RUILON
ELECTRONICS

TVS/ESD Arrays

RLST236Axx4V Series

361° Circuit Protection System

Specifications are subject to change without notice.

Please refer to http://www.ruilon.com for current information.

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Features

- 350 Watts Peak Pulse Power per Line (tp = 8/20μs)
- Working voltages: 5V、12V、15V、24V
- 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)

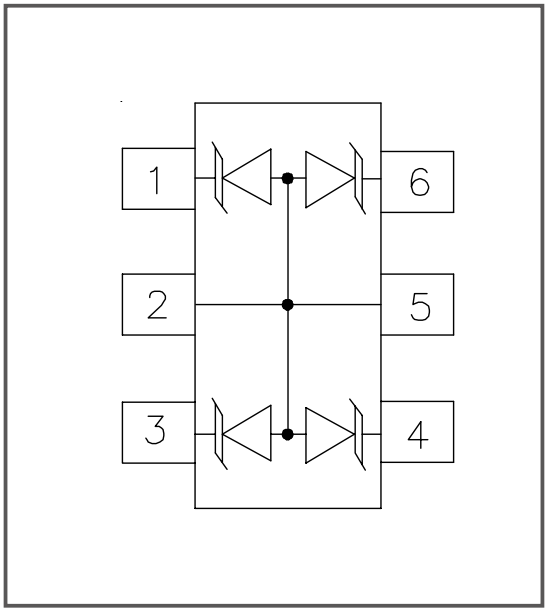
Mechanical Characteristics

- 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

- USB Power & Data Line Protection
- Ethernet 10BaseT
- I^2C Bus Protection
- Video Line Protection
- T1/E1 secondary IC Side Protection
- Portable Electronics
- Microcontroller Input Protection
- WAN/LAN Equipment
- ISDN S/T Interface

Pinout and Functional Block Diagram



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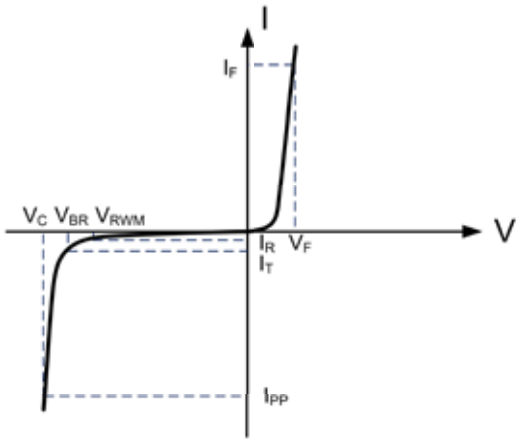
Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	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.)	°C
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°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°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_{RWM}	Typical Capacitance
	V_{RWM}	V_{BR}@1mA	V_C@1A	I_{PP}	I_R@V_{RWM}	DC=0V
						C_J@ 1 MHz
	V	V	V	A	μA	pF
RLST236A054V	5	6.0	9.8	24	20	400
RLST236A124V	12	13.3	19	15	1	150
RLST236A154V	15	16.7	24	12	1	125
RLST236A244V	24	26.7	40	8	1	75

