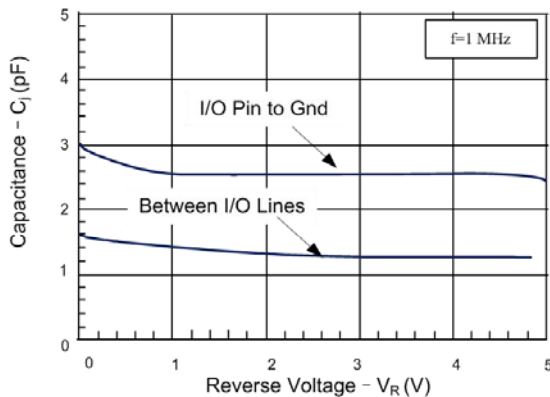
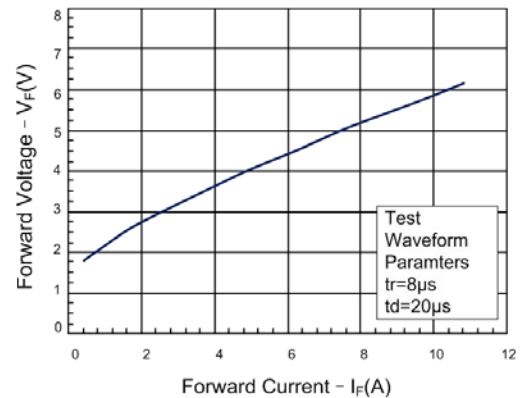
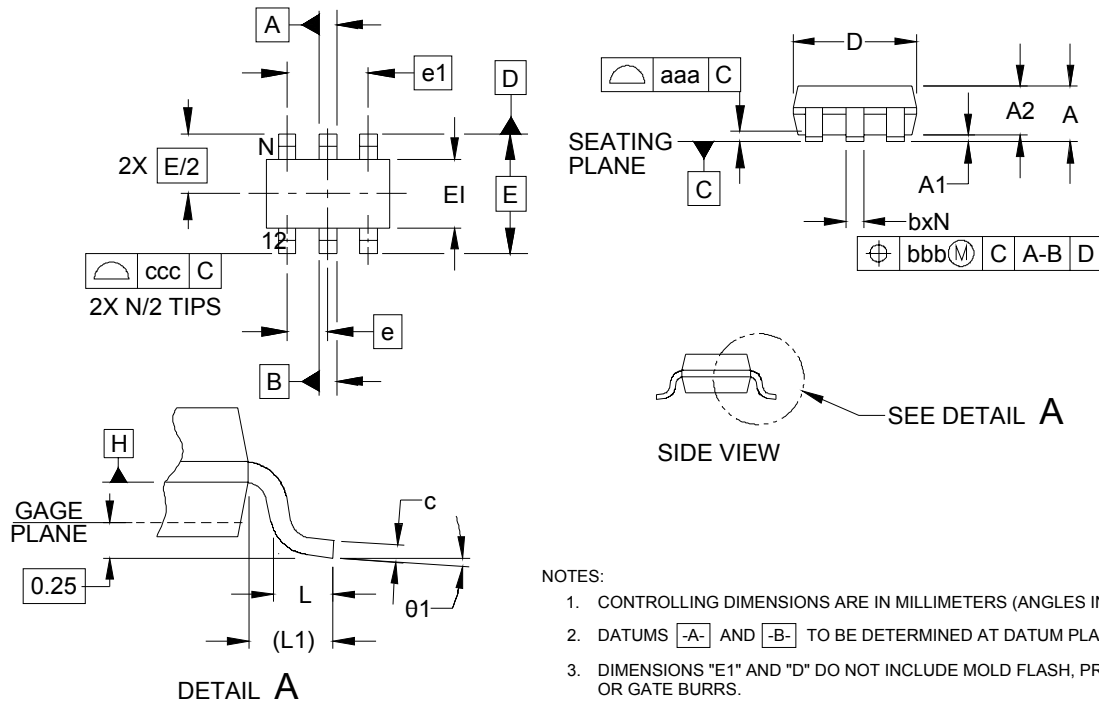