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Characteristic Curves

Fig1. 8/20μs Pulse Waveform

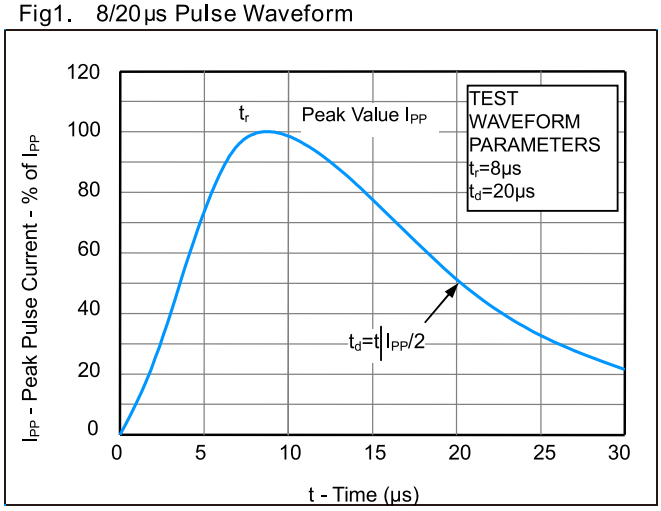


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

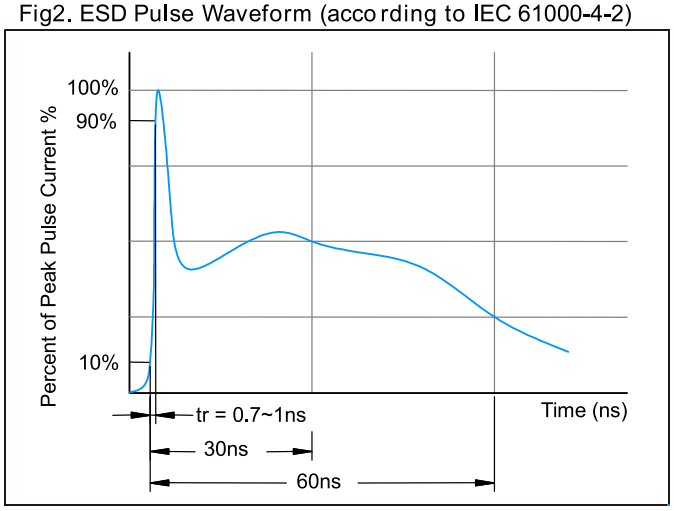


Fig3. Power Derating Curve

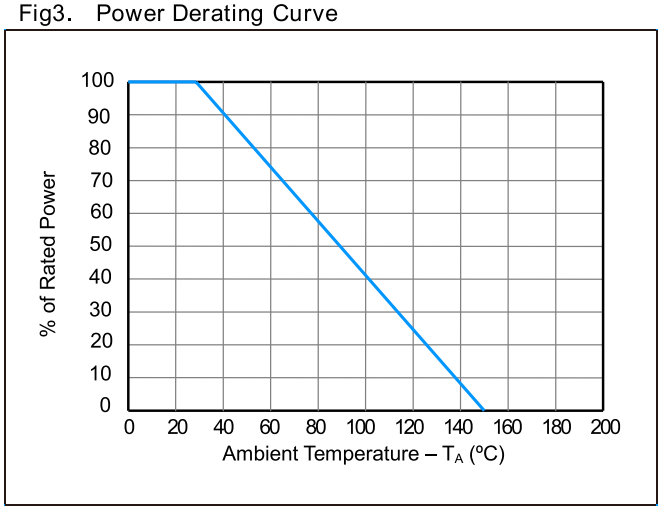
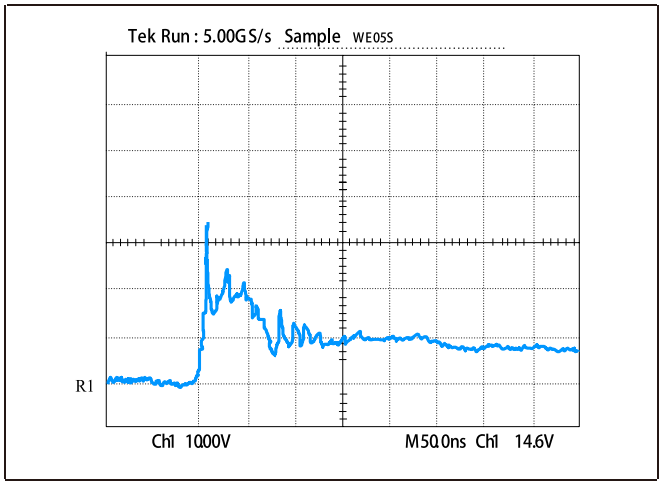


Figure 4: ESD Clamping(8kV Contact per IEC 61000-4-2)



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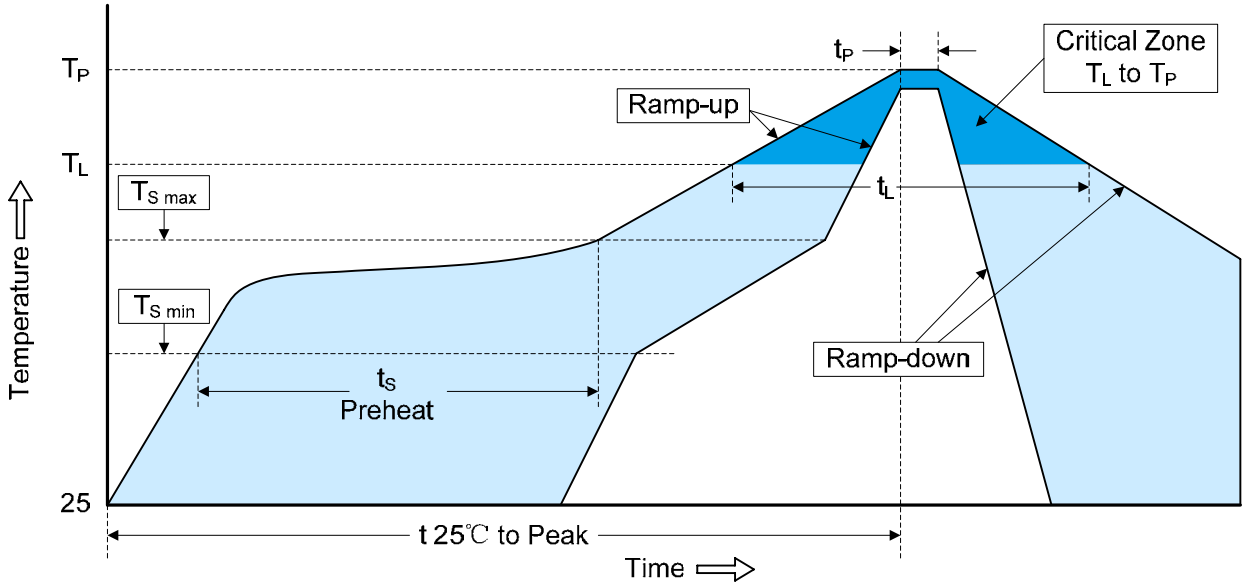
Recommended Soldering Conditions