Figure 6: Forward Voltage vs. Forward Current



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### Package dimension SOT-23-6L



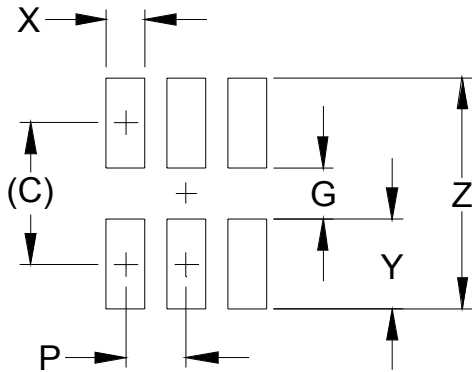
**NOTES:**

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. DATUMS **-A-** AND **-B-** TO BE DETERMINED AT DATUM PLANE **-H-**
3. DIMENSIONS "E1" AND "D" DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

DIM	Dimensions					
	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.035	-	0.057	0.90	-	1.45
A	0.000	-	0.006	0.00	-	0.15
A2	0.035	0.045	0.051	0.90	1.15	1.30
b	0.010	-	0.020	0.25	-	0.50
c	0.003	-	0.009	0.08	-	0.22
D	0.110	0.114	0.122	2.80	2.90	3.10
E1	0.60	0.063	0.069	1.50	1.60	1.75
E		0.110 BSC			2.80 BSC	
e		0.037 BSC			0.95 BSC	
e1		0.075 BSC			1.90 BSC	
L	0.012	0.018	0.024	0.30	0.45	0.60
L1		(0.024)			(0.60)	
N		6			6	
$\theta$	0°	-	10°	°	-	10°
aaa		0.004			0.10	
bbb		0.008			0.20	
ccc		0.008			0.20	

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### Recommended soldering footprint

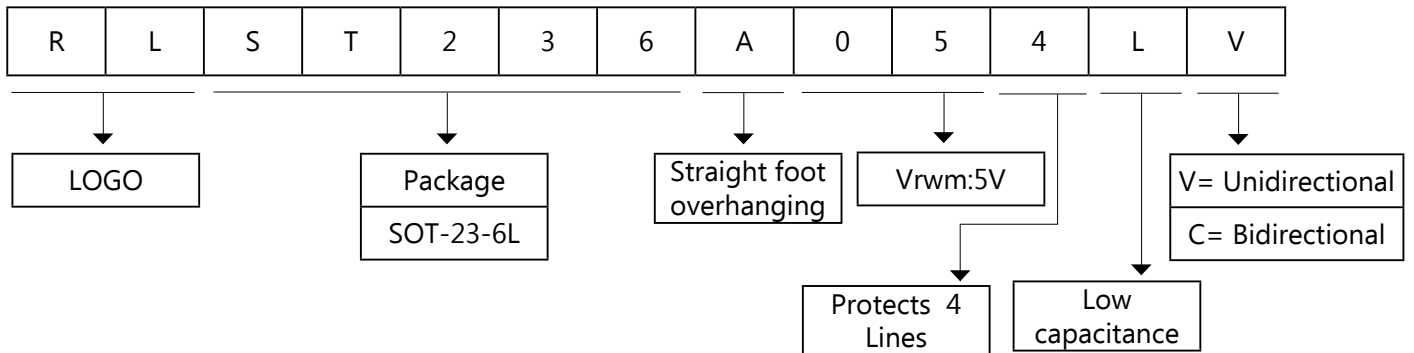


DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(0.098)	(2.50)
G	0.055	1.40
P	0.037	0.95
X	0.024	0.60
Y	0.043	1.10
Z	0.141	3.60

**NOTES:**

1. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

### Part Number Code



### Ordering Information

Part Number	Package	Min. Order Qty.
RLST236A054LV	SOT-23-6L	3000pcs

## RuiLongYuan Electronics Co., Ltd.

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