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

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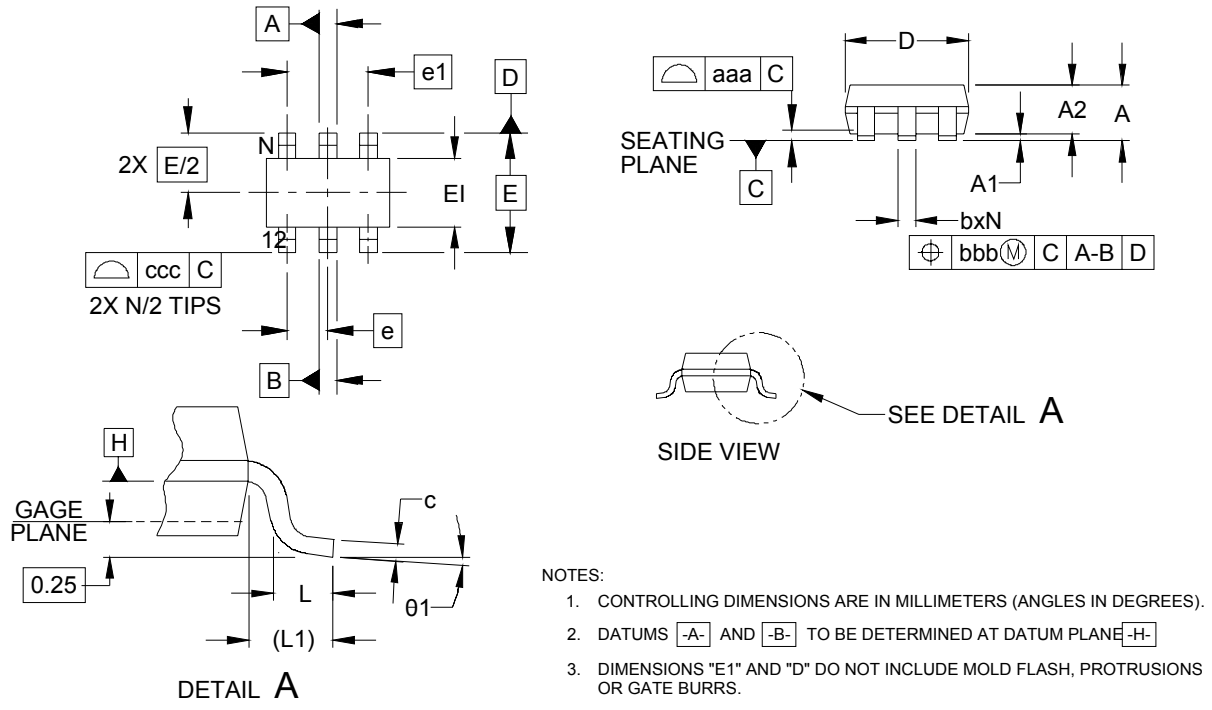
Package dimension SOT-23-6L



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.

Dimensions						
DIM	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	
θ	0°	-	10°	°	-	10°
aaa		0.004			0.10	
bbb		0.008			0.20	
ccc		0.008			0.20	

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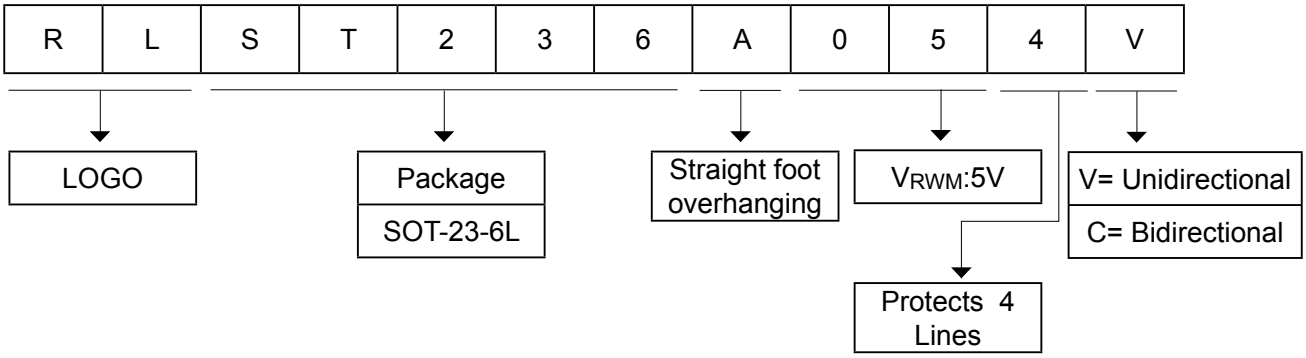
Part Number Code



Ordering Information

Part Number	Package	Min. Order Qty.
RLST236Axx4V	SOT-23-6L	3000pcs

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